

EDUCATIONAL ISSUES, DEVELOPMENTS AND INNOVATIONS



FESTSCHRIFT IN HONOUR OF PROFESSOR ABDALLA UBA ADAMU

Edited by
Sir, Professor U.S.A. Osuji, Ph.D.

Chairman/Guest Editor
Associate Professor Aminu Kazeem Ibrahim

Educational Issues, Developments and Innovations

**Festschrift in Honour of
Professor Abdalla Uba Adamu**

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Guest Editor
Associate Professor Aminu Kazeem Ibrahim

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Preface

Educational Issues, Developments and Innovations is a festschrift in the honour of Professor Abdalla Uba Adamu, the Vice-Chancellor, National Open University of Nigeria (NOUN) from February 2016 to February 2021, a period of the most radical transformation of the University with *Debate to Action* as its transformation agenda. This book is a representation of the Faculty of Education's way of acknowledging and appreciating one of our illustrious Vice-Chancellors who is not only an academic icon but has also impacted and mentored our academic and non-academic staff of NOUN. He is a man of many parts, a double professor in two different academic disciplines who has contributed a lot to knowledge and infrastructural development in NOUN. As a writer per excellence, he has authored many articles that are acclaimed all over the world. Professor Abdalla Uba Adamu is a Science Educator of merit. This is why we are using this opportunity to identify with him and appreciate him as one of our own, and a great researcher of our time.

Different societies have different ways of immortalizing their high achievers and high fliers. Some of these are in concrete mementoes. For Professor Abdalla Uba Adamu, there is no other means of immortalizing him than with this festschrift. An intellectual giant, he is distinguished not only by the heights he has attained, but also by the heights to which he has elevated other people; a man marked out not only by his academic muscles but also to the extent by which he did develop the intellectual muscles of others. We immortalize him by convening academics from different educational institutions to provide scholastic inquiries and insights into the issues, developments and innovations in education – something he has championed throughout his career as an analyst of educational innovations.

This book serves as an intellectual harvest based on the issues, developments and innovations in education. We are talking about education that is apt for the rapidly changing world. For a world with new problems and new possibilities, we need education that is creative or innovative, challenging, flexible and research driven. Education which provides the 21st century skills for gainful employment and exciting discoveries, developments and possibilities for societal survival. Our students should develop the attitude of curiosity and imagination or innovation. As a compilation on the issues, developments and innovations, this book will serve as a guide and invaluable reference material for all.

At this point I wish to appreciate the erudite Professor Abdalla Uba Adamu, for granting us this wonderful opportunity to produce this book. My appreciations go to the Editor-in-chief, Associate Professor Aminu, Kazeem Ibrahim, the editors, the reviewers and the contributors. I also thank the Chairman and members of the University Press for publishing this book for us.

Sir Professor U. S. A. Osuji
Dean, Faculty of Education
National Open University of Nigeria

Foreword

All over the world, education is regarded as an instrument for national development and social change. For education to perform this function effectively, it has to be qualitative, comprehensive, functional and relevant to the needs of the society. There is also the need to ensure and sustain unfettered access and equity to education for the total development of the individual.

This was the rationale behind the establishment of the National Open University of Nigeria (NOUN). Initially, NOUN was not taken seriously as a university due to its mode of delivery of instruction – “Online”. Some people and organisations doubted that quality education can be delivered online. However, with the incidence of coronavirus in the world, every facet of teaching and learning is moving online, at all levels of education. The education system is restructuring to respond to the ‘new normal’.

I, therefore, consider the choice of the title of the festschrift to be very apt and appropriate, especially during this period of the COVID-19 pandemic when every nation including Nigeria is reorganising their education system in terms of content/instructional delivery. All sectors of the nation are changing to adapt to the COVID-19 protocols to reduce the spread of the virus.

Going through the twenty-nine chapters of the book authored by various academics and scholars in different areas in education, namely: curriculum, counselling, management, open and distance learning, measurement and evaluation, have done justice to address the educational issues, development and innovation. We should go online in admission, registration, management, counselling, examination and assessment, marking, and all other issues in education. We should reduce face-to-face conventional mode of education.

This festschrift is for Professor Abdalla Uba Adamu whom I met personally in 2016 when he reported at the National Open University of Nigeria former headquarters at Ahmadu Bello Way, Victoria Island Lagos. I had earlier heard and read about him at many educational fora (National and International). His appointment and assumption of duty as the Vice-Chancellor of the National Open University of Nigeria were very strategic because his background in Science Education and Mass Communication that culminated into double professorship including his solid background in ICT was fully utilised in establishing a virile academic and ICT inclined National Open University of Nigeria.

Professor Abdalla Uba Adamu established the Directorate of Management Information Systems (MIS), to manage in-house, the large student data of the University. He also brought a lot of other development and innovation to the university which won't be mentioned here. These were instrumental in ensuring success, wider recognition and acceptance of the status of NOUN as an ODL University System.

As we celebrate this accomplished teacher and administrator, we pray Allah to grant him longer life in good health with his family in his future endeavours. I sincerely recommend this book to educational practitioners, policymakers, researchers, students in tertiary institutions, and the general public in Nigeria and other countries of the world to get a copy and read.



Professor Patrick Eke Eya
Director,
Regional Training and Research Institute for Distance and Open Learning

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Prof. Dr. Abdalla Uba Adamu

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Professor of Science Education and Curriculum Development
Former European Union Visiting Professor, University of Warsaw, Poland



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B.Sc. (ABU, 1979), M.A. (Lond, 1983), D.Phil. (Sussex, 1988)
Department of Information and Media Studies
Bayero University, Kano, Nigeria

Vice Chancellor (2016-2021)
National Open University of Nigeria (NOUN)
Jabi, Abuja, Nigeria



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Summary

Prof. Dr. Abdalla Uba Adamu, (dob 1956) holds double professorships in Science Education (1997) and Media and Cultural Communication (2012) from Bayero University Kano, Nigeria. He was appointed the Vice-Chancellor, National Open University of Nigeria (NOUN) in February 2016. His main research focus is on transnational media flows and their impact on the transformation of Muslim Hausa popular culture especially in literature, film, music and performing arts. He is the creator of the *Visually Ethnographic Networks* (Kano, Nigeria) whose main focus is archiving traditional performing arts heritage of the Muslim Hausa. He has also developed courses on digital cultures and promotes netnography as a research methodology in documenting Hausa media ethnographies. He is the Chairman of a research cluster based in Bayero University Kano that discusses issues of Visual Anthropology.

He was a Fulbright African Senior Research Scholar, and had his residency at the Center for Studies in Higher Education, University of California, Berkeley, from 1991-1992. This led to his first major book, [Reform and Adaptation in Nigerian University Curricula, 1960-1992: Living on the Credit Line](#) (New York: Edwin Mellen Press, 1994). He was also awarded a place on the Rockefeller Foundation's Bellagio Resident Fellows program at the [Bellagio Study Center](#), Bellagio, Italy, October to November 1993.

He has delivered special lectures on media and culture at the University of Cologne, Germany; School of Oriental and African Studies, University of London; Barnard College, Columbia University, New York; University of Florida, Gainesville; University of Basel, Switzerland; the Polish Academy of Science, Warsaw, Poland, as well as Haus der Kulturen der Welt, Berlin, Germany. He was a Visiting Professor at Rutgers University, New Jersey, United States (2015) as well as European Union Visiting Professor at the University of Warsaw, Poland (2012).

Professional Details

<i>Academic Qualifications</i>	<i>Year (s)</i>
D.Phil., Sussex University, Falmer, Brighton, UK	1988
M.A. (Science Education), Chelsea College, University of London, UK	1983
Postgraduate Diploma in Science Education, Chelsea College University of London, UK	1982
B.Sc. (Education/Biology/Physiology), Ahmadu Bello University, Zaria	1979
<i>Working Experience Since First Graduation</i>	
Visiting Professor, Humboldt University, Germany	2019
Visiting Professor, Rutgers State University, New Jersey, United States	2015
Visiting Professor, University of Florida, Gainesville, United States	2010
Professor of Media and Cultural Communication	2012

Visiting Professor, University of Warsaw, Poland	2012
Part-time Lecturer, Department of Mass Communications, BUK	2005
Visiting Professor, University of Cologne, Germany	2004
Professor of Science Education and Curriculum Studies	1997
Associate Professor in Science Education and International Comparative Higher Education	1994
Senior Lecturer, Science Education	1991-1993
Lecturer I, Science Education	1988-1991
Lecturer II, Science Education	1984-1988
Assistant Lecturer, Science Education	1981-1984
Graduate Assistant, Science Education	1980-1981
Biology and Agricultural Science Teacher, Ekwerazu Girls Secondary School, Umoarkrika	1979-1980

Courses Taught

Code	Title
	Postgraduate
MAC 9301	Advanced Communication Research Methods (MPhil/PhD)
MAC 9304	Digital Media Cultures [PhD]
MAC 8301	Advanced Communication Research (M.Sc.)
MAC 8312	Aesthetics and Criticism of Film and TV (M.Sc.)
MAC 8324	Social Media and Public Relations (MPR)
PMC 7206	Basics of Online Journalism (PGDMC) (Joint)
BUS 8312	Management Information Systems (to MBA students)
MGT 8207	Management Information System (for M.Sc. Management)
STE 7213	History and Philosophy of Science/Education (Education)
	Undergraduate
MAC1206	Online Mass Communication
MAC 1401	Introduction to Mass Communications
MAC 2206	Introduction to Radio
MAC 2213	Introduction to Film Production
MAC 3206	Critical Writing and Reviewing
MAC 3315	Techniques of Film Production
MAC 3317	Film/TV Aesthetics and Criticism
EEP 3219	Entrepreneurship & Innovation (Business Admin)
TAF 1202	African Popular Culture (Theatre and Performing Arts)

Some Key Responsibilities Held (Academic)

1. Vice-Chancellor (President), National Open University of Nigeria (NOUN), 2016-2021
2. Head of Department of Science and Technology Education, Bayero University Kano, Nigeria (2010-2013)
3. Member, Presidential Task Team on Education, Federal Ministry of Education, Abuja, Nigeria (2011).
4. Director Research, Association for Education Development Options (AEDO), a USAID affiliated educational research NGO in Nigeria
5. Chairman, Kano State Government Visitation Panel to Audu Bako School of Agriculture, Kano, May 2005
6. Director, Management Information Systems, Vice-Chancellor's Office, Bayero University, Kano (from August 1999 to September 2005)
7. Head, Department of Education, Bayero University, Kano (August 1999-2001)
8. Head, Department of Education, Bayero University, Kano (March 1995-February 1998)

Some Key Responsibilities Held (Community Research-Based)

9. Director and CEO, Innovative Educational Synergies Consultants Ltd, 2013 to present
10. Director and CEO, Visually Ethnographic Networks Ltd, 2002 to present
11. Director and CEO, Foundation for Hausa Performing Arts (2000 to date)
12. Chairman, Board of Trustees, Gabari School of Calligraphy and Geometric Designs (2014 to date)

Academic Quality Assurance Control

These are activities for which I participated as part of a process of academic quality control.

Resource Verification (2008)

- Chairman, NUC Resource Verification Team to College of Education (St. Augustine's College, Lagos
- Adeniran Ogunsanya College of Education, Lagos
- Michael Otudola College of Primary Education and Yaba College of Technology) in Lagos

Accreditation Panelist to Universities

From 1999 to 2015 I was a member of the National Universities Commission Accreditation Panel (Education) to the following universities:

1. Yaba College of Technology, Lagos (twice)
2. Ambrose Alli University, Ekpoma, Edo State (twice)
3. Delta State University, Abraka, Delta (twice)
4. University of Benin (twice)
5. Ado-Ekiti University
6. University of Lagos
7. University of Port Harcourt
8. Niger Delta University, Yenagoa, Bayelsa
9. Rivers State University of Technology, Port Harcourt
10. American University, Yola
11. University of Nigeria, Nsukka
12. Yobe State University
13. Ebonyi State University

Consultancies

1. Consultant, State Education Accounts for Creative Associates/USAID for Bauchi (2010), Sokoto (2011)
2. Consultant in Charge of Almajiri Sector Study – a social sectorial analysis of the Almajirai Islamic pupils, sponsored by USAID, and contracted to AEDO (Association for Education Development Options), 2009
3. Consultant in charge of Public Expenditure Group, Zamfara State Education Account (ZAMSEA), 2008
4. Consultant in charge of Public Expenditure Group, Kano State Education Account (KASEA), 2007. The two programs were initiated by Creative Associates International, funded by USAID and targeted at determining education public expenditure patterns in Kano and Zamfara States of northern Nigeria.
5. Consultant to the British Council, Connecting Futures program (2004-2006)
6. Consultant to the British Council, Celebrating the Local Performance Arts of Northern Nigeria (2004-2007).
7. Consultant, Security Justice Program, DfID on Video Film and Hausa Women's Access to Justice (2007-2009).
8. Consultant, UNICEF's *Essential Learning Package* (ELP) program for Yobe and Borno States. The objective of the ELP was to determine the cost implications of getting children in selected states of northern Nigeria (Kano, Jigawa, Niger, Bauchi, Gombe, Borno, Yobe, Sokoto and Kebbi) to come to schools, learn while in school and *stay* in the schools.
9. Consultancy for DfID on State and Local Government Projects (SLG) in Kano and Jigawa States, 2005.

10. Research Fellow, Education Sector Analysis (ESA) – a program of the Federal Ministry of Education, Nigeria (2002-2005) ESA was established with a view to supporting the country's priority concern for the reconstruction, reform and development of the entire education system in the context of democratization and a renewed vision for the education sector.
11. Consultant, Education for All (EFA) – a program of the Federal Ministry of Education, Nigeria (2003-2005) supported by UNESCO and other partners. EFA is part of an international initiative targeted at ensuring education for all children in Nigeria by 2015.
12. Consultant, Universal Basic Education Program (UBE) of the Federal Government of Nigeria, at various stages. The most recent consultancies were on development of strategic planning for UBE program, and Educational Management Information System (EMIS) for UBEC.
13. Short Term Full-time Consultant, the World Bank, Nigeria, *Education Public Expenditure*, from 2000. I represented The World Bank in all research activities on public expenditure in education, as well as participate in strategic meetings of The Bank's Education Group on education in Nigeria.
14. Lead Consultant, *Integrated Child Health Survival*, for BASICS (Basic Strategies for Institutionalizing Child Survival), a program of United States Agency for International Development, USAID, Nigeria.
15. Lead Consultant, *Adolescent Youth Strategy for Northern Cluster*, a Packard Foundation Project (USA) managed by Center for Development and Population Activities, CEDPA and USAID Kano, 1999.
16. Lead Consultant, Joint KBC/Unicef Sponsored *Convention on rights of the Child (CRC)* and *Convention on Elimination of All Forms of Discrimination against Women (CEDAW)*, 1999.
17. Lead Consultant, the World Bank/National Primary Education Commission, *Economic Analysis of Nigerian Primary Education*, 1997-1998.
18. Lead Consultant, the World Bank/National Primary Education Commission, *Nigerian Primary Education Project*, 1997-1999.
19. Member, Accreditation Team, for Delta State University, Ekpoma State University (now Ambrose Alli University, Benin), University of Benin, and Ado-Ekiti University.
20. Member, National Universities Commission Verification Team, Satellite Campuses and Study Centers.
21. Member, Accreditation Team for National Commission for Colleges of Education (Nigeria) to: Shehu Shagari College of Education, Sokoto; Federal College of Education, Katsina; College of Arts, Science and Technology, Bama, Borno State; College of Education, Gashuwa; Sir

Kashim Ibrahim College of Education, Borno; College of Education Waka-Biu, Borno State.

Distinctions

1. [2013] Cited in *Who is Who in Research in Film Studies*, Intellect Publications, UK, an imprint of the University of Chicago Press.
2. [2012] European Union Visiting Professor, University of Warsaw, Poland, March-May, 2012.
3. [1993] *Rockefeller Foundation Visiting Resident Scholar*, October 6-November 8 1993, Bellagio Conference and Study Center, Italy.
4. [1991] *Fulbright African Senior Research Scholar (ASRS)*, 1991/92; as a Visiting Associate, Center for Studies in Higher Education, University of California, Berkeley, CA 94720. September 1991 to June 1992.
5. [1991] Cited in *Who is Who in Science Education Around the World* (1991). This is a publication of the International Council of Associations for Science Education, Australia.
6. [1985] *British Commonwealth Scholar*, 1985-1988 (at the University of Sussex, Brighton, England, for the study of Doctor of Philosophy degree).

Visiting Professorship/Distinguished Lecturer in Media and Culture

1. [2019] Humboldt University, Germany. Gave a talk at the Afrikakolloquium, Institute for Asian and African Studies, 24th April 2019 [Loud, Silent Voices: Muslim Female Visibility in Islamate Entertainment Spaces of Northern Nigeria]
2. [2019] Humboldt University, Germany. Gave a Lecture, 25th April 2019 [The Didactic Structure of Hausa Performing Arts].
3. [2015] Visiting Professor, Rutgers State University of New Jersey, New Brunswick, 22nd to 27th October, 2015. Taught four classes: *Introduction to African Literatures* (Media Flows and African Popular Culture: Revolution and Reaction in Muslim Hausa Popular Culture), *Islam and African Literature* (Manuscript Learnability and Indigenous Knowledge for Development – Hausa Ajami in Historical Context), *Cinema Studies* (Nigerian Cinema), *Crossroad: The Classical Literatures of Africa, Middle East and South Asia* (Transnational Influences and National Appropriations: The Influence of Hindi Film Music on Muslim Hausa Popular and Religious Music).
4. [2012] European Union Visiting Professor, Media and Cultural Communication, Department of African Languages and Cultures, University of Warsaw, Poland, 1st March to 31st May 2012. Taught two courses: *Transnationalism and Identity in African Popular Culture*; and *Oral Traditions in Local and Global Contexts*. While at Warsaw, participated in the supervision of one PhD in Intercultural Communication and provided logistic

assistance towards the publication of Polish-language edition of *Magana Jari Ce*, a Hausa classic compendium of stories adapted from European and Asian sources and published in 1937 in Zaria, Nigeria.

5. [2012] Specially invited Guest Speaker, Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences, Warsaw, Poland, Saturday 2nd June 2012: *Transnational Media Flows and Contra-Flows to Africa – Typologies and Immersion*, commissioned paper presented at Politics and Culture in Asian and African Countries,
6. [2010] Visiting Professor, University of Florida Institute of African Studies, 22nd to 26th February 2010. Taught a Class on Transglobal Media Flows and African Popular Culture. Presented two papers to the University: Paper 1 – *Islam, Popular Culture and Transnationalism in Northern Nigeria*; Paper 2 – *African Neo-Kharijites and Islamic Militancy against Authority: The Boko Haram/Yusufiyya Kharijites of Northern Nigeria*.
7. [2009] University of Basel, Switzerland, 18th February 2009. Opening Lecture [the first lecture in the series] for Center of Competence on Africa, Centre for African Studies, University of Basel, Switzerland (*Hell on Earth: Media-Mediated Urban Sexuality and Islamicate Popular Culture in Northern Nigeria*).
8. [2007] Barnard College, Columbia University, New York, United States, 7th November, 2007. Public Lecture Presented at Barnard Forum on Migration, Barnard College, and Columbia University, New York, United States (*The Transnational Express: Moving Images, Cultural Resonance and Popular Culture in Muslim Northern Nigeria*).
9. [2006] School of African and Oriental Studies, University of London, 12th September 2006. Mary Kingsley Zochonis Lecture for the African Studies Association, UK Biennial Conference, School of African and Oriental Studies, University of London, London (*Transglobal Media Flows and African Popular Culture: Revolution and Reaction In Muslim Hausa Popular Culture*).
10. [2004] Institute für Afrinkanishe, University of Köln, Germany, 15th November, 2004. Guest Lecturer to a Class of PhD students (*Enter the Dragon: Shari'a, Popular Culture and Film Censorship in Northern Nigeria*).

Publications

Media and Cultural Communication

Category 1 Publications (Outside of Africa)

1. [2021] “There Goes the Neighborhood.” Film Soundstages and the Islamicate Public in Northern Nigeria. In Kristian Petersen (Ed.). *Muslims in the Movies: A Global Anthology* (Mizan Series). Cambridge, MA: Harvard University Press (forthcoming).
2. [2020] Islamic Calligraphy, Abstraction and Magic in Northern Nigeria. In Toyin Falola Falou Ngom & Mustapha Kurfi (Eds.). *The Palgrave Handbook of Islam in Africa* (pp. 303-336). New York: Macmillan/Palgrave.
3. [2020] “We Are Not in Baghdad Anymore”: Textual Travels and Hausa Intertextual Adaptation of Selected Stories in 1001 Nights.” In Orhan Elmaz (Ed.). *Endless Inspiration: One Thousand and One Nights in Comparative Perspective* (pp. 35-59). Piscataway, NJ: Gorgias Press.
4. [2020] Gender and Delineation of *Intimissphäre* in Muslim Hausa Video Films. In: Brunn S., Kehrein R. (eds) *Handbook of the Changing World Language Map* (pp. 1805-838). Springer, Cham.
5. [2020] “Nigeria”. In Wells, Karen (ed.). *Teen Lives around the World [2 volumes]: A Global Encyclopedia. Vol 1 - Australia to Nigeria*, pp. 329-340. Santa Barbara, California: ABC-CLIO.
6. [2020] Book Review - Ignatius Chukwumah, ed. *Joke-Performance in Africa: Media, Mode and Meaning*. London: Routledge Contemporary Africa, 2018. Xi 290 pp. Illustrations. £120.00. Cloth. ISBN: 978-1-138-06064-7. *African Studies Review*, 1-3. doi:10.1017/asr.2020.44.
7. [2019] Transcultural Language Intimacies: The Linguistic Domestication of Indian Films in the Hausa Language. In Kenneth Harrow and Carmela Garritano (Eds.). *Companion to African Cinema* (pp. 157-175). Chichester: John Wiley & Sons Limited
8. [2019] The Political Economy of the Hausa Popular Cultural Industries. *Politique africaine* n°153, p. 59-84.
9. [2019] Hausa Popular Music (Northern Nigeria, pp. 168-178), Hip-Hop in Nigeria (Hausa Rap, pp. 258-260). In David Horn, John Shepherd, Gabrielle Kielich, and Heidi Feldman (eds.) *Bloomsbury Encyclopedia of Popular Music of the World, Volume 12: Genres: Sub-Saharan Africa*. New York: Bloomsbury.
10. [2018] *Media, Knowledge Transfer and African Identity - A Festschrift in Honour of Abdalla Uba Adamu*, Edited by Sa'idu Ahmed Babura and Nura Ibrahim. Kano: Bayero University Press.

11. [2018] Hausa Language and Literature. In Thomas Spear (Ed.). *Oxford Bibliographies in African Studies*. New York: Oxford University Press. Online Bibliography.
12. [2017] Transcultural Connections - Hindi Films, Transborder Fandom and Muslim Hausa Audiences in Northern Nigeria, *African and Asian Studies* 16 (2017):103-127.
13. [2017] Controversies and Restrictions of Visual Representation of Prophets in Northern Nigerian Popular Culture. *Journal of African Media Studies*, 9 (1): 17-31.
14. [2016] Tribute to Hajiya Sa'adatu Ahmad Barmani Choge, Griotte, northern Nigeria, 1948-2013. *The Annual Review of Islam in Africa*, Issue No. 12/13, pp. 166-172. (University of Cape Town, South Africa).
15. [2016] Environmental ethics and future oriented transformation to sustainability in Sub-Saharan Africa. (With Aliyu Salisu Barau and Lindsey C. Stringer). *Journal of Cleaner Production*, 135(1):1539–1547.
16. [2015] The Remediation of Events: 9/11 in Nigerian Videos. In H. Behrend & T. Wendl (Eds.), *9/11 and its Remediations in Popular Culture and Arts in Africa* (pp. 39-57). Berlin: Lit.Verlag.
17. [2015] Out of India, coming to Africa: The emergence of Kanywood, the Muslim Hausa video film industry in northern Nigeria, published as "Dall'India all'Africa. La nascita di Kanywood: l'industria dei video musulmani in lingua hausa, nel Nord della Nigeria". In A. Jedlowski & G. Santanera (Eds.), *Lagos calling: Nollywood e la reinvenzione del cinema in Africa* (pp. 135-166). Aracne editrice int. le S.r.l.
18. [2014] The Beggar's Opera: Muslim Beggar-Minstrels and Street Oral Poetry Theatre in Northern Nigeria. In T. F. Deubel, S. M. Youngstedt & H. Tissières (Eds.), *Saharan Crossroads: Exploring Historical, Cultural, and Artistic Linkages between North and West Africa* (pp. 195-216). Newcastle upon Tyne: Cambridge Scholars Publishing.
19. [2014] Review of 'the Role of the Press and Communication Technology in Democratization: The Nigerian Story' *the Journal of African History*, 55 (1) pp 129-130.
20. [2013] Transgressing Boundaries: Reinterpretation of Nollywood Films in Muslim Northern Nigeria. In M. Krings & O. Okome (Eds.), *Global Nollywood: Transnational Dimensions of an African Video Film Industry* (pp. 287-305). Bloomington and Indianapolis: Indiana University Press.
21. [2013] Book Review: Anne Haour and Benedetta Rossi (Eds.). *Being and Becoming Hausa: interdisciplinary perspectives*. Leiden and Boston: Brill (pbk €75.00, \$107.00 – 978 9 00418 542 5). 2010, xvii+310 pp. *Africa: Journal of the International African Institute*, Vol 83, No 02, pp. 344-346, May 2013.
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Conference Presentations

Media and Cultural Communication Conferences

Category I Paper Presentations (Outside Nigeria)

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2. [2020] "Don't Translate Motherfucker in my Vernacular": Rap, Hip-Hop and Islamicate Public Culture in Northern Nigeria. Baraza Paper presented virtually at the University of Florida workshop on *Islam, Media, and Popular Culture in Africa and Elsewhere*, 9th October 2020.

3. [2019] Loud, Silent Voices: Muslim Female Visibility in Islamicate Entertainment Spaces of Northern Nigeria. *Paper presented at the Afrikakolloquium, Institute for Asian and African Studies, Humboldt-Universität zu Berlin 24th April 2019*
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5. [2018] Inclusive Rapport: Nation, Language and Identity in Nigeriène and Nigerian Hausa Hip-Hop. *Paper presented at the Conference of the African Studies Association in Germany (VAD e.V.), Leipzig University, Leipzig, Germany. Panel: "Cross-Connections in African Literary and Cultural Studies". Friday 29th June 2018.*
6. [2017] "We Are Not in Baghdad Anymore": Textual Travels and African Intertextuality of Selected Stories in 1001 Nights. *Paper presented at the conference on One Thousand and One Nights: Comparative Perspectives on Adaptation and Appropriation, held at the University of St Andrews, 31 August – 1 September 2017.*
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14. [2012] *Al-Hausawi, Al-Hindawi: Media Contraflow, Urban Communication and Translinguistic Onomatopoeia among Hausa of Northern Nigeria*. European Union Visiting Professor Guest Paper Presented to the University of Warsaw, 10th May, 2012, *Department of African Languages and Cultures, University of Warsaw, Poland*.
15. [2011] *The Beggar's Opera: Muslim Beggar-Minstrels and Street Oral Poetry Theater in Northern Nigeria*. Paper presented at West African Research Agency's International Conference, Saharan Crossroads: Views from the South, held at Hotel Tenere, in Niamey, Niger Republic from July 7 to July 10, 2011.
16. [2011] *Interdicting Images in the Islamicate Public Sphere: Sensuality and Spirituality in Figurative Representation in northern Nigerian Popular Culture*. Commissioned paper presented at the Scientific Dahlem Conference Freie Universität Berlin, Germany from March 19th to 27th, 2011.
17. [2010] *The City at the Edge of Forever – Archiving and Digitizing Arabic Sources on the History of Kano, Nigeria*. Paper presented at the Conference on Preserving African Manuscripts, Addis Ababa, Ethiopia, 19th December, 2010.
18. [2010] *Islam, Popular Culture and Transnationalism in Northern Nigeria*. Paper presented for the Baraza Lecture, African Studies Center, University of Florida, Friday 26th February, 2010
19. [2010] *African Neo-Kharijites and Islamic Militancy against Authority: The Boko Haram/Yusufiyya Kharijites of Northern Nigeria*. Invited paper presented to the Islam in Africa Working Group of the African Studies Center, University of Florida, Gainesville, Florida on Wednesday 24th February 2010.
20. [2009] *Transnational Media Spaces and Hindi Films in Muslim Africa – The Hindi-Hausa Film Appropriations in Northern Nigeria*. Paper presented at international workshop on “Indian Cinema Circuits: Diasporas, Peripheries and Beyond”, held on Thursday 25th and Friday 26th June, at The Old Cinema, Regent Campus, University of Westminster, London. 2009.
21. [2009] *Transgressing Boundaries: Reinterpretation of Nollywood Films in Muslim Northern Nigeria*. Paper presented at the Conference on Nollywood and Beyond: Transnational Dimensions of the African Video Industry held at Johannes Gutenberg University, Mainz, Germany, May 13-16, 2009.
22. [2009] *Short-Circuited: Traditional Muslim Hausa Music and the Threats of Transnational Technopop in Northern Nigeria—Strategies for Survival and Preservation*. Paper presented at the conference, «Why safeguard our musical heritage for the future? » an academic and cultural conference, under the auspices of the Abu Dhabi Authority for Culture and Heritage, Abu Dhabi, October 3rd and 4th, 2009
23. [2009] Planning Session of the Organizing Committee of the 3rd World Festival of Black Arts (FESMAN III), Dakar, Senegal, 2-4 March 2009.

24. [2009] *Muhimmancin Yaren Gida Wajen Yada Manufofin Ilimi* [The Significance of Mother Tongue in Education]. Makalar da a ka gabatar a Taron ASAUNIL na Jamhuriyyar Nijar, a Damagaram, 8 ga watan Disamba 2009 [Damagaram, Niger Republic].
25. [2009] *Lost in Translation: Intertextuality, Intratextuality, and Intermediality in Muslim Hausa Popular Culture*. A research methodology paper presented at Winter School for Volkswagen Foundation at the *University of Basel, Switzerland*, 16 February 2009.
26. [2009] *Life Performance, Mediation and Audience* for the Volkswagen Foundation Passage of Culture Research and Training Network, University of Yaoundé, Cameroon, September 14-16, 2009.
27. [2009] *Hell on Earth: Media-Mediated Urban Sexuality and Islamicate Popular Culture in Northern Nigeria*. Guest Lecture presented at the Center of Competence on Africa, Centre for African Studies, University of Basel, Switzerland, on 18th February 2009.
28. [2009] *“Bosho” War: 9/11, Global Media and Local Visual Re-Interpretations in Muslim Northern Nigeria*, Paper presented for “Remedializations of Global Events” workshop/conference, the University of Cologne, Germany, November 19-21, 2009,
29. [2008] *Sabon Girbi, Diban Farko – Samar da Mawaƙan Zamani a Nishadin Hululu na Hausawan Najeriya* [New Trends in Contemporary Hip Hop Music in Northern Nigeria]. International Conference on Hausa Language and Literature, *Maradi, Niger Republic*, 18-20th August 2008.
30. [2008] Planning Meeting on the creation of the Al Ain Center for Study of Music in the World of Islam, *Abu Dhabi, United Arab Emirates*, July 9 and 10, 2008.
31. [2008] *Media Technologies and Literary Transformations in Hausa Oral Literature*. International Workshop on “Transporting Oral Literatures between Media, Cultures and Languages,” at Afrika-Asien Institute (AAI), *University of Hamburg, Germany*, 29th November, 2008.
32. [2008] *Eastward Ho! Cultural Proximity and Eastern Focus in the Hausa Literature*. International Workshop on “Transporting Oral Literatures between Media, Cultures and Languages” Afrika-Asien Institute (AAI), *University of Hamburg, Germany*, 30th November 2008.
33. [2008] *Hausa da Hausanci a Karni na 21 – Kalubale da Madosa* [Hausa Culture and Identity in the 21st Century] International Conference on Hausa Language and Literature, *Maradi, Niger Republic*, 18-20th August 2008.
34. [2007] *Transnational Influences and National Appropriations: The Influence of Hindi Film Music on Muslim Hausa Popular and Religious Music*. Paper presented at the *Congres des Musiques dan le monde de l’islam*, World Conference on Music in the world of Islam, *Assilah, Morocco*, 10th August 2007.

35. [2007] *The Transnational Express: Moving Images, Cultural Resonance and Popular Culture in Muslim Northern Nigeria*. Public Lecture Presented at Barnard Forum on Migration, Barnard College, *Columbia University, New York, United States*, November 7, 2007.
36. [2007] Pre-proposal Workshop for the Volkswagen Foundation, Passage of Culture in Africa project, "Popular Culture in Africa" *Mombasa, Kenya*, 2–6 October 2007.
37. [2007] *Islam, Shari'a and Censorship in Hausa Video Film*. Paper presented at African Film Conference, *University of Illinois, Urbana-Champaign, United States*, November 8-10, 2007.
38. [2006] *Transglobal Media Flows and African Popular Culture: Revolution and Reaction in Muslim Hausa Popular Culture*. Commissioned Mary Kingsley Zochonis lecture for the African Studies Association, UK Biennial Conference, School of African and Oriental Studies, University of London, London, 12th September 2006.
39. [2006] *Private Sphere, Public Wahala: Gender and Delineation of Intimissphäre in Muslim Hausa Video Films*. Paper presented at workshop on Negotiating Culture for within the Context of Globalization, Saly, Senegal, Dakar, 3rd to 8th April, 2006.
40. [2006] *Hadin Kai Tsakanin Marubutan Harsunan Gida Na Kasashe* [International Co-operation in Mother Tongue Writing]. Babbar makala da aka gabatar a dakin taron Gashingo a dandalin Tarayyar Kasashe ta marubutan Hausa na Najeriya da na Jamhuriyar Nijar a birnin Yamai, Nijar, ranar Laraba 8 ga watan Disamba, 2006. [Niamey, Niger Republic].
41. [2004] *Passage to India: Media Parenting and Construction of Media Identities in Northern Nigerian Muslim Hausa Home Videos*. A Paper Presented at the International Conference on The Media and the Construction of African Identities, held at Holiday Guest Inn, Westlands, *Nairobi, Kenya*, from August 3 to 6, 2004.
42. [2004] *Loud Bubbles from A Silent Brook: Trends and Tendencies in Contemporary Hausa Prose Fiction*. Paper presented at "Janheinz Jahn Symposium on African Language Literatures: Production, Mediation, Reception", held at the Institut für Ethnologie und Afrikastudien, *Universität Mainz (Johannes Guttenberg University), Mainz, Germany*, 18th November 2004.
43. [2004] *Enter the Dragon: Shari'a, Popular Culture and Film Censorship in Northern Nigeria*. Guest Paper presented at the Institute für Afrinkanishe, *University of Köln, Germany*, 15th November 2004.

National Conferences in Media and Cultural Communication

44. [2020] The Intangible Migrant: Language, Migration and Identity. Paper presented at Center for Migration and Global Studies Webinar Series, National Open University of Nigeria, 28th September 2020.
45. [2019] Journalism and Information Challenges. *Guest Lecture to M.A. and PhD Mass Communication Department, 14th June 2019.* [PPT only]
46. [2019] Orality to Visuality: Oral Tales, Street Theater, TV Drama and Amateur Filmmakers in Kano, 1938-1985. *Paper delivered at the 4th International Conference on Hausa Drama, Films and Popular Culture in the 21st Century, held at the Kaduna State University, Kaduna, 29th March 2019.*
47. [2018] Contextualizing African Indigenous Language Films: Kanywood in the Past, the Present and the Future. *Paper presented at the first edition of Kano Indigenous Languages of Africa Film Market & Festival (KILAF) on 14th November, 2018.*
48. [2017] *Commodification of Culture: The Political Economy of Hausa Popular Cultural Industries.* Paper presented at the National Institute for Cultural Orientation (NICO) Quarterly Public Lecture, with the theme of Promoting Culture, Developing the Economy, on Monday 10th July, 2017 at Shehu Musa Yar Aduwa Conference Center, Abuja.
49. [2017] *The Role of Media in the Spread of Hausa Language and Culture.* Paper presented at the 60th Anniversary of BBC Hausa Service, Thursday 30th March, 2017, Shehu Musa Yar Aduwa Conference Center, Abuja.
50. [2014] Information Management in Public Sector: New Trends and Techniques. Paper presented for Journalists and organized by the Kano State Ministry of Information. 13th June, 2014, Tahir Guest Palace Kano.
51. [2013] *Poetic Barbs: Angst, Voter Mobilization and Urban Musics in Kano State 2011 Elections.* Paper presented at the 1st National Conference on Perspectives on Elections and the Challenges for Democracy in Nigeria, organized by the Department of Political Science, Bayero University, Kano, Nigeria on 9th January 2013.
52. [2013] *An Ethnographic History of Kanywood – The Hausa Video Film Industry.* Paper presented at the Kano State Film Festival, 18th March 2013, Kano, Nigeria.
53. [2011] *Muslim Religious Extremism, Radicalization and Militancy in Northern Nigeria – Analysis of Insurgency Video Texts.* Presented at Roundtable Methodology Workshop on Religion, Conflict and Democracy in Northern Nigeria, organized by Centre for Peace Initiative and Development (CPID), Jos, held at Nevilla Hotel, Kaduna, 12th November 2011,
54. [2010] *The Management and Control of Quality films in Nigeria as relates to Culture, tradition, Norms and Values – Perspectives from Hausa Video Film Industry.* Paper presented at RATTAWU Workshop, 27th July 2010, Kano

55. [2010] *Global Images, Global Voices: Changing Paradigms in Transnational Media Flows and Contra-Flows*. Presented as the 3rd Nigerian Film Corporation Annual Film Lecture, 3rd May 2010, Abuja, Nigeria at the 2010 Zuma Film Festival
56. [2009] *Hausa Video Films – Yesterday, Today and Tomorrow: Intellectualizing Hausa Video Films in Retrospect*. Discussion/lead paper presented at the International Workshop on Hausa Home Video Films with the theme of Controversies, Sanity and Solutions in the Hausa Home Video Industry, held at Kongo Conference Center, Institute of Administration, Ahmadu Bello University, Zaria, from 13th to 15th August, 2009.
57. [2009] *Cultural Representation, Professionalism and Challenges Facing the Hausa Video Film Industry*. Commissioned presentation at Retreat for producers and consultants, and organized by the Kano State Censorship Board, on 11th April 2009 at Royal Tropicana Hotel, Kano.
58. [2009] *Ayyukan Hukumar Tace Finafinai da Dab'i da Alakarsu da Hanyoyin Sadarwa Na Duniya* [The Mandate of Censorship and its Global Context]. An gabatar da wannan makalar a zauren *A Daidaita Sahu* da taken “Tace Finafinai da dab'i shi ne Daidaita Sahu”, a Murtala Muhammad Library, Kano [Kano, Nigeria], ranar Asabar 24 ga Oktoba 2009
59. [2008] *Womanist Ethos and Hausa Domestic Ecology: A Structuralist Analysis of Barmani Choge's Operetta, 'Sakarai Ba Ta da Wayo' (Useless Woman)*. Lead paper presented at the 5th Annual Conference on Literature in Northern Nigeria (Poetry and Poetics in Northern Nigeria) of the Department of English and French, Bayero University Kano, 10-13th November, 2008.
60. [2008] *Using the Web as a research tool*. Paper presented at the National Workshop on Research Proposal for Fund Seeking, held at Bayero University, Kano, 11-12th March, 2008.
61. [2008] *Tarihin Adabin Hausa* [The History of Hausa Literature]. Guest Speaker, Yandutse College, Kano, on 17th January 2008.
62. [2008] *Private Passion, Public Furor: Youth Entertainment, Sexuality and the Islamicate Public Space in Northern Nigeria*. Paper presented at the 2-day International Conference on Nigerian Youth and National Development, held at the Center for Democratic Research and Training, Mambayya House, Bayero University, Kano, Nigeria, August 5-6, 2008.
63. [2008] *North of Nollywood, South of the Sahara: Cultural Dynamics in the Marketing of Hausa Video Films*. Discussion Paper for Presentation at the 2-day conference on Nollywood: Challenges of Production, Entertainment Value and International Marketing Strategies, held at the Pan-African University, Lagos, Nigeria from Friday 18th to Saturday 19th July 2008.
64. [2008] *Global Influences, National Flows—the Influence of Hindi Film Music on Hausa Traditional Music and Video Film*. Lead Paper presented at the International Conference on Communication, Media and Popular Culture in Northern Nigeria, organized by the Department of Mass Communications,

Bayero University, Kano, Nigeria, 12-13th July, 2006 at Mambayya House, Gwammaja, Kano City.

65. [2008] [*Active Discussant*] Planning Meeting on the creation of the Al Ain Center for Study of Music in the World of Islam, *Abu Dhabi, United Arab Emirates*, July 9 and 10, 2008.
66. [2007] Scriptwriting Techniques (Effective Communication). Paper presented at the workshop on Hausa Women's Access to Justice, and organized by Security Justice Program, DfiD on 20th July 2007.
67. [2007] *Manuscript Learnability and Indigenous Knowledge for Development – Hausa Ajami in Historical Context*. Paper presented at the International Conference on Preserving Nigeria's Scholarly and Literary Traditions and Arabic Manuscripts Heritage held on March 7th and 8th, March, 2007 Arewa House Kaduna, organized by Arewa House, in collaboration with the U.S. Embassy, Abuja.
68. [2009] (*PPT*) *Challenges Facing Girls and Young Women in Information Technology*. Paper presented at the First Girl IT Awareness Forum, organized by the Office of the National Vice President, Nigerian Computer Science Students Association at the Murtala Mohammed Library, Kano State on 31st October 2009.
69. [2007] *Arab Images in African School Curricula – A Study of the History of Learning and Contemporary Schooling Systems in Northern Nigeria*. Paper presented at the Symposium on Mutual Perceptions Between Africans and Arabs in School Curricula held at Arewa House, Ahmadu Bello University, Kaduna, from 21- 23 May 2007, and sponsored by Institute Culturel Afro-Arabe (Afro-Arab Cultural Institute), Bamako, Mali.
70. [2006] *Shari'ah, the Islamicate Social Structure and Popular Culture in Northern Nigeria*. Paper presented at the International Conference on "Leadership, State and Society under the Shari'ah in Northern Nigeria: The Dividends" organized by the Institute for Contemporary Research, Kano, and held on 10th to 12th July 2006 in Abuja, Nigeria.
71. [2006] *Issues of Cultural Diversities and Social Responsibilities in Film Censorship*. March 2006. Independent paper presented at the Abuja Zuma Film Festival, 2006.
72. [2006] *Kasuwancin Finafinan Hausa a Duniya – Tasiri da Kalubale* [The Challenges of Marketing Hausa Video Films Internationally]. Jawabin da a ka gabatar ranar Lahadi 26 ga Maris 2006 a babban dakin taro na Murtala Muhammad Library, sanadin taron yini guda domin karawa juna fahimta game da kasuwancin Finafinan Hausa a Intanet wanda www.hausamovies.com suka shirya [Kano, Nigeria]
73. [2006] *East is East: Media Flows and Eastern Focus in the Hausa Novel*. Paper presented at the 4th Conference on Literature in Northern Nigeria, 15th-17th November 2006, Department of English and French, Bayero University, Kano, Nigeria, under the theme of Theorizing the Novel in Northern Nigeria.

74. [2005] *Read to Reel: Transformation of Hausa Popular Literature from Orality to Visuality*. Paper presented at the 24th International Convention of the Association of Nigerian Authors, held on 11th-12th November, 2005 at the Murtala Muhammad Library Complex, Kano.
75. [2005] *Divergent Similarities: Culture, Globalization and Hausa Creative and Performing Arts*. A Paper presented at the International Conference on Literature in Northern Nigeria, Department of English and French, Bayero University, Kano, 5th-6th December, 2005.
76. [2004] *Internet as Information Platform*, Paper presented at Kano ICT Awareness Week of the Kano State Government, 5th December, 2004 at the Murtala Muhammad Library Complex, Kano State, Nigeria.
77. [2004] *Hausa and Information and Communication Technologies (ICTs)*. Being a Lead Paper Presented at the 6th International Conference on Hausa Language Literature and Culture, Organized by the Center for the Study of Nigerian Languages, Bayero University, Kano, Nigeria, 13-16th December, 2004.
78. [2003] *Istanci, Imamanci and Bollywoodanci: Evolutionary Trends in Hausa Use of Media Technologies in Cultural Transformation*. Paper presented at the first International conference on Hausa Video Films, 4-7th August 2003 at the Murtala Muhammad Library Complex, Kano.
79. [2001] *Tarbiyar Bahaushe, Mutumin Kirki and Hausa Prose Fiction: Towards an Analytical Framework*. Department of English and European Languages Seminar, 23rd January 2001.

Conference Presentations in Education

80. [2020] Rpt. The Death of Education and the Rise of Learning: Changing Paradigms in Epistemology, Technology and Contemporary Social Engineering. Lecture delivered at the Online Class at Lagos State University Africa Centre of Excellence for Innovative and Transformative STEM Education (LASU-ACEITSE) July 2020
81. [2020] The Death of Education and the Rise of Learning: Changing Paradigms in Epistemology, Technology and Contemporary Social Engineering. Paper presented at the Faculty of Education International Conference, Federal University, Lafia, Nasarawa State. Theme: Nigerian Education: Yesterday, Today and Tomorrow 26th February 2020.
82. [2019] Youth and Political Thuggery. A paper presented to the Hausa Students Association of Nigeria, 1st January 2019, Kano State Library, Kano, Nigeria
83. [2018] Education is DEAD: Long Live LEARNING: *Internet, Social Media and Paradigm Shifts* in Educational Delivery. Keynote Address at 50th Anniversary of Gwale Secondary School, 27th December 2018, Kano, Nigeria (PPT)
84. [2015] *Philosophical and Epistemological Bases of Science and Technology Research*. Paper presented at the 1st Postgraduate Students' Workshop, Kano University of Science and Technology, Wudil, 5th January 2015.

85. [2013] *iLearning: Resource Mobilization, Management for Access and Quality Tertiary Education in Africa*. Being a Lead Paper Presented at the Conference on Resource Mobilization, Faculty of Education, Ahmadu Bello University, Zaria, Nigeria, 11th June 2013.
86. [2012] *Blending Community Science in the Class Room – Hausa Proverbs and Efficacy of Ethnoscience Methodology*. Seminar paper presented at the Department of Science and Technology Education, Bayero University, Kano, 11th July 2012. [q.v.]
87. [2010] *The Role of Nigerian Universities in the Actualization of Development Vision*. Delivered as the 1st Public Lecture of the Ibrahim Badamasi Babangida University (IBBU), Lapai, Niger State, on Monday 8th November, 2010.
88. [2010] *The Role of NGOs in Promoting Peaceful Co-Existence in the Society*. Paper presented at the 2010 NGO Day Celebrations, Mambayya House, Bayero University, Kano, Nigeria, 31st March 2010,
89. [2010] *The Role of Local Community in the Development of Education in Nigeria*. Discussion paper presented at the BUK 2000 Alumni Association Lecture on Saturday 2nd October, 2010.
90. [2010] *Role of Private Sector in Scholarship Schemes*. Lead discussion paper presented at the 22nd Annual national coordinating committee meeting of Secretaries of Federal and States Scholarship Board, 8th March, 2010, Three Star Hotel, Dutse, Jigawa State.
91. [2010] *Reading Culture, Class Transition and Examination Performances*. Background paper presented at the National Examination Summit, organized by the Federal Ministry of Education, Nigeria, and held at the National Universities Commission Auditorium Abuja on 24th May 2010.
92. [2010] *Ever Increasing Circles: The Nigerian Education Roadmap and Policy Regeneration*. Paper presented at Kano State Education Forum Stakeholders Meeting on 9th March 2010 at Center for Democratic Studies, Mambayya House, Bayero University, Kano
93. [2010] *Cultural Reconciliation among Communities: The Multicultural Emergence of Kano as Panacea for Peaceful Co-existence*. Paper presented at the World Culture Day celebration on the 21st of May 2010 at the National Institute of Cultural Orientation, Abuja, Nigeria.
94. [2010] *Conducting Multidisciplinary Research*. Workshop training organized for Junior Academics in Nigerian Universities, funded by the Education Trust Fund, and held at Hydro Hotel, Minna 24-28th May 2010.
95. [2009] *Writing Funding Proposals for NGOs and Civil Society Organizations*. A workshop paper presented at Center for Democratic Studies, Mambayya House, Bayero University, Kano, on 9th December 2009.
96. [2009] *Use of ICT in Teaching of Primary School*, Paper presented at one-day sensitization seminar for Primary School Teachers, and held at the Masallaci Primary School, Kano, Nigeria on 26th December 2009.

97. [2009] *Under Siege: The Dark Territory of Technical-Technological Divide in the Development of Polytechnic Education in Nigeria*. Convocation Lecture Delivered at Hussaini Adamu Federal Polytechnic, Kazaure, Jigawa State on 14th February 2009.
98. [2009] *Research Traditions: Quantitative and Qualitative Research Approaches*. Paper presented at the workshop on achieving the Millennium Development Goals: Creating a Network of Researcher/Activists, Wednesday, October 21st, 2009 at the Center for Research and Documentation (CRD), Kano.
99. [2009] *Research Methodology in Humanities*. A discussion paper presented at the workshop on proposal writing and research methodology of the Faculty of Arts and Islamic Studies, Bayero University, Kano, Nigeria, Monday 22nd June 2009.
100. [2009] *Fundraising Strategies in Engineering Research*. A discussion paper present at workshop on Proposal Writing, organized by the Faculty of Technology, Bayero University, Kano, on Tuesday 8th June 2009.
101. [2009] *Feed the Minds – The Role of Government Publications in Documenting Policy Implementation*. Keynote Address on the occasion of the presentation of Government Publications to the public by the Directorate of Research and Publications, Government House, Kano, on Wednesday 14th January 2009, Government House, Kano
102. [2009] *Achieving Universal Education for Children in Marginalized Spaces in Alternative Literate Communities – An Advocacy for Meeting MDG Target 2a for Almajirai Pupils*. Paper presented at the 2nd Workshop on Millennium Development Goals, organized by Allied Bond Consulting, and held at Agura Hotel, Abuja on 4-6th August, 2009
103. [2009] *(PPT) Maintenance Practice in Nigeria – An Overview*. Paper presented at the one-day workshop on Maintenance Culture in Nigeria, and organized by National Orientation Agency, Kano State Branch, on 5th November 2009 at the Murtala Mohammed Library, Kano State.
104. [2008] *Motionless Points in Chaos: Education Reforms, Innovations and the Challenges for Tertiary Education in Nigeria*. Presentation at the First Conference on Polytechnic Education, Kano Polytechnic, Tuesday 28th October, 2008.
105. [2008] *Kano State Education Account (KASEA) – A project account briefing to the USAID Africa Regional Education Workshop 2008*, Addis Ababa, Ethiopia, organized by USAID, April 2008.
106. [2008] *Kano State Education Account (KASEA) – A project account briefing to the USAID Africa Regional Education Workshop 2008*, Addis Ababa, Ethiopia, organized by USAID, April 2008.
107. [2008] *From Kano to North, West and East Africa: Export Potentials from the ICT Park*. Paper presented at the Workshop on ICT Park on Thursday 8th May 2008, at Tahir Guest Palace, Kano.

108. [2008] *Credible Research Proposal and Project Report: A Practical Guide*. Paper presented at the Workshop on Better Project Writing and Supervision in Kano State Polytechnic, held on 26th February 2008.
109. [2008] *Challenges Facing the Actualizing of the Five Year Teacher Education Program*. Paper presented at the Annual Conference of Deans of Education held at Ahmadu Bello University, Zaria on 10th July 2008.
110. [2007] *Tourism from the Islamic Perspective*. Paper Presented on Monday 3rd September, 2007 at the Tahir Guest Palace.
111. [2007] *The Politics of Belonging and Settler Cultural Identity: The Emergence of Kano as a Multicultural Society*. Paper presented a 2-day seminar on Politics and Peace: The Role of Religion, and organized by Christian Association of Nigeria Kano Branch, Bridge Builders Association of Nigeria in collaboration with British High Commission, at Tahir Guest Place on 29th March, 2007.
112. [2007] *Nigerian Universities and the Challenge of Nigerian Education Sector Reforms* Paper presented at 2nd National Conference of the Eureka Academic Foundation of Federal College of Education, Pankshin on the theme: The Federal Government's Education Reform Agenda and the Future of Nigerian Education on 10th April 2007.
113. [2007] *Education Reforms, Innovations and Democracy in Nigeria*. Paper Presented at 1st National Conference of the School of Education, Umar Suleiman College of Education, Gashuwa, Yobe State on 5th September 2007.
114. [2007] (PPT) *The Role of ICT in Education*. Paper presented at a workshop for Private School Teachers, KERD, Kano. 5th June 2007, Kano.
115. [2006] *Using Computer Aided Instruction, Learning and Design*. Resource paper presented at the Staff Training Development Workshop organized by the ETF Year 2004 Intervention for Staff Training and Development at the Niger State College of Education, Minna, Niger State, 11-14th April 2006.
116. [2006] *Transglobal Influences and Nigerian Education: The Americanization of Nigerian Universities*. Lead Paper presented at the 8th Annual National Conference of the Federal College of Education, Kano on Tuesday 27th June 2006. Theme: National Policy on Education and Problems of Implementation of Educational Objectives in Nigeria.
117. [2006] *The Procedures and Methods of Curriculum Evaluation in Higher Education*. A Paper Presented at the Workshop on Curriculum Design and Development on Wednesday 15th February 2006, at the Ahmadu Bello University, Zaria, Nigeria.
118. [2006] *The Anatomy of a Circle: Reaction and Counter Reaction in Educational Policy Formulation and National Development in Nigeria, 1925-2005*. Paper presented at the Review of the National Policy on Education at the North-West Zonal Consultative Forum, held at the Murtala Muhammad Library Complex, Kano, Nigeria, on 27th July 2006.

119. [2006] *Searching the Internet*. Outline of Workshop Talk presented at a Workshop organized by the Kano State Polytechnic in conjunction with the Education Trust Fund on 12th September 2006 at Kano State Polytechnic, Kano.
120. [2006] *Science, Technology and Mathematics Education and Professionalism*. A Lead Paper presented at the 1st Annual Conference of the Science Teachers' Association of Nigeria (STAN), Kano State Branch, on Thursday 4th May, 2006 December, 2005 Kano Educational Resource Center, Kano, Nigeria.
121. [2006] *Methods and Procedures of Curriculum Implementation in Higher Education*. A Paper Presented at the Workshop on Curriculum Design and Development on Wednesday 15th April 2006, at the Ahmadu Bello University, Zaria, Nigeria.
122. [2006] *Financing Education Delivery in Nigeria – The Rhetoric and the Realities*. Lead Paper presented at the 21st Annual Congress of the Nigerian Academy of Education under the sub-theme of “Politics of Funding and Fiscal Management in Nigeria” on Tuesday 7th November, 2006 at the Abubakar Tafawa Balewa University, Bauchi, Nigeria.
123. [2006] *Education for Sustainable Development – Theoretical Perspectives*. Being the text of Bayero University Public Lecture, presented to mark the African University Day at Center for Democratic Research and Training, Mambayya House, Bayero University, Kano, Nigeria, on Saturday 16th December, 2006
124. [2006] *Discipline, Decency and Moral Uprightness in an Academic Environment: Principles of Character Education Explored*. Paper presented during Kano Orientation Day 2006 on Monday 6th March 2006 at Theater 1, Bayero University, Kano, organized by the National Association of Kano State Students
125. [2006] *Developing Institutional Co-operation Strategies: The Rhetoric and Reality of Academic Linkages with Nigerian Higher Education*. Paper presented at the 4th Education UK Exhibition organized by the British Council, on Education Partnerships for Community Development, and held at the Royal Tropicana Hotel on 14th November, 2006.
126. [2006] *Culture, Identity and the Multicultural Society—Perspectives from Hausawa and their Neighbors*. Paper Presented at the Tahir Guest Palace, 9th September 2006 at a Seminar sponsored by the British High Commission and organized by Bridge Builders Multi-Faith Association.
127. [2006] *Challenges to Teacher Education in the 21st Century: Approaches and Perspectives*. Lead paper presented at the National Conference on Teacher Education in the 21st Century, held at Kano State College of Education, Kumbotso, May 22-26, 2006, Kano, Nigeria.
128. [2006] *Avoiding Plagiarism in Scholarly Writing – The Do's and Don'ts*. A paper presented at the Workshop on The Role of Academic Journal in the Promotion of Scholarship in Nigeria, held on Tuesday 4th July 2006, at the

School of Rural Technology and Entrepreneurship Development, Rano, Kano State Polytechnic.

129. [2006] (PPT) *Strategic Time Management: Effectiveness vs. Efficiency*. Paper presented at a Retreat for Board Members of the Corporate Affairs Commission, Abuja, organized by First Arewa Associates, Kaduna, at the Asaa Pyramid Hotel, Kaduna on 11th December, 2006.
130. [2006] (PPT) *Development of Strategic Plans*. Paper presented at a Retreat for Board Members of the Corporate Affairs Commission, Abuja, organized by First Arewa Associates, Kaduna, at the Asaa Pyramid Hotel, Kaduna on 11th December, 2006.
131. [2006] (PPT) *Co-operative Living in a Multicultural Society: Understanding Cultural Identity, Stereotypes and Prejudices*. Paper presented at a 2-Day Capacity Building Workshop for Kano Guest Settler Community, organized by Bridge Builders (Kaduna) and the British High Commission (Abuja) held on 10th-11th November, 2006 at the Royal Tropical Hotel, Kano.
132. [2006] *“Progress to Nowhere”: Reaction and Counter Reaction in Educational Policy Formulation and National Development in Nigeria*. Lead Paper presented at the 2006 Annual National Meeting and Conference of the Committee of Deans of Education in Nigerian Universities, Faculty of Education, Bayero University, Kano, 13th July 2006.
133. [2005] *Using Computers in Multi-Grade Teaching*. Being a Workshop Paper presented at A Series Workshops on Multi-Grade Teaching Techniques for Education lecturers in Colleges of Education, organized by the National Commission for Colleges of Education, 13th April (FCE (T) Gombe), 27th April (FCE Katsina) and 14th May 2005 (FCE Minna).
134. [2005] *The Training of Teacher Educators in Media Methods and Materials Production*. A paper presented at the Training Workshop on Improving Teaching Skills through Information and Communications Technology, organized by National Commission for Colleges of Education, Abuja, at the Federal College of Education, Technical, Gusau, Zamfara State on 12th July, 2005.
135. [2005] *Secondary Education in an Era of Global Change—Challenges and Promises*. Being a paper presented at the Zonal Meeting of All Nigerian Conference of Principals of Secondary Schools (ANCOPSS) held on 7th April, 2005 at the Murtala Muhammad Library Complex, Kano Nigeria.
136. [2005] *Science, Technology and a Policy for Development*. Guest Lecture presented at the Opening Ceremony of the Silver Jubilee Celebration of the Kano Science School Old Students’ Association (KASSOSA), held on Wednesday 6th July, 2005 at the Murtala Muhammad Library Complex, Ahmadu Bello Way, Kano, Nigeria.
137. [2005] *Science and Technology Education: The Kano State Experiment*. Being a Lead Workshop Paper presented at the Workshop on the Teaching of Science More Creatively in Nigerian Schools, organized by Science and Technology Forum, Zaria, and held on 23rd April, 2005.

138. [2005] *Falling Standards of Education, or Improving Standards of Knowledge—Education and Development Paradigm Revisited (II)*. Being a Guest Lecture delivered on Monday 14th March 2005 on the Occasion of 2005 Commonwealth Day Celebrations at the Federal Government Girls' College, Minjibir, Kano State.
139. [2005] *e-Learning: Origin, Meaning, Concepts and Utility Values*. Resource paper presented at the Staff Training Development Workshop organized by the ETF Year 2004 Intervention for Staff Training and Development at the Niger State College of Education, Minna, Niger State, 11-14th April 2006.
140. [2005] *Early Child Care and Education (ECCE) as an Instrument of Social Change in Jigawa State*. Paper presented at Workshop on "Towards More Effective Teaching of English in Jigawa State Primary and Junior Secondary Schools", organized by Rushda Communications on Monday 26th September, 2005 at Kazaure, Jigawa State
141. [2004] *The Role of Non-Formal Education in Nigeria's Development—Which Way Forward?* A Commissioned paper presented at Unicef/NMEC Strategy Meeting to strengthen NFE as a complimentary approach for reaching EFA goals. Abuja, 15 and 16 April, 2004.
142. [2004] *The Role of Education in Promoting Peace and Development in Kano*. Being a Keynote Address at the Kano Peace and Development Initiative Peace Forum, under the theme of Enduring Peace, Progress and Development in Kano: The Way Forward, held on 25th September, 2004, at Mambayya House, Bayero University, Kano, Nigeria
143. [2004] *The Changing Role of Education Resource Centers in Enhancing the Quality of Education: ERCs as Information Providers (IPS)*. Lead Paper presented at a two-day interactive seminar for Directors of Education Resources Centers in the States and FCT, organized by Education Resource Center, Ministry of Federal Capital Territory, Abuja, Nigeria, 28 to 29 April, 2004.
144. [2004] *Sunset at Dawn, Darkness at Noon: Reconstructing the Mechanisms of Literacy in Indigenous Communities*. Being the Text of Professorial Inaugural Lecture Delivered on Saturday 24th April 2004, at Bayero University, Kano, Nigeria.
145. [2004] *Poverty at the Local Level – Determinants and Indices*. Being a paper presented at Workshop on Who's Poor in Nigeria? Organized by the Nigerian National Poverty Eradication Program (NAEP) held at the Liyafa Hotel, Katsina, 8th and 9th December, 2004.
146. [2004] *Participatory Approaches to Management of Rural Development Programs: Concepts, Principles and Techniques*. A discussion document presented at the Workshop on Participatory Approaches to Management of Rural Development Programs, organized by Network for the Advancement of Values (NeAD), Kano, and the Ministry for Local Government, Kano State, 30 and 31 December, 2004, Kano State.

147. [2004] *Information Management in Government Offices*. Workshop paper presented at a Two-day workshop on Record Keeping in Government Offices, for Local Government Officers in Kano State, organized by Network for the Advancement and Development of Values (NEAD), June 21, 2004
148. [2004] *Indigenous Knowledge Systems, The Writings of Shehu Usman bn Fodiye, and the Muslim Northern Nigerian Policy on Education (MNNPE)*. Being a Paper Presented at the Conference Marking the 200 Years of Uthman Dan Fodiyo Jihad in Kano, Organized by the Kano State History and Culture Bureau, Kano, 27th to 29th July, 2004
149. [2004] *Impact Monitoring and Assessment (IMA) of PLA Projects: Special Study of Rural Development Projects with a Focus on Sustainable Land Management*. A discussion instrument prepared for Local Government Seminar on Participatory Approaches in the Management of Rural Development Programs, Organized by the Ministry for Local Government, Kano State, on 30 and 31st December, 2004, Kano
150. [2004] *Funding Networks for Women Economic Empowerment Schemes: Lessons from the International Community*. Paper presented at Workshop on Sustainability of Women Economic Empowerment Strategies at the Local Government Level, organized by Network for the Advancement and Development of Values (NEAD), Held on 8 and 9 January 2004 at the Local Government Training Center, Kano
151. [2004] *Falling Standards of Education, or Improving Standards of Knowledge—Education and Development Paradigm Revisited*. Being a Guest Lecture delivered on Saturday 17th July, 2004 to commemorate 20th Anniversary of Gwale Old Boys Association, Class 1984, Held at Gwale Secondary School, Kano, Nigeria.
152. [2004] *Epistemological Dichotomy and Scriptural Transferability: Towards a New Paradigm for Muslim Hausa Indigenous Knowledge*. Being a Discussion Seminar Paper of the Text of the Inaugural Lecture titled Sunset at Dawn, Darkness at Noon: Reconstructing the Mechanisms of Literacy in Indigenous Communities. Faculty of Education Seminar Series, June 24, 2004.
153. [2004] *Conflict Resolution: Mechanisms and Principles*: A discussion paper presented at the two-day Workshop on Pastoralist and Farmer Relations in Kano, organized by Mazhabs International Educational Consultants, and sponsored by the Kano State Ministry for Local Government, 11-12th November, 2004
154. [2004] *Computer Application and Use of ICT for Teaching and Learning*. A Commissioned Workshop Paper Presented at Train-the-Teacher Workshop for Capacity Building for Lecturers in Colleges of Education in Nigeria, Organized by Education Tax Fund (ETF) and National Commission for Colleges of Education, Abuja, August, 2004 (COE, Akwanga) and September, 2004 (FCE Katsina).
155. [2004] *Community Participation in Education – Lessons from Best Practices that Worked*. Lead Paper Presented at the one-day symposium organized by the

Kano State House of Assembly and the National Association of Kano State Students, Aminu Kano School of Legal Studies, 5th October, 2004

156. [2004] *Community Participation and the Salvation of Education in Kano State*. A Commissioned Lead Paper presented at a Symposium on Education in Kano State, organized by Kano Old Students Association (KANOSA), Murtala Mohammed Library Complex, Kano, 10th April, 2004.
157. [2003] *Youth, Politics and Sustenance of Democracy*. Being a Commissioned Paper delivered at the workshop on Strategies for Inspiring Youth towards Self-Actualization and Development, organized by the Kano State Ministry of Information, Youth, Sports and Culture from 5 to 7 November, 2003, Kano State, Nigeria.
158. [2003] *The Promises and Challenges of Information and Communication Technologies in Nigerian Education*. Being a commissioned paper presented at the one-day workshop on Developing an Education Management Information Systems in Nigeria, held at Protea Hotel, Abuja, 2 and 3 September, 2003.
159. [2003] *The Concept of Curriculum Integration: Its Meaning, Scope and Modalities*. Lead Commissioned Paper presented at the Workshop on Integrating Qur'anic Education, held at Arewa House, Kaduna, on March 14, 2003.
160. [2003] *Strategies for Accelerating Girl-Child Education. Being a Commissioned paper delivered at a seminar on Acceleration of the Girl-Child Education in a Democratic Dispensation in Northern Nigeria*, organized by Women Development Network (WODEN), Kano, Nigeria, 8 and 9 October, 2003
161. [2003] *Reconstructing the Mechanisms of Literacy in Indigenous Communities*. Paper delivered at the British Council, Kano, on the occasion of International Literary Day, on September 8, 2003.
162. [2003] *Management of Primary Education in Kano State*. Being a paper presented at a Seminar on The Management of Primary Education: Emergent Strategies in the 21st Century, Organized by the Bayero University Consultancy Services for the Kano State Primary Education Board, February 19-21, 2003, Kano, Nigeria.
163. [2003] *Kano State Science Schools*. Being the text of a Guest Speech at the KASSOSA Symposium, July 26 2003, Murtala Mohammed Library Complex, Kano, Nigeria
164. [2003] *Guidelines on Tests Construction, Assessment of Student Projects and the Importance of Teacher Tests: A Refresher Course*. Seminar Paper Delivered at the NERDC/SPEB Refresher Course on Continuous Assessment for Primary School Teachers in Kano State, 3 to 5 March, 2003, Kano, Nigeria.
165. [2003] *Gender, Economy and Education*. Paper presented at the Roundtable on Gender Parity, as part of the EFA Week, held at Maiduguri, Borno State, Nigeria, on Monday 7 April, 2003.
166. [2003] *Electronic Record Keeping*. Being a paper presented at a Seminar on The Management of Primary Education: Emergent Strategies in the 21st Century,

Organized by the Bayero University Consultancy Services for the Kano State Primary Education Board, February 19-21, 2003, Kano, Nigeria.

167. [2003] *Dissemination of Research Findings*. Being a Seminar paper presented in the Department of Education, Bayero University, Kano, on September 17, 2003.
168. [2003] *Darkness at Noon: Colonial Language Policy and the Eclipsing of Education among the Muslim Hausa in Northern Nigeria*. Paper presented at the International Conference on the Transformation of Northern Nigeria, 1903-2003, organized by the Usmanu Danfodiyo University, Sakkwato and Arewa House, Ahmadu Bello University, Zaria, 27 to 29 March, 2003, Kaduna, Nigeria.
169. [2002] *Women Participation in Politics*. Paper presented at a Symposium for Women Voters, organized by Women in Politics, December 13, 2002.
170. [2002] *Networking and Library Services*. Being the Text of the Paper Presented at the Workshop on Setting up and Managing Online Library Resources, Held in Kano at the Kano State Library Complex, Wednesday August 21, 2002.
171. [2002] *Leading and Managing Staff to Raise Educational Achievement in the Northern States*. A Position Paper Commissioned by the Northern Education Research Project (NERP), Arewa House, Kaduna. November 8, 2002.
172. [2002] *Information Literacy for ICT*. Presented at the National Conference on Science, Environmental Education and Information Technology Literacy for Sustainable Development in Nigeria, Held at the School of Sciences, College of Education, Jalingo, Taraba State, Nigeria, October 29, 2002.
173. [2002] *ICT and Business Education*. A paper presented at the Orientation Session for MBA Students, Bayero University, Kano, Nigeria on Saturday June 29, 2002.
174. [2001] *Teaching and Learning using CAI*. Commissioned Paper presented at a Train the Trainers Workshop at Federal College of Education, Kwantagora, December 1-6, 2001, Organized by UNESCO and NCCE.
175. [2001] *Teacher Education in the new Millennium*. A Lead Paper Presented at the 2nd National Conference of the Schools of Education, Arts and social Sciences and Languages of the Federal College of Education, Pankshin, Plateau State, Nigeria, on August 28, 2001.
176. [2001] *ICT and Administration*. Being a Paper Presented at a Workshop for Local Government Secretaries, Chief Personnel Officers, Treasurers, and Revenue Officers, January 9 – 11 2001.
177. [2001] *Funding Research in Higher Education*. Paper presented at an Internal Seminar on the theme of Effective Research and Administration in Kano State Tertiary Institutions held by the Kano State Polytechnic on Tuesday October 9, 2001, Kano, Nigeria.
178. [2001] *Computerization of Financial Records*. Paper Presented at a Workshop for Local Government Secretaries, Chief Personnel Officers, Treasurers, and Revenue Officers, January 9 – 11 2001.

179. [2000] *The Cultural Environment of the Child*. A presentation made at the 2-day sensitization to Media Strategists organized by UNICEF in conjunction with CTV 67 on the Convention of the Rights of the Child, July 31, 2000
180. [2000] *Revisiting UBE Objectives*. Being a Guest Speaker's Address at the Convocation of the Kano State College of Education, Kumbotso, Kano, Sunday November 19, 2000.
181. [2000] *Nature, Technology and Tourism*. Being a Guest Speech on the occasion of the World Tourism Day Celebrations, September 27, 2000, Kano, Nigeria.
182. [2000] *Girl-Child Education in Kano*. A presentation made at the one-day sensitization Workshop to Media Strategists organized by UNICEF in conjunction with CTV 67 on the Convention of the Rights of the Child, August 8, 2000, Kano, Nigeria.
183. [2000] *Computers in Education*. Being a Commissioned paper presented at a 3-day workshop on Communication Education and Information Technology at the Federal College of Education, Okene, October 12, 2000, organized by National Commission for Colleges of Education/UNESCO.
184. [1999] *Sunset at Dawn: The Stagnation and Regeneration of Education in Kano*. Being a Paper Presented at the Occasion of 31st Anniversary of the Establishment of Gwale Secondary School, Kano, Saturday September, 25 1999
185. [1999] *Science Education in Kano in the new Millennium*. Being a Consultant's Report submitted to the Abuja Kano Forum, October 15, 1999.
186. [1999] *Non-Formal Education for Children*. A Paper Presented at the Non-Governmental Organization Capacity Building Workshop on Convention on Rights of the Child (CRC) organized by Kano Broadcasting Corporation, July 24-25, 1999.
187. [1999] *New Methods and Techniques in Teaching and Learning*. A paper presented at the Workshop on Re-assessing Nigeria's Education Future, organized by the Education Tax Fund, November 29 to December 1, 1999, Kong Conference Hotel, Zaria
188. [1999] *ICT in Nursing*. Paper presented at the Annual Seminar of the National Association of Nigeria Nurses and Midwives, Murtala Mohammed Specialist Hospital Branch on Wednesday December 8, 1999.
189. [1999] *Forging the Chains - Status of Northern Nigerian Adolescents*. Adolescent Youth Strategy for Northern Cluster. A Program of the Center for Development and Population Activities, CEPA. A USAID Supported Activity, May 7-13, 1999.
190. [1999] *Begging for Attention: Human Dignity and Child Begging in Kano*. A Paper Presented at the 2-day sensitization to District Heads and Parents on Child Rights, organized by Ministry of Social Welfare (Women Affairs) and UNICEF, Kano, September 21, 1999.
191. [1999] *Ajamization of Hausa Knowledge*. A Lead Paper presented at the 2nd National Conference of the School of Education, Federal College of Education, Kano, on Tuesday October 19, 1999, Kano.

192. [1998] *Computer Fundamentals and Information Processing*. Paper Presented at a Training Program for Legislative Staff, Organized by the Institute of Contemporary Research (ICS), Kano, 1998.
193. [1995] *Culture and Learning in Kano: Education, Social Values and Human Resource Development in Kano*. Commissioned Paper Presented to the Kano State Educational Development Mobilization Committee, March 11, 1995.
194. [1992] *Out of Africa, Coming to America: American Higher Education in Nigeria*. Paper presented at the Center for African Studies, University of California, Berkeley, 13th February 1992.
195. [1991] *Operation, efficiency and desirability of special science schools at the secondary education level: The Nigerian experience*. Paper presented at the International Institute of Educational Planning, Paris, France, 20th November 1991.
196. [1991] *Enhancing Science and Technology via the Schools (Published as Enhancing Science and Technology via the Schools)*. Guest Speech, Commonwealth Day, held at the Federal Government College, Kano, 11th March 1991.
197. [1990] *The Establishment of the Kano State Science and Technical Schools Board as a Step Towards Scientific Manpower Production in Kano State*. Guest Speech, Kano State Chapter of the National Science and Technology Week, 19th to 24th November 1990.
198. [1990] *Teaching Science Creatively to Pre-School Children: Approaches and Strategies for a Nigerian child*. Guest Speaker and Resource Person, Kano State Chapter of the Organisation Mondiale Pour L'education pre-scolaire (World Organisation for Early Childhood Education OMEP), 22nd October 1990.
199. [1990] *Our Environment as a Sacred Trust: The School Dimensions*. Guest Speech, Commonwealth Day, Federal Government College, Kano, 12th March 1990. Presented a paper on the theme of the Day, which was Commonwealth and Environment.
200. [1989] *The Role of Science in Developing Countries*. Guest Speaker, Science Week, Women Senior Secondary School/Teacher Education, Gezawa, Kano State, 14th August 1989.
201. [1989] *Science, Schooling and National Development in Nigeria: An Analysis of Kano State Science Secondary Schools Project as a Development Strategy*. Paper presented at the Third World Strategies for Technological Development - An International Conference held at Federal University of Technology, Yola, Adamawa State. 25th August 1989.
202. [1989] *Enhancing the participation of girls in Science and Technology in Kano: A Study of Girls' Science Secondary Schools*. Paper presented at the Workshop on the Conception and Implementation of a Social Policy - The Kano State Experiment. Organized by the Department of Islamic Law, Faculty of Law, Bayero University, Kano, and held between 5th to 7th June 1989.

203. [1988] *The Function of the Science Magazine in the Attainment of Science Teaching Objectives*. Guest Speech at the launching of Gwammaja II Senior Secondary School Science Magazine on 6th December 1988.
204. [1981] *The History of Science in the Islamic World: Trends and Future Directions for Muslim Unity*. Special Guest Lecture at the Bayero University, Kano Muslim Students Society Political Class, 7th May 1981.

Research Grants Managed in Media and Cultural Communications

1. [2008-2013] *Passages of Culture: Media and Mediations of Culture in African Societies – Research Project and Training Network*. This project which started in 2008 and ended in 2013, was funded by the Volkswagen Foundation GmbH of Germany within the broad scope of “Knowledge for Tomorrow – Cooperative Research Projects in Sub-Saharan Africa.” The project was managed by Prof. Dr. Till Foster, University of Basel, Switzerland. Two students of Bayero University Kano – Dr. Nura Ibrahim and Dr. Mainasara Yakubu Kurfi – received grants to do their PhD research under the project.
2. [2010-2012] *Hausa Children’s Songs and Lullabies*. This is a project initiated by the Al Ain Center for Music in the World of Islam, and funded by Abu Dhabi Authority for Culture and Heritage (ADACH), Abu Dhabi, United Arab Emirates. The project recorded audio and video performances of Hausa children’s songs as part of preserving the cultural heritage of the Muslim peoples of Africa. The book and DVDs were released in 2018.

Creative Works in Media and Cultural Communication

A. Music Concerts Facilitated: Produced and Directed [In Concert Series]

“Celebrating the Local Performance Arts of Northern Nigeria.” British Council, Kano. The aim of the project was to celebrate and honor local traditional performance talent and showcase emerging new genres with a view to raising public appreciation of performing artists through a series of live performances. Under this project, I conceptualized, arranged, conducted and facilitated the following concerts:

1. [2008] Voices from the Desert: Pulaar Music Festival, and Introducing Pulaar Rap, 15th March, 2008 [Music EP of Pulaar Rap]
2. [2008] Amada Rap with Hajiya Barmani Choge and her Calabash Ensemble, Saturday 12th January, 2008.
3. [2007] Dueling Banjos – Gurmi and Kukuma Improvizations, 13th October 2007.

4. [2007] Kukuma Music from Northern Nigeria – Featuring Nasiru Garba Supa and Arewa 17th February, 2007.
5. [2006] Hausa Rap and Technopop – Showcasing Emergent Hausa Rap Artists, 28th October, 2006.
6. [2006] Koroso Dance Drama – Dodorido (Traditional African Ballet), 24 June 2006.
7. [2006] Mai Soso Ke Wanka – An Evening with Hajiya Barmani Choge, 8th March, 2006.
8. [2006] Muhammad Dahiru Daura – The Blind Beggar Minstrel, 14th January 2006.

B. Ethnomusicological Music Studio and Field Recordings

The following are the ethnomusicological recordings I did as part of the digital archiving project to preserve the poetics of Hausa traditional musics and performances (DVDs available). These recordings are not meant to be commercial, but deposited on the web (www.auadamu.com) where they can be shared with the world as part of contribution towards archiving and sharing traditional musical heritages of the Muslim peoples of northern Nigeria. Those not uploaded had copyright restrictions from Maison du Culture des Monde.

C. YouTube Channels with my artistic videos

- i. ***Visually Ethnographic Networks*** (<https://bit.ly/332cTSc>) This is made up of the following recorded performances:
 - Kano Koroso Theatre Performances (3 videos)
 - Barmani Choge on Stage and Studio (26 videos)
 - Waƙoƙin Imfiraji na Aliyu Na Mangi (10 videos)
 - Kano Emir Ado Bayero's Last Sallah Pageantries (2 videos)
 - Hausa Freelance Street Performers (6 videos)
 - Various Hausa Stage Performing Arts (20)
 - Sufi (religious) Body Percussion Performances (7 videos)
- ii. ***Abdalla Uba Adamu Channel*** (<http://bit.ly/38d0bCx>). This is made up of the following performance videos
 1. [2019] *Hassan Wayam Live in the Studio* – a live recording and interview with the legendary kukuma player, Hassan Wayam of Maradun, Zamfara State, although a resident of Zaria city, Kaduna.
 2. [2015] *The Koroso Dance Troupe* from Kano (three performances)
 3. [2013] Barmani Choge - Live Performance, British Council, Kano, 2008

4. [2011] *Beggar Minstrels from Northern Nigeria* - In Memory of Muhammad Dahiru Daura. This was a re-recording of the poetics of a blind beggar minstrel, Muhammad Dahiru Daura (1946-2010) by another group of blind beggar minstrels led by Tafida Makaho. All the known performances of Dahiru Daura were re-recorded in this session.
5. [2010] *The Short Round Crew – Gangaramarido*. This is a recording of urban Hausa Children's 'after dinner' songs performed on community playgrounds, spaces and theater in evenings in northern Nigeria
6. [2010] *Surbaajo - Pulaar Female Children's Songs*. This is a recording of camp songs by young female Fulani children from Kano, northern Nigeria.
7. [2010] *Gurmi Music from Kano, Nigeria*. This is a separate recording of the Alfijir sessions which singles out only the Gurmi recordings.
8. [2010] Aliyu Namangi's *Wakokin Imfiraji - Fauziyya Sarki Abubakar Reciting*. A recording of the poetics of Aliyu Namangi, the most famous blind classical Hausa poet, who was awarded an honorary doctorate by the Ahmadu Bello University Zaria. The nine-volume set of Imfiraji were fully recorded in this session.
9. [2009] *Alfijir - Gari Ya Waye*. A wholly acoustic studio recording that showcases what would be 'Hausa Experimental Music'. It is a recording of three traditional Hausa instruments – gurmi (two-stringed lute, preceding the banjo), sarewa (Fulani flute) and duman girke (Hausa bongo drums).
10. [2008] *Pulaar Rap - Two-Track EP*. The first rap in Nigeria in Pulaar language, featuring Naziru 'Ziriums' Hausawa
11. [2008] Barmani Choge - Live Performance, British Council, Kano, 2008
12. [2006] *Hausa Technopop Live*. A recording of the live concert of Hausa Technopop by Abdullahi Mighty, Billy-O, Fati Nijar and Maryam Sansangali.
13. [2006] *Arewa with Nasiru Garba Sufa*. This is a recording by Nasiru Garba Sufa, the son of the late Hausa 'kukuma' [fiddle] player. The recordings were spread over three years; two of the tracks featured the UK Muslim rap group, Mecca2Medina.

D. Films Produced and Directed

14. [2010] Muslim Hausa Children's Songs (Producer; 2010, dir. Abdalla Uba Adamu, Kano, Nigeria). This is a commissioned video and audio project of the Al Ain Center for the Study of Music in the World of Islam, Abu Dhabi, UAE, and sponsored by Abu Dhabi Authority for Culture and Heritage (ADACH).

15. [2010] Muslim Hausa Children's Lullabies (Producer; 2010, dir. Abdalla Uba Adamu, Kano, Nigeria). Similar to no 1 above.
16. [2009] Equestrian Elegance: The Hausa Sallah in Kano (Producer; 2009, dir. Bala Anas Babinlata, Kano, Nigeria). [Reviewed by Carmen McCain, Daily Trust (Nigeria) 12th November 2011, p. 48].
17. [2008] The Khalifa in London – A Documentary on the Visit to London of Sheikh Qaribullah of the Sufi (Mystics in Islam) Qadiriyya Movement (Producer; 2008, dir. Abdalla Uba Adamu, Kano, Nigeria)
18. [2004] Kano State Constituency Accomplishments (Producer; 2004, dir. Ahmad Salihu Alkanawy, Kano, Nigeria)

Selected National Activities in the Film/Music Industry

1. Provided the judgmental template in the First Freedom Radio Fasaha Musical Competition held 10th December 2011, Kano, Nigeria
2. Founded the first Internet based discussion group on Hausa video films on 31st August 2001. It had over 25,554 postings, making it the most active depository on Hausa video films on the Internet before the advent of Facebook in 2004
3. Chaired the first conference ever held on Nigerian or even African video films – International Conference on Hausa Video films (August 2003)
4. Edited the first book on Hausa video films: Hausa Video Films: Economy, Technology and Society (Kano, 2003).
5. Chaired the first Internet Yahoo! Groups Award for Hausa Video Films on 29th March, 2003 (for 2002 Hausa video films)
6. Chaired the Second Yahoo! Groups Internet Awards for Hausa Video Films on 6th March, 2004 (for 2003 Hausa video films)
7. Chaired the Third and Fourth Yahoo! Groups Internet Awards for Hausa Video Films, 16th April 2005 (for 2004 and 2005 Hausa video films)
8. Chaired the First Kano State Hausa Video Films Award, 2005 (for Hausa video films of 2004)
9. Chaired the Second Kano State Hausa Video Films Award, 2006 (for Hausa video films of 2005).

Dissertations Supervised/Internally Examined

International PhD Supervision

1. [From 2019] Ibrahim, Muhammad, Muhsin, *Kannywood and Extraterritoriality: Towards an Exploration of Religo-Cultural Incongruity in Hausa Film Industry*. Universität Cologne, Germany.

International Doctoral External and Internal Examination, Adjudication

1. [2019] Yusuf Baba Gar, *the Metamorphosis of Performance: Oral Heritage and Medial Transformation in Hausa Home Videos/Kannywood Video Films*. **External Examiner**, Humboldt Universität zu Berlin
2. [2012] Isa Yusuf Chamo, *the Changing Code of Communication in Hausa Films*. **Internal Examination**. PhD dissertation, University of Warsaw, Poland
3. [2011] Sri. Gurugubelli Tejeswara Rao, *Learning Styles in English Communication – Skills among the Students of Polytechnics of the North Coastal Districts of Andhra Pradesh (India): A Study*. **International Adjudicator**, PhD dissertation, Andhra University, Andhra Pradesh, India.

Theses Supervised (Department of Mass Communication, Bayero University, Kano)

PhD

1. Maude Rabi'u Gwadabe (2018). *Newspaper Political Advertisements in Nigeria's Presidential Elections, 2003-2015: A Functionalist Discourse Analysis*
2. Ashiru Tukur Inuwa (2018) *Cross-Cultural Film Remakes: Intertextuality and Appropriation from Hindi to Hausa Films*.
3. Muhammad Sani Danja (2018). *Drawing the Agenda: A Semiotic Analysis of Political Cartoons in Nigerian Newspapers During 2015 Nigerian General Election Campaigns*
4. Ya'u, Hassan Alhaji. (2015). *Textuality of Road Transport Literature: An Interpretative Study of Public Transport Messages in Kano State*.
5. Mohammed, Binta Kassim (2015). *Transformation in the Production Strategies of Hausa Video Films, 1990-2014*.
6. Ali, Muhammad Bashir (2014). *Women Representation in the Nigerian Video Films: An Analysis*.
7. Ibrahim, Nura (2014). *Mediation of Identity: A Semiotic Analysis of Conflict/War on Terror Related Visual Media Products in Northern Nigeria*.
8. Kurfi, Yakubu Mainsara (2014). *Adaptation of Media Content from book To Film: Text and Textual Analysis of Some Selected Stories in Magana Jari Ce*.

M.Sc.

1. Isa, Ishaq El-Qassim (2015). *Visual and Aural Semiotics in Cultural Media Usage: An Analysis of Nigerian Shi'a Islam's Posters, Spoken Words and Dress Code.*
2. Mairafi, Joy Manasseh (2015). *Church Evangelism and Social Networking in Nigeria: A Comparative Study of the Use of Twitter, Facebook and Blogs by Living Faith and Baptist Churches in Zamfara State, Nigeria*
3. Danja, Muhammad Ibrahim (2014). *Print Journalism and Political Coverage: A Content Analysis of Visual Elements in Nigerian Newspapers during 2011 General Election Campaigns.*
4. Minjibir, Usman (2013). *Use of Twitter as a Means of News Distribution: A Study of Selected Newspaper Organizations in FCT.*

Internal Examiner**PhD**

1. Ahmad, Gausu (2014). *The Rise and Fall of the New Nigerian Newspaper (1966-2012).*
2. Abubakar, Usman Ibrahim (2014). *Government Media Relations in Nigeria: A Study of Functions and Challenges of Government Image-Makers in North-West, PhD dissertation*

M.Sc.

3. Inuwa, Ashiru Tukur (2013). *Broadcast Regulations and Enforcement in Nigeria: A Study of the National Broadcasting Commission, NBC. M.Sc. Thesis (Supervisor: Dr. Balarabe Maikaba).*
4. Madahi, Balarabe Nasidi (2014). *Conduct of 2006 National Population and Housing Census in Nigeria: An Assessment of Publicity Strategies in Kano State. M.Sc. Thesis (Supervisor: Dr. Muhammad Bashir Ali).*

B.Sc.

1. Bamidele, Elizabeth Bolanle (2014). *The Roles of Public Relation in an Organization: A Study of Opportunity Industrialization Center International, Kano.*
2. Suleiman, Princess Raheema (2015). *The Challenges and Prospects of Campus Radio (FM) Station: A Case Study of BUK 98. FM.*
3. Hussain, Shitu Suleiman (2014). *Internet Usage among Student of Kano state College of Art, Science and Remedial Studies.*
4. Sani, Adamu (2014). *The Role of Radio as a Broadcast Media of Communication in Rural Development: A Case Study of Radio Niger.*
5. Ridwanu, Adam Muhammad (2014). *The Role of Facebook in Interpersonal Relations among Students of Bayero University, Kano.*

6. Adamu, Abubakar Mohammed (2014). *The Role of Social Media in Occupy Nigeria Protest, January 2012: An Analysis of Some Messages on Facebook Among BUK Students.*
7. Harbau, Sadiya Jibrin (2014). *Public Perception about Women in Media: A Case Study of Kano Metropolis.*
8. Umar, Kamalu (2014). *The Role of Social Media in Youth Socialization: A Study of Tarauni Local Government Area, Kano State.*
9. Chinwe, Akanwa Franklyna (2012). *The role of New Media in the Newspaper Industry.* B.Sc. thesis, Department of Mass Communication, Bayero University, Kano.

Department of Education (Bayero University Kano)

PhD

1. Nalado, Halima Muhammad (2012). *The National Board for Technical Education Curriculum and the Promotion of Technology-Based Instruction in Polytechnics in North-West Zone of Nigeria.*

M.Ed.

2. Ahmad, Suwaiba Sa'idu (2009). *Gender Differences in Attitudes towards Teaching and Learning Science amongst Secondary School Students in Kano and Jigawa States.*
3. Saulawa, Abdu Imam (2004) *Social Studies Curriculum and Ethnic Integration in Nigeria: Analysis and Implementation in Katsina Metropolis.*
4. Ibrahim, Danladi Sa'idu (1999). *An Evaluation of the Strategies for the Implementation of Post-Literacy Curriculum for Adult Learners in Kano State.*
5. Kiyawa, Mansur Saleh (1992). *An Analysis of Students' Performance in English Language Examinations in Senior Secondary Schools in Kano State.*
6. Abbas, Sagir Adamu (1992). *An Analysis of the Implementation of the Senior Secondary School Mathematics Curriculum in Kano State.*

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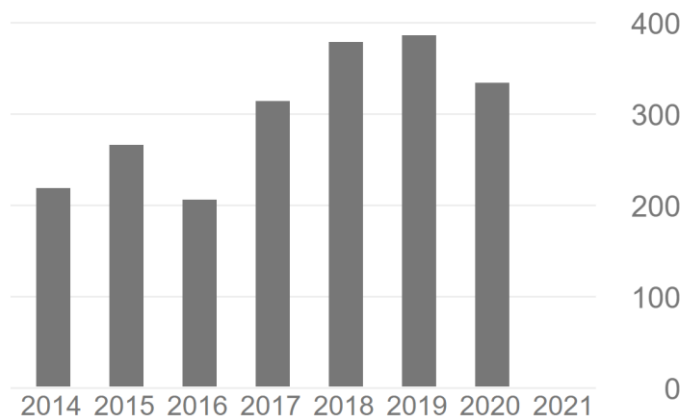
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EFFECTS OF LABORATORY METHOD ON PERFORMANCE AMONG STUDENTS OF CHEMISTRY IN SECONDARY SCHOOLS IN JIGAWA STATE, NIGERIA

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Abstract

The study investigated the effect of laboratory method on performance among students of chemistry in secondary schools in Jigawa state. The objective of the study is to find out the effect of laboratory method on students' performance in chemistry when compared to conventional method of teaching. The study employed quasi – experimental design with a total population of one thousand three hundred and thirty-two (1332) and a sample size of two hundred and sixteen (216) which was arrived at using purposive sampling technique. The Data for the study was collected using teacher made test titled Acid Base Performance Test (ABPT) as instrument. The reliability coefficient of the instrument was found to be 0.79. The data collected were analyzed statistically using Statistical Package for Social Sciences (SPSS). The research questions were answered by using mean and standard deviation while the hypotheses were analyzed using independent t-test. The finding revealed that significant difference exists between the performance of students taught chemistry concept using laboratory method and those taught using conventional method in secondary schools in Jigawa State. It was recommended that chemistry teachers should employ laboratory method as a commonly used method in teaching, as it enhances students' performance in chemistry.

Keywords: Laboratory Method, Performance, Chemistry and Students.

Introduction

Science education is what makes this world a dynamic one in terms of development. Teaching and learning of science subjects like chemistry formed the basis of preparing students to choose a career in science, which makes them to contribute their quota towards the development of

their community and the nation in general.

To this end, the place of chemistry in the national secondary schools' curriculum in preparing students to become future scientist cannot be over emphasized. Chemistry occupies a unique position in the school curriculum, and is central to many sciences related courses such as Engineering, Mathematics, Physics, Agriculture, Biology, Geography and Pharmacy. In view of this, teachers are always on the go, searching for a better teaching method for a successful and effective delivery which will enhance performance among chemistry students.

Teaching methods which are learner-centred should be used by the teacher to teach chemistry in secondary schools. Teaching methods like demonstration method, inquiry method, discovery method, field trip method and laboratory method among others should be employed to teach chemistry in secondary schools as they support and encourage hands on activities. To this end, the National Policy on Education states that science and technology shall continue to be taught in an integrated manner in the schools to promote in the students, the appreciation of practical application of basic ideas (FGN, 2013). There is a need for using laboratory method in teaching because science encourages practical activities.

It seems that conventional method is predominantly used in our educational institutions to teach all subjects. This method is characterized as teacher-centred because it involved the transmission of knowledge to learners characterized as one -way flow of information from the teacher who is always active to the learner who is always passive (Suleiman, 2010). This method is predominantly characterized by teacher activity rather than learner activity.

However, laboratory method is one of the learner-centred methods which encourages students to learn in an environment that differs from a conventional classroom setting. In subjects like chemistry, students feel science and behave scientifically when they are working in the laboratory. Alaka (2015), opined that laboratory method is empirical learning through direct involvement of students. Laboratory method is the instructional strategy in which the students work with apparatus and materials in a functioning laboratory. Laboratory method in this regard refers to learning of chemistry concepts in a functioning laboratory where students interact with apparatus and materials during the teaching and learning process (Umar, 2018). It is similar to laboratory –based

strategy. Hart, Mulhall, Berry, Loughran, and Gunstone (2000) suggested that students enjoy laboratory work because it is more active and it involves the students working with materials. In the laboratory, students have a chance to engage in hands-on activities, especially in secondary school chemistry where by students are learning basic scientific skills in order to become future scientist. Despite some reservations, many authors believe that laboratory work helps promote conceptual understanding (Hart et al., 2000; Özmen; Demircioğlu & Coll, 2009; Woodley, 2009). Therefore, the use of laboratory method improves students' performance in learning chemistry concepts.

Educational performance is about meeting an educational goal which may be for a long term or short term. Students' academic performance is about students' cognitive achievement when test or examination is offered after teaching/learning activities. Achino in Shehu (2016) considered academic performance to the level of an individual's educational growth in a test when compared with scores of others of the same level. Similar to this, Ali, Haiter, Munir, Khan and Ahmed (2015), have simply put academic performance as grades/marks one obtains in a given subject after an instruction. In this study, the performance scores of experimental group and the performance scores of the control group (conventional) were investigated.

Based on this premise, the study investigated the effect of laboratory method on performance among secondary schools chemistry students in Jigawa State. The research has the following research question and null -hypothesis to answer and analyze respectively;

9. What is the mean score difference in academic performance of chemistry students taught using laboratory method and those taught with conventional method?
10. What is the mean score difference in academic performance of pre-test and post-test results of students taught chemistry?
11. H_{01} : There is no significant difference in the performance mean scores of students taught chemistry using laboratory method and those taught with the conventional method.
12. H_{02} : There is no significant difference in the performance mean scores of pretest and post test results of students taught chemistry.

Methods and Materials

This study employed pre-test, post-test quasi – experimental and control

group design. The target population for the study is one thousand three hundred and thirty-two (1332) senior secondary school two (II) chemistry students of Kazaure education zone, Jigawa state, Nigeria. The sample size for this study is two hundred and sixteen (216) which was arrived at using purposive sampling technique. Intact classes were used for the study which is in line with Cohen, Manion and Morrison (2007). SS II classes were used from different schools as two (2) intact classes consisting of 50 and 53 students were used as experimental groups and two (2) classes consisting of 52 and 61 were also used as control group. The instruments used for this study is tagged Acid Base Performance Test (ABPT) which was developed by the researchers. This instrument consists of fifty (50) multiple objective test items each to determine the academic performance of students in acid and base concepts of secondary schools two (SS II) chemistry syllabus and ABPT constructed based on the selected topics for the treatments. A pilot study was conducted in schools which were not part of the study sample but part of the population to determine the reliability of the instruments the reliability of the ABPT was obtained using Pearson Product Moment Correlation Coefficient (PPMC). After correlation, it was found to be 0.79, which showed that the instrument is reliable and can be used for data collection in this study. The researcher obtained the data on performance by administering the instrument through pre – test and post – test to the senior secondary schools (SSII) chemistry students in both the experimental (laboratory) group and control (conventional) group. In administering the instruments, the Experimental (laboratory) group was taught using laboratory method and the control group was taught using conventional method subsequently for the period of eight (8) weeks. Post-test was administered to find out the effect of treatment on the experimental group and the effect of no treatment on the control group. At descriptive level, the research question was answered by using mean and standard deviation. While at inferential level, the hypothesis was tested using independent t-test at 0.05 level of significance.

Results and Discussion

In this study, the research questions along with corresponding hypothesis were formulated for answer and analysis respectively. The research questions were responded to as follows:

Research Question 1: *What is the mean score difference in academic performance of chemistry students taught using laboratory method and those taught with conventional lecture method?*

To answer the above research question, the result of the post-test scores was considered and descriptive statistics of mean and standard deviation were used, as tabulated in Table 1.

Table 1: *Mean Academic Performance Scores of Students Exposed to Laboratory method and those exposed to Conventional Method*

Methods	N	Mean	Std. Deviation	Std. Error Mean
Laboratory	103	63.4660	14.32043	1.41103
Conventional	113	46.7434	14.33202	1.34824

The result in Table 1 shows that the mean academic performance score of 63.47 and standard deviation of 14.32 for students who were exposed to the Laboratory method was higher than the mean score of 46.74 and standard deviation of 14.33 for students who were exposed to the lecture method. This mean scores are differing with the standard deviation scores which revealed the existence of difference in the performance of the two groups. This difference could be regarded as the improvement achieved or the degree of enhancement of the students' academic performance that could be attributed to the use of laboratory method adopted in the study. The result shows that students taught the concept of acid and base using laboratory method have a better mean score than those taught the same concept using conventional (lecture) method of teaching in secondary schools in Jigawa State. The significance of this variability in the academic performance between the two groups is tested in the corresponding hypothesis.

Research Question 2: *What is the mean score difference in academic performance of pre-test and post-test results of students taught chemistry using laboratory method and conventional lecture method?*

To answer the above research question, the result of the pre-test and post-test scores were considered and descriptive statistics of mean and standard deviation were used, as tabulated in Table 2.

Table 2: *The mean score difference in academic performance of pre-test and post-test students' results*

Methods	N	Mean	Std. Deviation	Std. Error Mean
Post-test	216	60.1705	13.93270	1.48523
Pre-test	216	40.8230	12.74351	1.19881

Table 2 revealed that the mean academic performance scores of the two groups that is post-test and pre-test were 60.17 and 40.82 with standard deviation of 13.93 and 12.74. This mean scores are differing with the standard deviation scores which revealed the existence of difference in the performance of the two groups. It's clear from the figures above that the post-test result of students exposed to teaching by the researcher performed better compared with the pre-test result.

This difference could be regarded as the improvement in students' performance after exposed to teaching. The result indicated that students performed significantly after being taught by the researcher in secondary schools in Jigawa State. The significance of this variability in the academic performance between the two results is tested in the corresponding hypothesis.

Null Hypothesis one: There is no significant difference in the performance mean scores of students taught chemistry using laboratory method and their counterparts taught with the conventional lecture method.

To analyze this hypothesis, the post-test scores of students in the experimental (laboratory) and control group (conventional method) were tested using t-test independent sample as shown in Table 3.

Table 3: *Independent sample t-test for the performance mean scores of students taught chemistry using laboratory method and their counterparts taught with the conventional method*

Methods	N	Mean	Std. Deviation	Std. Error Mean	T	Df	Sig. (2-tailed)	Decision
Laboratory	103	63.466	14.320	1.411	8.568	214	.000	Rejected
Conventional	113	46.743	14.332	1.348				

The result of the t-test in Table 3 revealed that the mean score of 63.45 and the standard deviation of 14.32 for students taught chemistry using laboratory method was higher than the mean scores of 46.74 and standard deviation of 14.33 for students who were exposed to conventional method. The observed level of significance for the test was 0.000 and this is lower than the significant level set at $P \leq 0.05$ which is an indication that there is a significant difference in academic performance between the two groups. The null hypothesis which states there is no significant difference in the performance mean scores of students taught chemistry using laboratory method and their counterparts taught with the conventional lecture method is thus rejected. This means that laboratory method significantly enhanced students' academic performance in chemistry compared to conventional method in secondary school in Jigawa State.

Null Hypothesis Two: There is no significant difference in the performance mean scores of pre-test and post-test results of students taught chemistry using laboratory method and those taught with conventional lecture method.

To analyze this hypothesis, the post-test and pre-tests scores of students were tested using t-test independent sample as shown in Table 4.

Table 4: *Independent sample t-test for the performance mean results of post-test and pre-test of students taught chemistry using laboratory method and those taught with conventional lecture method*

Results	N	Mean	Std. Deviation	Std. Error Mean	T	Df	Sig. (2-tailed)	Decision
Post-test	216	60.17	13.933	1.485	10.250	199	.000	Rejected
Pre-test	216	40.82	12.744	1.199				

The independent t-test result in Table 4 revealed that the mean score of 60.17 and the standard deviation of 13.93 for post-test result was higher than the mean scores of 40.82 and standard deviation of 12.74 for pre-test result in chemistry. The observed level of significance for the test was 0.000 and this is lower than the significant level set at $P \leq 0.05$ which is an indication that there is a significant difference in academic

performance between the two results. The null hypothesis which states that there is no significant difference in the performance mean scores of pre-test and post-test results of students taught chemistry is thus rejected, meaning that teaching students exposed to teaching by the researcher performed significantly better compared to when they were not taught by researcher in secondary schools in Jigawa State.

Discussion of Findings

This study investigated the effect of laboratory method on performance among students of chemistry in secondary schools in Jigawa state. At descriptive and inferential levels, the research questions were answered and the hypotheses were analyzed. The major findings were discussed as follows: Table 3 (Hypothesis one) revealed that the mean score of 63.45 and the standard deviation of 14.32 for students taught chemistry using laboratory method was higher than the mean scores of 46.74 and standard deviation of 14.33 for students who were exposed to conventional method. The observed level of significance for the test was 0.000 and this is lower than the significant level set at $P \leq 0.05$. This indicated that laboratory method significantly enhanced students' academic performance in chemistry among secondary school students in Jigawa State. Response to research question one on table 1, shows that the mean academic performance score of 63.47 and standard deviation of 14.32 for students who were exposed to the Laboratory method was higher than the mean score of 46.74 and standard deviation of 14.33 for students who were exposed to the lecture method. The result shows that students taught the concept of acid and base using laboratory method have a better mean score than those taught the same concept using conventional (lecture) method of teaching in secondary schools in Jigawa State.

The above finding agreed with that of Leman and Burcin (2010) who stressed that students who were taught with laboratory method has significantly higher scores than those taught using lecture. Similarly, this finding is in line with that of Ogundiwin, Asaaju, Adegoke and Ojo (2015) who reported that those students taught using laboratory learning strategy performed significantly better than those taught using lecture method.

Conclusion and Recommendations

From the findings of this research, it was concluded that laboratory method significantly enhanced students' academic performance in chemistry compared to conventional method in secondary school in Jigawa State. All stake holders in education should encourage and support the use of practical lessons in a unique environment which differs from conventional classroom setting. This will develop in the ability to learn scientific process in solving real life problems.

Furthermore, the study recommends that;

5. Teachers should use laboratory method as a common strategy in teaching chemistry because of its ability in enhancing students' performance in chemistry; and
6. Curriculum planners, school managers and ministry of education at both state and federal level should incorporate and support the use of laboratory in teaching chemistry in secondary schools.

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USING STUDY CENTRES IN BREAKING THE IRON TRIANGLE (ACCESS, COST AND QUALITY): NATIONAL OPEN UNIVERSITY OF NIGERIA EXPERIENCE

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Abstract

This Paper discusses the objectives behind establishing NOUN as single mode open and distance institutions, how Study centres are being used to provide functional, wide access, flexible learning and cost-effective services without compromising quality education to a burgeoning students' population across the thirty six states of Nigeria. . In NOUN, Learner Support Model is a two tier system - the headquarters and the study centres. The paper also examines how human and educational resources at the centres are being utilised to meet the vision and mission of the university which is tendon with the concept of breaking the iron triangle (Access, cost and quality). The paper suggests more effective and efficient ways study centres could be used to provide more impactful support services.

Key Words: Study centres; iron triangle; access; cost and quality; open university of Nigeria

Introduction

In Nigeria, the greatest challenge before governments, individuals and organizations is providing higher education, that readily grants wide access for admission, making teaching and learning academically credible (high quality) and affordable (low cost)that same time. In the 20th century, the development of any country is tied to the qualifications, knowledge and skills of its work force which invariably are determined by the quality of products of its higher education institutions. Access to higher education is one of the critical indices for development but problematic in the developing countries like Nigeria. (Okopi, 2016) According to Ipaye (2007), in Nigeria for instance, statistics indicate that, less than 15% of qualified candidates could be admitted by the existing conventional universities. Since year 1999 in Nigeria, public and private higher institutions, offering face-to-face classroom mode of instructional delivery have increased in number tremendously and are yet to meet the yearning of prospective students for higher education

especially university education. As of September 2019, in Nigeria, Federal Government owned universities have risen to forty three (43), while State government owned universities are now fifty two (52) and privately owned universities either by individuals or organisations have also risen to seventy nine (79) (National University Commission, website 2019). Despite astronomical increase in the number of universities in Nigeria, the issues of expanding access at affordable cost without compromising quality remain unresolved.

Universities in Nigeria, except National Open University of Nigeria are mostly conventional face-to-face classroom instructional delivery mode and are residential institutions which especially privately owned institutions, are beyond the financial and geographical reach of most students. In the light of this development, the Federal Government of Nigeria in 1983 saw the need to establish an open university, single mode learning (ODL) with the hope of providing wide access to people seeking university education, especially the working adults and those in remote rural areas. Effectively balancing the impact on widening admission to higher education at low cost without compromising quality is what is regarded by Daniel, Kanwar, and Uvalić-Trumbić, (2009) as “breaking Iron Triangle”.

Breaking the ‘Iron Triangle’ (Access, Cost and Quality)

Daniel, Kanwar, and Uvalić-Trumbić, (2009) describe iron triangle (cost, access, and quality) as an unbreakable interdependence, changing one inevitably creates consequences within the other two. In the face of increasing demand for university education and growing number of students who wish to enrol, the issue of expanding access, at low cost and still maintain high quality in educational delivery has been a quagmire. They were of the opinion that, widening access at low cost and still promoting high quality cannot be achieved with conventional face-to-face classroom models of higher education. They therefore suggested a model that builds higher education around credible examination systems run by national or independent bodies or established institutions, such as open universities which have the capability of provide wide access, academically credible programmes (high quality) and affordable cost (low cost}. Ipaye (2007) opines that, open and distance learning seems to be the most reliable means of combining accessibility and affordability for the individual and cost

efficiency for government and providers. He further explained that, open and distance learning institutions could help provide mass access; reduce cost of university education, meeting the yearnings of the individual for university admission and rebuilding confidence in those who struggled for places in conventional universities that all is not lost . Open universities using contemporary technologies such as eLearning, open source software, access to research and open educational resources promise to make it even more accessible, cost-effective and assured high quality than conversion classroom face-to-face institution

NOUN Efforts in Breaking the ‘Iron Triangle’ (Access, Cost and Quality)

With the resuscitation of the National Open University, now re-named National Open University of Nigeria in 2002, the Federal Government of Nigeria gave clear mandates of which was that, the university should provide access to university education across the entire country, by setting up Study Centres in all the State capitals (NOUN policy on Establishment Study Centres 2010). As of the year 2018, National Open University of Nigeria has seventy-eight (78) study centres nationwide and over five hundred thousand (500,000) students were admitted. The University has over the years, contributed immensely to national and global development through the production of quality human resource, Furthermore, the Blueprint for the NOUN indicated that, NOUN eventually should establish study centres in each of the 774 Local Government Areas, LGAs.

NOUN Mission and Vision

The **mission** is to provide cost-effective, flexible learning, which adds life-long value to quality education for all who seek knowledge. While the **vision** is to be regarded as the foremost University providing highly accessible and enhanced quality education anchored by social justice, equity, and national cohesion through a comprehensive reach that transcends all barriers

NOUN Core Values

- Open access to university education to all Nigerians and interested foreigners, including the physically challenged.

- Flexibility of learning, using an array of innovations to suit the wide range of learners.
- Quality of programmes, teaching, learning, research, publications and graduate.
- Maintain and sustain excellence through the deployment of state-of-the-art technology and strengthen the nexus between theory and practice.
- Adherence to best practices and all extant laws, guidelines and regulations in delivering the single mode learning

Learner Support Services at the Headquarters and Study Centres

In an effort to provide wide access, flexible learning at low cost and still maintain high quality education NOUN operates a two tier system of Learner Support Model; - the headquarters and the study centres. In order to implement the above mentioned vision and core values, open and distance learning (ODL) is adopted as major mode of teaching and learning that takes place in all NOUN study centres. The various forms in which NOUN deploys ODL include self-learning material, face to – face facilitation of students, on-line facilitation and radio facilitation, (NOUN Annual Report 2016-2018)

NOUN provides support services through Directorate of Learner Support Services which is empowered to directly supervise, coordinate and monitor the activities of study centres. The Learner Support Services at the NOUN headquarters has three units: Administration, Counselling and Academic Standards and monitoring. Study centres constitute an essential aspect of learner support services especially for single mode institutions and particularly in the case of NOUN which is the only Open University in the country.

A study centre is designed to support and enhance the educational and learning efforts of distance learning students; it is set up to bring the student closer to the university and to give him or her sense of belonging to the university. It provides avenues for face to face interactions between students and students, students and university staff, (both academic and non-teaching staff); it affords didactic interaction between students and their study materials (i.e. by means of pointing out aspects of the study materials s/he finds difficult for others to explain to him or her). Study Centres support students in independent learning by various means of educational technologies

and human support. A study centre is thus part of an overall system of support in open and distance education. (NOUN Policy on Establishment Study Centres 2010)

NOUN policy on establishing study centre

At inception, the plan of the university was to establish study centres as follows:

- a study centre in each state of the Federation, based at the State Capital, and Federal capital Territory
- a study centre in each of the 774 Local Government Areas of the Federation
- study centres in communities where individuals or communities donate centres that meet the minimum standard
- Special study centres for Nigerian Armed Forces and Para-military forces

Functions of Study Centres

Again there is need to briefly mention the functions of study centres so as to appropriately situate the policy.

Academic Functions include:

- counselling on general academic matters before enrolment and during the progress of study, sometimes involving detailed advice on individual subjects, as well as vocational guidance and careers counselling;
- providing study skills advice and courses, arranging local teaching/tutoring, managing and monitoring student attendance, and assessing its cost-effectiveness;
- orientation on academic issues, registration, matriculation
- distribution of learning materials and referrals on additional resources both physically or virtually
- arranging for conduct of tutorials and instructional facilitation
- putting learners into groups for tutorials and facilitation
- helping to source for qualified Instructional Facilitators and recommending same to the Deans for appointment etc.
- organising the timetable, attendance of students; venues and equipment/materials;

- providing required technological support
- discussion with other students, informal or organised peer - tutorials.
- administering facilitating in real time at a distance through:
 - i. telephone (and/or satellite) links for sound only, sound and picture, sound and picture-and-interactive-computer screen transmissions;
 - ii. computer conferencing;
- monitoring student progress during a study period and taking action to provide encouragement and support when necessary;
- organizing final examinations: venues, furniture and materials, supervision, security of papers and scripts, record keeping, dispatch of scripts for marking;
- arranging for the conduct of e-examination and related assessment activities (NOUN Policy on Establishment of Study Centres 2010)

Administrative services which include:

- publicising study opportunities;
- informing and counselling individuals;
- enrolling and registration- assisting students on online registration
- providing information on mode of fee payment and related financial issues
- maintaining records of students' status, progression, results, course forward planning, assignments traffic and related academic records
- explicating rules, academic and administrative regulations, ethos and mores of the university;
- evaluation and assessment: i.e. getting involved in conduct of examinations, practical, laboratory and workshop activities.
- The study centres also provide first hand information on the status of the centre evaluating the various aspects of buildings, furniture and equipment and facilities to ensure and assure their standard and quality.
- Distribution of Study Materials: At the National Open University of Nigeria, the distribution of study materials is done at the study centres.
- As of now all students receive their study materials directly by hand at the study centres. Centres are therefore responsible for:

- reception, storage, packing/assembling, dispatch to or preparation for collection by students;
- maintaining stocks and records and estimating future needs
- direct students on how to down load learning materials on NOUN portal
- Administrative functions also include the proper management of the study centre's facilities:
 - the fabric of the premises and the surrounds;
 - furniture and equipment;
 - expendable supplies of materials;
 - power, water, communication supplies'
 - personnel;
 - safety, security and cleaning;
 - computers and internet
- Financial management. (NOUN policy on Establishment Study Centres 2010).

Social functions

Study centres may have a wide range of social functions prescribed by the NOUN expected by the local community, engendered by the students using them, and arising inevitably because they are there. Other functions prescribed by the university may include:

- mirroring the institution itself, providing a mini-campus experience for users and reflecting the ethos, ambiance, expectations, of the university, thus contributing to the institutional socializing of the students;
- representing the University locally at formal and informal functions;
- facilitating and organizing occasions relevant to its academic functions and those of its parent institution, such as
- pre-orientation and orientation sessions for students, parent and friends;
- vocational guidance and careers advisement meetings.
 - i. meetings of alumni (as the university grows)
 - ii. graduation and other award ceremonies (as the university grows)

- iii. Advocacy Functions: Publicising the university in various dimensions and ways using appropriately suitable and laid down policy by the university (NOUN policy on Establishment Study Centres 2010)

NOUN Efforts in Expanding Access to Quality Education

NOUN Annual Report (2016-2018) indicates that, as of 2018 NOUN has established 78 study centres across the country, has eight (8) Faculties, namely, Agricultural Sciences, Arts, Education, Health Sciences, Law, Management Sciences, Sciences and Social Sciences, collectively running seventy-seven (77) academic programmes, comprising forty-eight (48) undergraduate and twenty-nine (29) postgraduate programmes, running across these disciplinary areas and they are as follows; Agricultural Sciences (6) ; Arts (3); Education(12); Health Sciences (2) Law (1) Management Science (7) Science (8) and)Social Science (6) It also has a well-established School of Postgraduate Studies running a wide range of Postgraduate Diploma, Masters and PhD programmes Postgraduate programmes: Agricultural Sciences (1) ; Arts (3); Education(10); Health Sciences (N/A) Law (N/A) Management Science (7) Science (2) and Social Science (5) and NOUN Business School (14). Outside these disciplinary areas, the University, through its centre for Human Resource Development in Kaduna also offers short courses, vocational training to artisans including prison inmates. About 530 persons have been trained through the Centre in bead making, mason, hairdressing and fashion designing among others. The Open Education Resources (OERO unit equally offers short term professional online certificate courses. The flexibility of NOUN means it would always have more students enrolled than registered. The grand total of enrolled students was 533, 840 while the registered students 104, 050. The University has a total of 3,580 staff distributed across the above faculties and non-teaching units (NOUN Annual Report 2016-2018)

NOUN Efforts in Promoting Quality of Teaching and Learning

The study centres serve as the operational base for all support services be it academic or administrative or social in nature and contexts. The vision and mission of the University are being implemented at the study centre (NOUN Annual Report 2016-2018). Also in an effort to maintain

Quality Standards, NOUN develops her learning materials in modules that conform to the Bench Minimum Academic Standard (BMAS) prescribed by the National Universities Commission (NUC). As a rule NOUN's self-learning materials are available in print, CDs and online formats. Also as is practiced in ODL institutions, NOUN's self-learning materials are mostly prepared by in-house subject masters and ODL experts. In cases where these are not available subject experts are sourced both locally and internationally (NOUN Annual Report 2016-2018).

Quality is associated with exclusivity; for an institution to be perceived to be offering high quality teaching and learning it must be an institution with tough admission requirements and high fees regardless of what happens within its walls (Daniel, Kanwar, and Uvalić-Trumbić, 2009). Expanding access at lower cost brings another dilemma to quality dimension, which contrasts the traditional definitions of limited access and high cost. However, in NOUN, quality assurance of the self-learning materials is in form of collaborative approach to their development which involves the subject expert also called the course developer, the instructional designer, the ODL experts, the language and the content editors. Face-to-face facilitation is at times conducted in some of the courses to aid students' appreciation of their subjects in various study centres. However there are courses for which face-to-face facilitations are mandatory.

They include all law courses, practical science and Nursing Science courses. NOUN also has a category of non-permanent teaching staff consist of lecturers of other universities who operate from the study centres and are engaged in contractual agreements with NOUN to serve as face-to-face facilitators of courses, supervisors and also examiners. In all, about 1,798 part-time academic staff are providing learning support in the study centres of NOUN (NOUN Annual Report 2016-2018)}

NOUN academic staff consists of teaching staff, of which they were 314 residents at the faculties, the staff develops learning material, sets test items, and grade students. They also provide the bulk of the online student facilitation of the University. The policy of the University is that only academics with PhD as qualification are to be involved in any academic activity in NOUN At first instance academic staff who had no PhD qualification were prevented from participating in a number of academic activities in the University including: setting of examination

questions, marking of examination scripts, supervision of students' research works, facilitation of students and heading of academic programmes. Efforts to comply with NUC demands, NOUN established Directorate of Academic Planning and Quality Assurance Unit to ensure quality standard of its programmes. In order to enhance creditability of its academic programmes the university also initiated a new practice of undertaking internal mock resource verification accreditation (NOUN Annual Report 2016-2018)

NOUN Use of Information and Communication Technology her Operations:

As an open and distance learning, NOUN is in a better position to breaking the Iron triangle by deploying technologies in her operations at the study centres. The technology offers six ways of augmenting existing pedagogic practices in Cook et al 2008, and Shaples et al 2015 as cited in COL 2019 in Knowledge Series,

- **Connection:** The internet has opened up many new ways of working with other people around the world. It offers a wide range of tools that can support networked, collaborative and conversational approaches to learning
- **Extension:** Technology supports extended learning, connecting learning experiences across locations, time, devices and social settings. It offers new tools for creative exploration of the world and provides increase opportunities to connect learning outside the classroom with learning inside the classroom
- **Inquiry:** students with access to smart phones have access to an array of in-built sensors that enable them to measure interrogate analysis and record their environment. Technology provide them with new means and structures for organising data, new reference source and new tools that can be used to investigate this information space. The internet supports citizen inquiry, enabling members of the public to propose and engage in scientific investigation that involve the collection and analysis of data on a worldwide scale.
- **Personalisation:** Interaction with technology generates set of data that can potentially be used to enable learners to understand and

develop their aptitudes and skills. These data sets may also be used to create personalised paths through educational content.

- **Publication:** Learners are no longer restricted to a limited local audience. They can use digital tools and the internet to engage in authentic tasks that connect their learning with experiences outside the classroom. They can also share their works with a worldwide audience by publishing their creations or their findings.
- **Scale –up** Education can now be delivered at a larger scale through massive open online courses (MOOCs) When these scaled –up courses make use of social networking and learning through conversation, interactions become richer as learners around the world share ideas and perspectives (COL 2019).

The focus is not on technology per se but providing opportunities for students to be able to connect learning inside the classroom with learning outside the classroom (COL 2019). COL, (2019) explains that, any student with a smart phone should have access to a scientific toolkits that can be used to collect data and perform experiments in any location. Learners can use their own social network tool and devices to access a wide range of resources to collaborate with others to access expert opinions and to share their work with a wide audience (COL 2019) Open Educational Resources (OER), are educational materials that may be freely accessed, reused, modified and shared Open universities are now employing OER by making educational materials available for their students by expanding rapidly wide access, academically credible (high quality) and affordable (low cost) education.

NOUN also deploys learning technologies in form of web, teleconferencing, video, OER and MOOCs. These are driven by Directorate of Learning Content Management System; Management Information System (MIS); and Information Communication Technology (ICT) of the University. NOUN provides online courses facilitation which is coordinated by the academic faculties of NOUN. NOUN's students can access the online facilitation through their smart phones and other mobile devices. The NOUN Radio, hosted at Frequency modulation air wave, in Lagos is equally deployed for facilitation purposes; The University also established physical and e-libraries in its study centres

For now it could be said in relative terms that NOUN has expanded

access and maintained some levels of quality its operation at the study centres but cannot be said to be cost effective and efficient. The deployment of information and communication technology at the study centres by the University has not made the significant impact in reducing the cost of providing university education vis-à-vis breaking the iron triangle (wide access, low cost and high quality)

Cost Effectiveness of NOUN Programmes,

Since the inception of NOUN the Federal Government of Nigeria, subsidises the cost of course materials' production and distribution. Also it is important to note no government owned university charges tuition fees. Cost effectiveness of NOUN programmes escalated gradually. between 2004 and 2015 the compulsory fees for newly admitted student for undergraduate programme was thirty six thousand Naira while course and examination registration fees was twenty eight thousand Naira bringing the total of sixty four thousand(#64,000). Though the amount to be paid for course and examination registrations depends largely on the number of courses offered by the particular student since the University offers flexibly mode, the student could pay less than twenty eight thousand Naira (N28, 000) and remains on the programme. By latter part of year 2015 to early part of 2018 the compulsory fees for newly admitted student for undergraduate programme in NOUN raised to forty one thousand naira though course and examination registrations remained at twenty eight thousand Naira, making total .to be sixty nine thousand Naira (N69,000). In 2018 the corrected version of the compulsory fee for newly admitted student was thirty six thousand, while course and examination registration fees was thirty one thousand, five hundred Naira making the total amount to be sixty seven thousand five hundred naira (N67,500) (Student Account –Bursary Department, 2019)

Other fees include

2004 to 2015 Sessions Fees

Undergraduate Payment schedule (New students)

Total compulsory fees	N36,000
2 units course registration @	N1,500 x 7 = N10,500

3 units course registration @	N2,500 x 3 = N7,500
Examination Registration @	N1000x10 = N10,000
Total	N64,000 (\$168 at 389.9 per US Dollar)

The undergraduate compulsory payment schedule for new students

Returning students

Compulsory fees	N18,000
2 units course registration @	N1,500 x 7 = N10,500
3 units course registration @	N2,500 x 3 = N7,500
Examination Registration @ N1,000 per course	N10,000
Total	N46,000 (\$118.3 at 389.9 per US Dollar)

Postgraduate payment schedule (New students)

Total compulsory fees	N35,000
Returning PG	N18,000

Project fees

Undergraduate	N15,000
PGD	N25,000
Masters	N40,000

2016 - 2018 FEES PAYMENT SCHEDULE

Undergraduate total compulsory fees	N41,000
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Course and examination registration fees for all categories of students remain unchanged for now

Returning students

1 st Semester Compulsory fees	N23,000
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Postgraduate (New)

Total compulsory fees	N40,000
3 units course @3,000x 8	N24,000
2 units course @2,500 X 3	N7,000
Exam Registration @ 2000 x11	N22,000
2 nd Semester Compulsory fee	N13,000
3 units course @3,000x8	N24,000

2 units course @2,500 x 3	N7,500
Exam Registration @ 2,000 x11	N22,000

Returning Students

Total compulsory (1 st Semester)	N23,000
Total Compulsory (2 nd semester)	N13,000

Corrected version 22/11/2018

Undergraduate (new student fee)	
Compulsory fees	N36,000
2 unit course @ 2,000 x7	N14,000
3 unit course @ 2,500 x 3	N7,000
Exam Registration @1,000 x 10	N10,000
Total	N67,500

Returning Students fees

Total Compulsory fees	N18,000
2 unit course @ 2,000 x7	N14,000
3 unit course @ 2,500 x 3	N7,000
Exam Registration @1,000 x 10	N10,000
Total	N49,500

Postgraduate New Student fee

Compulsory fees	N35,000
3 unit course @ 3,000 x 8	N24,000
2 unit course @ 2,500 x 3	N7,500
Exam Registration @2,000 x 11	N22,000
Total	N88,500

Postgraduate Returning student fee

Compulsory fees	N18,000
3 unit course @ 3,000 x 8	N24,000
2 unit course @ 2,500 x 3	N7,500
Exam Registration @2,000 x 11	N22,000
Total	N48,500

Note

Practicum fee of #10,000/15,000 per practicum depending on the Faculty from 200 level should be added to the semester fee

Project

Undergraduate N15,000

Postgraduate Diploma N25,000

Masters N40,000

Payable at the last semester (Student Account –Bursary Department, 2019)

Conclusion

The paper highlighted the efforts of the NOUN in breaking the iron triangle through support services provided at the study centres. The paper examined the NOUN efforts in breaking iron triangle (Access, cost and quality), implications to NOUN mission, vision and core value. The paper also identified learner support services and study centres as main contact points with the students using them as means in expanding access, promoting quality of teaching (Tutorial facilitation) use of Information and Communication Technology and cost effectiveness of the programme

Suggestions

1. Provide and robust information and communication technology facilities in all the study centres especially computer laboratories with least fifty computers and internet connectivity facilities to enable every student have access to online learning
2. Computer ownership: Since NOUN is going digital in all its operations, there is urgent need to empower every student by providing soft loan to students especially indigent students to enable them own computers regardless of their socio economic status and geographic location
3. Computer appreciation or basic training should be made mandatory for all staff and students at the study centres and be handled by Information and communication technology staff at the centres
4. Course materials should be developed and distributed to the students when due. It is heart-warming to know that, NOUN is producing its course material in house

5. Library facilities especially e-library facilities should be developed, well equipped and accessible to every students that wishes to use them
6. Qualified librarians who are computer literate should be employed and deployed to all the study centres to man the centre libraries
7. Adequate physical facilities and equipment such as classrooms, examination halls, staff offices, furniture etc. should be provided at all the study centres
8. The counselling unit of every study centre should endeavour to organise students into learning circle or learning groups since the University has now embarked on e-facilitation. This is gear towards transition from face-to-face classroom facilitation to digital facilitation
9. The beauty of ODL lies in its flexibility in all its operations like registering number of courses the students can afford and the ones he or she can effectively combine with his or her work, free to demand for deferment of examinations when not ready, on-demand examination, change of study when need arises, suspension and re-starting of studies when need be, etc.

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NOUN STRIDE IN INCLUSIVE EDUCATION FOR POST COVID-19 HIGHER EDUCATION

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Abstract

This paper explores NOUN stride in tackling the problem of access to tertiary institutions in Nigeria by bringing to fore NOUN experiences in promoting effective inclusive access to tertiary education with particular emphases on NOUN students, responsibilities of NOUN to its students, and how NOUN meets the needs of the students. The exploration goes beyond that to analyse NOUN strengths, weaknesses, opportunities and threats (SWOT) faced in the pursuance of its mandate. Finally, it presented the relevance of NOUN stride in inclusive education for post COVID-19 new normal in global educational environment. This study is therefore a systematic review of existing literature sources with data obtained from NOUN records to explore the NOUN approach to inclusive access to tertiary education in Nigeria. The exploratory study is guided by three research questions. The result of the study showed that NOUN has meaningfully contributed to inclusive access to tertiary education by providing access to traditionally excluded, economically restricted, lifelong learners and 'student 2.0' and is well position for the new normal global educational era due to the relevance of its approaches to tertiary education. Hence, the paper provides cogent lessons for other institutions to emulate towards promoting inclusive access to tertiary education in Nigeria and in Africa and as a response to post COVID-19 new normal education era. It is therefore recommended that other tertiary institutions in Nigeria and beyond should emulate NOUN in providing inclusive access to tertiary education to eradicate poverty and promote sustainable development.

Keywords: Open and Distance Learning, Inclusive Access

Introduction and Review of Literature

The National Open University of Nigeria was originally established as Open University in 1983 as a springboard for open and distance learning in Nigeria. It was suspended in 1984 and reopened in 2002 as National Open University of Nigeria (NOUN). The establishment of NOUN came as a direct response to the 1977 National Policy on Education (Enuku and Ojogwu, n.d.). The NOUN resuscitated eighteen years ago, is an Open and Distance Learning (ODL) tertiary institution. It is the only one

among over 170 universities in Nigeria at the forefront of a national struggle to integrate Open and Distance Learning (ODL) as an integral aspect of tertiary education in Nigeria. The NOUN serves as a catalyst for positive change and innovation for the delivery of quality education in Nigeria through open and distance learning mode of instructional delivery.

The Executive Secretary of National Universities Commission (NUC) (Rasheed, 2020), in an interactive dialogue commemorating 2020 International Day of Education observed that poor access and quality of university education were identified as the major challenges in the system. According to him, currently there are 172 universities in Nigeria. 79 are privately owned, largely by churches, some by Muslim organizations and by individuals. The others are public universities owned by the Federal Government and various state governments. He further observed that the universities have a total population enrollment of slightly over two million in the entire university system which spells a very serious problem; almost a crisis for the nation. Nigeria has a population of 200 million people with a total enrolment of just two million translates into one percent of the population currently in the university.

It should be noted that NOUN **vision statement** is “To be regarded as the foremost University providing highly accessible and enhanced education anchored by social justice, equality and national cohesion through a comprehensive reach that transcends all barriers”. Whereas, the **mission** is “To provide functional, cost effective, flexible learning which adds life-long value to quality education for all who seek knowledge”. And the **motor** is “work and learn”. NOUN has demonstrated her commitment in tracking down the vision and mission of its mandate by deriving her relevance from who it serve (students), what it owe those it serve (responsibility) and how it meet the needs of those it serve (achievements) in realization that universities are service institutions. A nationwide survey (Adesina, 2020) in 2018 and 2019 revealed that 53% of NOUN students are between 20 – 30 years, 79% of students use smart phones, 39% have laptops and 9% use tablets; 68% use internet at home and 22% at work; 92% use the internet regularly; 95% have at least one social media account and have positive attitude towards online learning.

NOUN is the leading ODL tertiary institution in the West African

Sub-region providing affordable, accessible and flexible learning at the undergraduate and the post graduate levels. NOUN has made a significant landmark since inception. For instance, NOUN first admission stood at 50,000 students in 2003 but now has about 600,000 students (Adesina, 2020); NOUN started admitting students in at least two Study Centres in each of the six geographical zones of the Nigerian federation zones and in the Federal Capital Territory, but now has up to 80 Study Centres spread across the country. It graduated a total of 12,125 students with 31 of them earning first class honours in different fields of study across the Study Centres in her 6th convocation; 14,769 students across all disciplines in her 7th convocation in January 2018; 20,799 students in her 8th convocation in March 2019; and had estimated 24,347 students for 9th Convocation in 2020 that did not hold as proposed because of the global COVID-19 pandemic that led to closure of schools and suspension of the convocation. According to Adamu (2017), NOUN as a social enabler of learning, presented unprecedented opportunities for liberalizing access to university education in Nigeria. This he observed was made possible by the non – residential nature of the degree programmes provided via flexible and self – controlled learning system that is rapidly gaining grip in the world of contemporary learning process. As at 2017, a total of 60 programmes on offer at NOUN have full accreditation reflecting the excellence with which NOUN implements its academic mandate.

Furthermore, additional 18 programmes were submitted to National Universities Commission for accreditation in 2019; 15 received full accreditation while 3 received an interim. Therefore, NOUN is at a vantage position to helpfully address the challenge of inadequate access to university education in Nigeria as Buhari (2017) rightly observed. NOUN open and distance learning mode of instructional delivery has further positioned her more adequately for viable access to post COVID-19 education era.

Concept of Inclusive Education

There is no single nationally accepted definition of inclusive education or set of standards that have been established to describe what inclusive education is. Consequently, it means different things to different systems, and between different schools. Furthermore, attempt to define inclusive education often result in complicated explanations about what

it does and does not look like (Boyle, Anderson and Swayne, 2015) rather than offering a fixed concept. In higher education inclusion implies involving students, human and civil rights to participate fully in all aspects of the educational process regardless of any disabilities they may have. At the human rights level, several related treaties and conventions govern inclusion in education (at all levels), such as the Convention against Discrimination in Education and the Convention on the Rights of Persons with Disabilities (Blessinger, Hoffman and Makhanya, 2018). Also, UNESCO (2009) defined inclusion as “ ... a process of addressing and responding to the diversity of needs of all children, youth and adults through increasing participation in learning, cultures and communities, and reducing and eliminating exclusion within education and from education”. It can therefore be rightly deduced that inclusive education is a process of strengthening the capacity of the education system to reach out to all learners and can therefore be considered as a key strategy to achieving Education for All (EFA). This is the perspective of this paper. UNESCO (2009) further highlighted that as an overall principle. This view should guide all education policies and practices, starting from the fact that education is a basic human right and the foundation for a more just and equal society. Therefore, inclusion is a process of addressing and responding to all diversity of needs of all children, youths and adults through increasing participation in learning, cultures and communities, and reducing and eliminating exclusion within and from education. It involves changes and modifications in content, approaches, structures and strategies, with a common vision that covers all children of the appropriate age and range and a conviction that it is the responsibility of the regular system to educate all children (UNESCO, 2003). There are so many justifications for this position. Among them are educational, social and economic. Educational justification calls for development of ways of teaching that responds to individual differences and that therefore benefits all children. Social justification calls for change of attitudes towards diversity by educating all children together and form the basis for a just and non-discriminating society. Whereas economic justification demands for establishment of less costly and affordably maintained schools that educate all children together rather than to set up a complex system of different types of schools specialising in different groups of children. Hence, to develop inclusive education

systems by looking at education through an inclusive lens suggests shift from seeing the child as the problem to seeing the education system as the problem that can be solved through inclusive approaches.

The right of all children to education is asserted in numerous international treaties and texts and has been affirmed by both legally binding and non-binding instruments (UNESCO, 2017). States have an obligation to respect, protect and fulfil the right of all learners to education (UNESCO, 2014).

The central message simply implies that every learner matters and matters equally. To implement this memorandum simply denotes changes in thinking and practice at every level of an educational system from classroom teachers and others who provide educational experiences directly, to those responsible for national policy. Therefore, educational policy can stimulate and support inclusive thinking and practices by establishment of equal right for every individual to education, and by outlining the forms of teaching, support and leadership that lay the foundation for quality education for all (UNESCO, 2015). Furthermore, Sustainable Development Goals (SDG) 4 aspires to achieve inclusive and equitable quality education for all by 2030. Two of the ten (10) targets in SDG 4 draw attention to the need to: eliminate disparities for people with disabilities; and to provide infrastructure and materials for improved access to education. Achievement of these two impressive targets entail that the governments are to adopt alternative and innovative approaches to education. Kanwar and Cheng (2017) opined that the question then is: “How can access and equity be increased at a lower costs and improve quality?” This context makes the role of Open and Distance Learning (ODL) more relevant than ever before as viable approach to inclusive education especially in the post COVID-19 education era.

The Concept of Open and Distance Learning

Distance Education is the delivery of learning or training to learners who are separated, mostly by time and space, from those who are teaching and training. The separation of learners and teachers necessitates the use of some kind of technology or media for communication between them to close the gap of separation in time and space. On the other hand, open learning means that there are minimal barriers to entry in terms of age, gender, prior qualifications. In Nigeria the minimum entry requirement

is the bench mark provided by the regulatory body, the National Universities Commission (NUC BMAS). Once the NUC BMAS is achieved the learner has no more hurdle to admission into the National Open University of Nigeria. Thus, the term open learning connotes policies and practices that permit entry to learning with as few barriers as possible.

Open learning and distance education although distinct are clearly complementary. For instance, if learning is opened up, there would be need to introduce some element of distance education. Whereas, if distance learning is introduced, educational opportunities would be open to more people. Hence, it has become more common to bring these two terms together in the expression open and distance learning (ODL) (Kanwar and Cheng, 2017). The concept open and distance learning captured the imagination of policy makers and led to the establishment of open universities globally such as the National Open University of Nigeria for the achievement of inclusive education. Many Open Universities are increasingly deploying the use of technology for learning. The use of various types of technologies brought about the use of terms like eLearning, online learning and virtual learning to mean that the learner uses variety of media, not just computers to learn depicting different types of distance learning and NOUN is not an exception.

The NOUN is presently among the 30 open universities in the Commonwealth open to government to increase access to higher education for the achievement of inclusive education. Research has shown that there is no significant difference between the effectiveness of face to face and online provision in learning outcomes or between campus and distance learning provision. Rather, there are significant cost savings (Kanwar and Cheng, 2017). Likewise, the quality of Open Universities is high.

An example is the Open University of United Kingdom which is among the top ten universities in United Kingdom for student satisfaction and ranks high in global rankings for research, innovation and use of ICT (Kanwar and Cheng, 2017). The three aspects of openness are respectively access, content and technology. These interrelated concepts are the pillars of open universities globally. The National Open University of Nigeria like most other Open University is open for all categories of learners – is inclusive without barrier – for all with minimum entry requirement. It is flexible and offers content in

various formats so learners can read, listen or watch lectures. ODL is also convenient for all to study at their own pace, place and time. Moreover, it is more affordable as it costs significantly less than campus based instruction. Open and Distance Learning mode of education also provides a degree of anonymity. ODL institutions are committed to inclusion as it fits with the social mission of the University which is to open up access to as many people as possible particularly the unreached. Furthermore, emerging technologies can help us make ODL more accessible than it has been hitherto. It is therefore a truism that ODL embraces inclusive education by the approach of opening access. The National Open University of Nigeria, an ODL institution embraces inclusive education by opening access to university education in Nigeria and has positively enhance success with appropriate learner support. Also important for effective inclusive education is staff training on emerging assistive technologies and ODL methodologies. These of course are combined with appropriate content and pedagogy in NOUN to achieve the desired learning objectives.

Conceptual Framework

Inclusive education was broadly defined by UNESCO (2014) to include all marginalized groups, including groups defined by race, ethnicity, sex, gender, socio-economic class, sexual orientation, language, religion, ability and immigrant status, among other characteristics. UNESCO (2017) further explained that "... inequality of education quality and of effective learning amounts to unequal development". Thus, fair access to higher education requires both equality and equity, two principles that are complementary (Blessinger et al, 2018). They opined that equality is based on the fairness principle that every individual is entitled to uniform opportunity to access and participate in higher education. In broad terms, uniform treatment means that everyone is entitled to equal treatment under the law without discrimination. Equity is based on the fairness principle that every individual is entitled to just opportunity to access and participate in higher education. Therefore, equity entails understanding student learning needs. Since, not everyone has the same needs and circumstances, equity – related policies call for providing students with additional assistance and appropriate accommodations to make the playing field fairer. The goal is to lesson and ultimately remove obstacle to achieving academic success that may result from

one's personal and social circumstances. The equity policies and practices help institutions to achieve greater inclusion in education. An inclusive strategy supported by advances in educational technology, engaged learning strategies and human rights approach to education involves cultivating educational integration through meaningful academic and social integrations among all students. According to Blessinger et al (2018) inclusive education is rooted deeply in the democratic principles of justice and equal opportunity.

Therefore, inclusive higher education is vital to the ongoing development of a democratic society. Hence, at the heart of inclusive education is the cultivation of mind set that supports growth and respects human differences with interconnectivity brought about by an increasingly globalised world characterised by pluralism. Consequently, inclusion involves modernising the provision of instruction, curricula, co-curricular, learning environments, assessment and learning outcomes to meet contemporary learning needs. Moreover, inclusion in higher education has come to mean equal and equitable treatment for all people, and engaging all students in all aspects of the educational process, promoting collaboration and interaction and providing opportunities for all to succeed.

Education is noted to be an important catalyst for achieving all developmental goals. But while there has been rapid progress made in expanding access to formal basic education worldwide, traditional factors of marginalization in education such as gender and urban / rural residence continue to combine with income, language and minority status, HIV and AIDs, age (particularly in the case of young adolescent girls) and disability, to create “mutually reinforcing disadvantages”, particularly so in low – income and conflict affected countries (Paris, 2011). Hence, there is the growing demand of “reaching the unreached”. The expansion in access to basic formal education has also resulted in a shift from a quantitative focus on access and participation in formal education to a concern with qualitative aspects. Moreover, the expansion to primary education has also resulted in the recognition of a growing demand for secondary and tertiary education and increasing concern for vocational skills development, particularly in context of growing youth unemployment. Furthermore, is the challenge to face – to – face mode of instructional delivery brought about by the emergent of COVID-19 pandemic in the last quarter of 2019, resulting in total lockdown of

schooling in the first quarter of 2020, leading to the unavoidable new normal post COVID-19 education era.

Currently, too many young people and adults are unable to develop the skills, knowledge and attitudes they need for today's rapidly changing technologies and world of work. Ensuring quality learning and equity will require better targeting of poor and marginalised groups. Therefore, seeing education through the inclusive lens implies shift from seeing the child as a problem to seeing the education system as the problem that can be solved through inclusive approaches. To overcome future learning deficiencies among youth and adults requires inclusive education to be considered as best means of providing good quality education. Special efforts must also be made to ensure appropriate education and training programmes using different modalities for those youth and adults who have so far been deprived. Since Nigeria is a signatory to many International Declarations, Conventions and Sustainable Development Goals (SDGs) including inclusive education for all.

From the foregoing, it is obvious that inclusive education is a process that helps to overcome barriers limiting the presence, participation and achievement of learners. This perspective is the focus of NOUN approach to inclusive access to tertiary education. The NOUN ODL mode of instructional delivery embeds the process of strengthening the capacity of education system to reach out to all learners.

The Purpose of Study

The purpose of this study is to bring to fore NOUN approach to inclusive access to tertiary education with particular emphasis on NOUN admission of students, responsibilities of NOUN to its students and how NOUN meets the needs of the students. Furthermore, to explore the experiences of NOUN in the pursuance of its mandate in respect of (a) Strengths; (b) Weaknesses; (c) Opportunities; and (d) Threats (SWOT) faced by NOUN in the pursuance of its mandate. Finally, to establish the outstanding features of NOUN approaches to tertiary education that have positioned her for the new normal post COVID-19 education era.

Research Questions

- How do NOUN approach access to tertiary education with emphasis on (a) Admission; (b) Responsibilities of NOUN to students; and (c) Meeting the needs of students?
- What are the experiences of NOUN in the pursuance of its mandate in respect of its (a) Strengths; (b) Weaknesses; (c) Opportunities; and (d) Threats (SWOT)?
- What are the outstanding features of NOUN approaches to tertiary education that position her for the new normal post COVID-19 education era?

Materials and Methods

The study explores NOUN approaches to inclusive access to tertiary education by deploying descriptive research design methodologies. The exploratory study is guided by three research questions. The questions are answered via systematic review of existing literature with data obtained from NOUN records systematically analysed qualitatively under the three posited research questions guiding the study. The analyses also include a review of NOUN Strengths, Weakness, Opportunities and Threat (SWOT) faced in the pursuance of its mandate as well as presentation of the outstanding features of NOUN approaches to tertiary education that positioned her for the new normal post COVID-19 education era. The data for this study are gathered through documentary sources of current practices in NOUN approaches to inclusive education and the qualitative SWOT analyses of experiences of NOUN in pursuance of its mandate.

Results and Discussion

Research Question 1: How do NOUN approach access to tertiary education with emphasis on (a) Admission; (b) Responsibilities of NOUN to students; and (c) Meeting the needs of students?

NOUN approach access to tertiary education are discussed in various NOUN document sources among which are Adamu (2017), Tenebe, (2016) and Tenebe (2014). The relevant data in these sources are qualitatively harvested and analysed. The results of the analyses are presented herewith.

1. NOUN approach to inclusive access to tertiary education with emphasis on admission of students

NOUN admits four distinguished categories of students namely:

a. *The Traditionally Excluded*

This category includes the market men and women, married women in pudah, prisoners, numerous eligible candidates denied admission by the conventional universities due to lack of space, among other Nigerians who are structurally excluded from the pursuit of university education despite the absence of restrictive legislation in today's Nigeria. These categories of citizenry excluded in the conventional education systems are provided inclusive education by NOUN in its **Special Study Centres**.

b. *The Economically Restricted*

These categories of students are those who cannot afford to leave their workplace to study in the conventional universities but are catered for in NOUN policy of "Work and Learn" further demonstrated in the establishment of **Community Study Centres**.

c. *The Lifelong learners*

This category had its basis in the 1977 National Policy on Education. NOUN caters for the needs of the learners who yearn for enhancement on their earlier learning to be the best they could in order to improve themselves.

d. *The 'Student 2.0' / The Digitally Active Learners*

NOUN ICT driven culture takes care of the 'Student 2.0' by modelling its learning environments and experiences after the online environment which the ICT makes possible. Examples abound in NOUN IT driven eTMA, eExamination, eAdmission, eRegistration, eCourseware and most recently the Virtual Examination (vExamination).

2. NOUN approach to inclusive access to tertiary education with emphasis on responsibilities of NOUN to its students

The responsibilities of NOUN to its students includes:

a. *Elimination of all barriers to access to university education.*

NOUN students are not discriminated against on the basis of their gender, religion, state of origin or on other exclusionary grounds. The catchment area of NOUN is the entire country because NOUN has its conventional Study Centres in every State capital in the country apart from the Community and Special Study Centres.

b. *Provision of quality education.*

NOUN students are not subjected to comprehensive tutelage of a teacher. NOUN is committed to the development and production of high quality instructional materials by qualified academics produced in multiple formats such as print, audio CD and Braille which are given to students upon registration for courses. Moreover, NOUN programmes are subjected to the National Universities Commission accreditation exercise like any other Nigerian University. Moreover, the e-Course ware are available in the NOUN website in downloadable formats.

c. *Assurance of Cost - effectiveness*

There is an institutional commitment in place to ensure that services are affordable to students at a minimal cost to them. Cost effectiveness is normally imbued within the structure of ODL institutions as they lend themselves to economies of scale.

d. *Maintenance of Flexible Learning*

NOUN students retain both the luxury and right of studying what they want, when they want and where they want thereby giving them opportunity to manage their time and space.

3. *NOUN approach to inclusive access to tertiary education with emphasis on NOUN achievement in meeting students' needs*

NOUN Achievement in Meeting Students Needs are:

a. *Establishment and Maintenance of Study Centres*

NOUN campuses referred to as Study Centres are where the major academic activities take place. It is in the Study Centres that students interact with their facilitators, socialize with their fellow students,

receive their study materials and write their examinations. At present, NOUN Study Centres and their distributions across the 6 geopolitical zones of Nigeria are as presented in Table 1.

Table 1: The Distribution of NOUN Study Centres with respect to Categories of Study Centres and Geopolitical Zones

S/No.	Category	Geographical Zone	Geographical Zone		Total	
			No.	%	No.	%
1	Special Study Centres	North Central	10	12.35	19	23.46
		North East	00	0.00		
		North West	02	2.47		
		South East	03	3.70		
		South West	03	3.70		
		South South	01	1.24		
2	Community Study Centres	North Central	04	4.94	18	22.22
		North East	03	3.70		
		North West	02	2.47		
		South East	02	2.47		
		South West	02	2.47		
		South South	05	6.17		
3	Regular Study Centres	North Central	10	12.35	44	54.32
		North East	07	8.64		
		North West	07	8.64		

S/No.	Category	Geographical Zone	Geographical Zone		Total	
			No.	%	No.	%
		South East	05	6.17		
		South West	09	11.11		
		South South	06	7.41		
	Grand Total		81	100	81	100

There is no conventional university in Nigeria that has close to these number of study centres and students' population of about 600,000 students (Adesina, 2020) distributed in all the six geopolitical zones of Nigeria. The NOUN study centres spread and students' population clearly demonstrate the inclusive nature of NOUN contributions to education and its implications for concurrency in education.

Research Question 2: What are the experiences of NOUN in the pursuance of its mandate in respect of its (a) Strengths; (b) Weaknesses; (c) Opportunities; and (d) Threats (SWOT)?

The NOUN experiences in the pursuance of its mandate with respect to its SWOT

The NOUN inclusive education SWOT analysis are:

1. Strengths

- NOUN strength lies on the population of the qualified prospective students that do not gain admission into the conventional universities and those who are working and do not want to leave their working place. For instance, NOUN first admission stood at 50,000 thousand students in 2003 while number of admitted students is about 600,000 now.
- The Benchmark Minimum Academic Standard (BMAS), created by National Universities Commission (NUC) in various disciplines which is the main structured academic framework that ensures

quality, uniformity and excellence in Nigerian universities is also applicable to NOUN programmes.

- NOUN proudly reports that a total of 60 programmes have full accreditation, which reflects the excellence with which NOUN implements its academic mandate. The programmes are offered at all NOUN Study Centres across Nigeria on demand. Furthermore, additional 18 programmes were submitted to the National Universities Commission for accreditation in 2019. Out of these new programmes, 15 received full accreditation while the remaining three received interim accreditation.
- The same cohort of academic staff based at the NOUN Headquarters is responsible for the academic provisions at the Study Centres. This is made possible by the deployment of technology.
- NOUN has invested massively in world-class ICT to facilitate the day to day functions of the university to her students. NOUN uses ICT for admission of qualified students to the various programmes, instant assessment of all computer – mediated examinations, online collection of payable fees, web hosting of NOUN courseware as well as hosting of raft modular websites that ensures smooth and effective data flow in information processing within the university system.
- Annual turn out of graduates who receive their certificate almost instantly on graduation. It is on record that a total of 10,653 students who fulfilled all the conditions for award of various certificates of NOUN were awarded accordingly in the NOUN 5th Convocation of January 16, 2016; 12,125 students of NOUN who were found worthy in character and learning received various certificates of the university in the 6th Convocation of January 21, 2017; 14,769 students across all disciplines in the 7th Convocation of 19th January 2018; 20,799 students in the 8th Convocation of 23rd March, 2019 and about 24,347 students were scheduled for the 9th Convocation of March 2020 but was on-hold because of the global COVID-19 pandemic. The NOUN certificates were readily given out on the days of the convocation respectively in conformity with NOUN tradition.

- The NOUN has great potentials for extending access to learners in Nigeria and beyond. Her expertise and pool of resources can be gainfully deployed to support teachers and learners in all levels of institutions of learning with the support of all the relevant agencies such as the Federal Government of Nigeria, UNESCO, Commonwealth of Learning, Association of African Universities, and African Council on Distance Education amongst others.
- NOUN relied on its mandate as Open and Distance Learning Institution to focus on open access to education freeing learners from the constraint of time and space. This is exemplified in her online facilitation for the 2020_1 academic session thereby overcome the lock down of face-to-face academic activities brought about by the COVID-19 pandemic. Also, On-Demand Virtual Examination of students learning outcomes successfully commenced in the 2020_1 academic session.
- NOUN currently has a printing press that cuts down a lot of cost for production of instructional materials and is also one of the 17 institutions selected by the World Bank for offering courses relating to the Internet.

Weaknesses

1. The public misconception of Open and Distance Learning (ODL) as a mode of study is responsible for the inability of NOUN graduates to undergo the NYSC scheme and also the Law students to attend Law School and be subsequently called to the Nigerian Bar. The authorities of these bodies view NOUN graduates as product of part-time studies rather than open and distance learning. Part of the problem seemed to be tied down to the NOUN Act which describes NOUN programmes as Correspondent programme. However, the historic passage of amendment to the NOUN ACT in 2017 by the Senate expunged the bottlenecks and recognised the University as a full time Open and Distance Learning Institution in Nigeria. By expunging this bottleneck which has been the reason for the denial of Law students of the University to go to Law School as well as the reason for the non-inclusion of the graduates of the University in the National Youth Service Corps Scheme, it is hoped that the amended ACT signed in

2018 and subsequently gazetted and published on December 3, 2018 will further strengthen the University to provide Open and Distance Learning opportunities to millions of Nigerians.

2. ODL is still a new practice in this part of the world. NOUN graduates are being discriminated when it comes to appointment and promotion. Perhaps with the amended of NOUN ACT, NOUN students will be treated at par with their colleagues who attended the conventional face to face conventional institutions. The amended NOUN ACT, the emergent of COVID-19 pandemic, and education new normal will change the perception positively.
3. Most of the staff both academic and non-teaching are sourced from conventional universities and NOUN spend a lot of resources to train and retrain them.
4. Inadequate bandwidth in Nigeria affect the internet connectivity of the operations of NOUN.
5. Epileptic power supply in the country is another major challenge to NOUN operations.

Opportunities

- Increasing demand for university education in Nigeria due to the inability of the conventional universities to admit qualified prospective students.
- Increasing demand for Community Study Centres from all parts of the federation.
- Establishment of more Study Centres covering all 774 local government areas in Nigeria which is our mandate is still open for fulfilment.
- Provision of support to NOUN staff in research endeavours by government and other relevant bodies.
- Open access of world-class educational materials to all students to support their learning.

Threats

- Springing up of new open and distance learning institutions (dual mode ODL universities (both private and public); Cross border ODL Education; and Online Education.

- Shortfall in staff emoluments resulting in restricted employment of new staff and overburden of existing ones.
- Inability to cope with increasing demand for Community Study Centres from all parts of Nigeria because of financial implications.

Research Question 3: What are the outstanding features of NOUN approaches to tertiary education that position her for the new normal post COVID-19 education era?

The National Open University of Nigeria like all other Open and Distance Institutions in Nigeria is technology driven. This predisposes NOUN to the demands of post COVID-19 education era. NOUN at present has a directorate of Learning Content Management (DLCM); Centre of Excellence for Technology Enhanced Learning (ACETEL); and hosts the Commonwealth of Learning Regional Training for Open and Distance Learning (RETRIDOL); Directorate of Management Information System (DMIS); and provides other world class ICT facilities and services to her stakeholders. Information and Communication Technology (ICT) is central to the success of any ODL institution. NOUN has invested massively in world-class ICT to facilitate the day to day functions of the university to her students. This is in response to the trend in technology usage among our students and their predilection towards Smartphone and Tablet devices. NOUN equally provides eCourseware to her learners and the general public among other digitized platforms that enhance NOUN online deliveries and services to her stakeholders.

NOUN as an Open and Distance Learning Institution quickly moved on to full learning at a distance by focusing fully on open access to education freeing learners and facilitators from the constraints of time and space in line with her mandate. Thus, online sessions were made available for many courses thereby offering the learners opportunity to engage with the facilitators on the course materials.

Typically, the facilitation exercises comprised video conferences sessions based on predetermined schedules (<https://mylearningspace.nou.edu2.net/info/timetable>); Discussion forums, a learning tool that gives learners a place to express their opinion and understanding regarding the topic outlined for discussion

and chat sessions with other students in the course. Usually, learners participate in the activities using internet – enabled smart devices such as smartphones, tablets, laptops and desktops. All NOUN platforms remained accessible to staff and students throughout the facilitation period of the 2020_1 session despite the pandemic. Specifically, the platforms are accessed via <https://mylearningspace.nouedu2.net> and <https://elearn.nou.edu2.net>. The NOUN successfully capped 2020_1 session by providing learners the opportunity to take On-Demand Virtual Examination.

Conclusion

This is where we are in the National Open University of Nigeria (NOUN) in our approach to inclusive access to tertiary education. But, we are still moving on. The National Open University of Nigeria by virtue of domesticating its roles has justified its mission and vision in the provision of access to inclusive qualitative education for all. Therefore, the support of relevant agencies in the education subsector has implications for NOUN concurrency in education in Nigeria and for effective sustainability. Since, inclusive education is a concept that is geared towards making education accessible and affordable to all human persons. It is aimed at instilling social justice in the field of education. NOUN solicits the cooperation of all Nigerians in sincere advocacy to extend the use of ODL as an efficient, qualitative and sustainable mode of acquiring education. The ODL will specifically liberate Nigeria and Africa from illiteracy and its negative vices and position her adequately for the post COVID-19 new normal education system. Therefore, communities and relevant agencies are hereby encouraged to key-in in building and equipping Study Centres in their Communities. It is to be noted that in the NOUN Blueprint (FME, 2002), we are expected to establish Study Centre in each of the 744 Local Government Areas of Nigeria.

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STUDENTS' LEVEL OF SATISFACTION WITH SERVICE DELIVERY IN NATIONAL OPEN UNIVERSITY OF NIGERIA

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Abstract

Delivery of quality service to customers is the key success factor for any institution that wants to remain in business. This study investigated the level of satisfaction of students with service delivery in National Open University of Nigeria. (NOUN) Descriptive survey research design was used for the study. Five research questions guided the study with respect to counseling, academic, library and information communication and technology (ICT) services. Stratified random sampling was used to select 1000 returning students from 10 study centres in the South-east and South-south geopolitical zones of Nigeria. Data collection was carried out with a structured questionnaire developed by the researcher. A pilot study was used to determine the reliability coefficient of the questionnaire. A reliability coefficient of 0.81 was obtained. Data was analyzed using descriptive statistics. Results revealed that students were slightly satisfied with most of the services delivered in the academic and counseling units, while they were dissatisfied with service delivery from the library, and ICT units. Based on the findings recommendations were made for the delivery of quality service to the students.

Keywords: Student Satisfaction, National Open University of Nigeria, Open and Distance Learning, Service Delivery,

Introduction

The National Open University of Nigeria (NOUN) is a single mode institution that operates through open and distance learning (ODL) mode. The University was established by an Act of the National Assembly in July 1983, but the Act was set aside in 1984. In 2001 the Federal Government resuscitated the Act and learning activities took off in the University in 2004 with an initial student intake of 9,782. (NOUN @ a Glance, 2018) The student enrolment has increased tremendously in NOUN. Presently there are over 500,000 registered students (NOUN NEWS, Nov.2018) The University has enhanced access to education for many citizens in Nigeria .This is evidenced in the large number of students it graduates on yearly basis. The first graduation ceremony was held in 2011 for over 8,000 students who were awarded degrees,

diplomas and certificates. In 2019 the University graduated 20,799 students (NOUN NEWS, 2019). In 2020 over 25,000 students graduated (NOUN 2020 Graduation Ceremony Booklet). The large number of students graduating from NOUN indicates that open and distance learning is now fully accepted as a viable means of supporting the attainment of academic, social and economic development in Nigeria.

Open and distance learning has been defined as “an educational process in which a significant proportion of the teaching is conducted by someone far removed in space and /or time from the learner. (Creed, 2001). It is a method of education in which all or most of the teaching is conducted by someone who is geographically removed from the learner. This means that the student and the instructor are physically separated. Thus a significant portion of the instruction is carried out through the print media and / or electronic media. This separation sometimes leads to serious disconnection between students and their instructors. This could be frustrating to the students and may lead to delay in graduation and to students’ attrition, if there are no student support services to address these problems.

Students’ support services are provided by the university to enable distance learners overcome the barriers to learning and complete their studies successfully (Gatsha and Evans 2010). These support services can be grouped under the following categories-Administrative, Academic, Counseling, Information Communication and Technology (ICT), Medical, Library, Security and Transport services. However the quality of the services delivered to students by these support services has remained a cause for concern in many institutions. In order to succeed in today’s competitive higher education sector, service quality is of essence to institutions of higher learning. (Sandhu & Bala, 2011) The quality of service delivered to the students will determine their level of satisfaction. Student satisfaction is defined as students’ assessment of the services provided by the university. These include such services as quality of teaching, supervision and feedback from academic staff, quality of the curriculum, physical support facilities, quality of and access to leisure activities (Wiers-Jenssen et al, 2002). According to Kotler et al (2012) satisfaction is a person’s feeling of pleasure which results from comparing the perceived performance of products/services to their expectation. This means that if the performance matches or exceeds the expectation customers (i.e. students) would be satisfied.

Customer expectations are key drivers behind customer satisfaction. Satisfaction is a state felt by a person who has experienced a performance or outcome that has fulfilled his or her expectation (Onditi and Wechuili, 2017). Studies have shown that students' satisfaction has a positive impact on student motivation and student retention (Elliot and Shin, 2002, Afshan 2018). Students' satisfaction is usually based on their assessment of the services provided by the university. The satisfied students are more likely to continue their studies and complete their programmes successfully. Students who are satisfied with an institution's services become effective "public relations agents" and attract more students to the institution.

Service is an activity rendered by one party to another. A service is consumed as soon as it is delivered. Every service rendered is unique. Palmer (2005) defines the dimensions of service quality as involving the provision of goods/services to customers (such as students in NOUN) according to a specification that satisfies their needs. According to Parasuraman et al (1990) there are five dimensions of quality that customers use to evaluate the quality of services rendered to them. These are reliability, tangibility, empathy, responsiveness and assurance. This paper intends to investigate the level of satisfaction of students with the services delivered to them in NOUN. Students come into NOUN full of expectations of what they want to get from the university. If the services rendered by the Library, the ICT, Counseling, Medical and other Units meet the expectations of the students, they will be satisfied.

However, the students will be dissatisfied if their expectations are not met due to poor quality of the services they receive. In today's competitive academic environment where students have many options available to them, factors that enable higher educational institutions to attract and retain students should be seriously studied and given priority. Institutions that want to gain competitive edge in the future may need to begin searching for effective and creative ways to attract, retain and foster stronger relationship with students.

Statement of the Problem

Recently in 2019, the Management of NOUN tactfully dislodged a planned nationwide protest by students. This implies that students had complaints about the quality of services delivered to them from one or more units of the university. It also questions the level of satisfaction

that students have with the services delivered to them by the university. In University Management the importance of students' satisfaction with services offered by the institution can never be over-emphasized. There are several learner support services in NOUN that deliver services to students. Some of these include - Information and Communication Technology (ICT), Medical, Library, Academic, Security, Transport and Counseling Units. This study attempts to investigate the level of satisfaction that NOUN students derive from services delivered to them by the Library, Counseling, ICT and the Academic Units.

Research Questions

- What is the level of satisfaction of NOUN students with service delivery in the Library?
- How satisfied are NOUN students with service delivery in the Counseling Unit?
- What is the level of satisfaction of NOUN students with service delivery in the ICT Unit?
- What is the level of satisfaction of NOUN students with service delivery in the Academic Unit?
- What are the expectations of NOUN students on service delivery in the Library, Counseling, Academic and ICT units?

Methodology

A survey design was used for the study. All the returning students of NOUN constituted the population for the study. Ten (10) study centres in the South east and South-south geopolitical zones of Nigeria were used for the study. One hundred (100) students were selected from each of the study centres using the stratified random sampling technique. The total sample size for the study is one thousand (1000). A 30- item questionnaire was developed for the study. A 4-point Likert rating scale was used ranging from 'Very Satisfied,' 'Slightly Satisfied,' 'Dissatisfied' to 'Very Dissatisfied.' The questionnaire was supplemented with open-ended questions to enable the students express themselves on their expectations on the service delivery in the university. The questionnaire was face and content validated by experts in open and distance learning. To ascertain the reliability of the questionnaire for data collection a pilot study was carried out in one of

the study centres that was not part of the population for the study. A reliability coefficient of 0.81 was obtained. The questionnaire was administered to 1000 students in the ten sampled study centres. 950 copies of the questionnaire were properly filled out and returned. Descriptive statistics was employed for analysis of the data collected. These statistics helped to provide answers to the research questions.

Results and Discussion

Data collected was analyzed using frequency counts, and percentages.

Research Question One: What is the level of satisfaction of NOUN students with service delivery in the Library?

Table 1: Level of Students' Satisfaction with Service Delivery in the Library (N = 950)

S/N	Indices	Very /S F (%)	Slightly/S F (%)	DS F (%)	Very/ DS F (%)	Level of Satisfaction
1	Conducive environment for reading	275 (28.95%)	290 (30.52%)	259 (27.26%)	126 (13.26%)	Slightly Satisfied
2	Available photocopying/p rinting services	198 (20.84%)	238 (25.05%)	340 (35.79%)	174 (18.31%)	Dissatisfied
3	Functional e-library	99 (10.42%)	280 (29.47%)	231 (24.32%)	340 (35.79%)	Very Dissatisfied
4	Book lending regulations	107 (11.26%)	295 (31.06%)	325 (34.21%)	223 (23.47%)	Dissatisfied
5	Availability of current textbooks & journals	146 (15.36%)	273 (28.74%)	319 (33.58%)	212 (22.32%)	Dissatisfied
6	Attitude/behaviour of staff	220 (23.16%)	504 (53.05%)	174 (18.32%)	52 (5.47%)	Slightly Satisfied
7	Convenient operating hours	72 (7.58%)	98 (10.32%)	460 (48.42%)	320 (33.68%)	Dissatisfied

Table 1 indicates students' responses on the level of satisfaction they have with services rendered at the University Library. The findings reveal that students were slightly satisfied with only two of the items namely the conducive reading environment (30.52%), and the

attitude/behaviour of the staff (53.05%). Students were dissatisfied with the photocopying/printing services available in the library (35.79%), the availability of current textbooks and journals (33.58%) and were very dissatisfied with the e- library services. Students were equally dissatisfied with the regulations on lending of books (34.21%). Majority of the students (48.42%) indicated that they were dissatisfied with the operating hours of the library (48.42%). This may be because most of the students are workers and may not be able to make use of the library on week days. The findings reveal that the students were dissatisfied with the quality of service delivery in the library. This conforms to an earlier study by Nnadozie (2006) and Adeniran (2011) that the absence of adequate facilities and tools in university Libraries caused dissatisfaction or low satisfaction among university students. Katamei and Kiprop (2015) equally reported students' dissatisfaction with Library services especially with respect to availability of current research journals and library facilities.

Research question Two: How satisfied are NOUN students with service delivery in the Counseling Unit?

Table 2: Level of Satisfaction of Students with Service Delivery in the Counseling Unit (N=950)

S/N	Indices	Very /S F (%)	Slightly/S F (%)	DS F (%)	Very/ DS F (%)	Level of Satisfaction
1	Adequate number of student Counselors	88 (9.26%)	191 (20.11%)	379 (39.89%)	292 (30.74%)	Dissatisfied
2	Staff possess empathy and understanding	300 (31.58%)	335 (35.26%)	185 (19.47%)	130 (13.69%)	Slightly Satisfied
3	Staff establish rapport with students	167 (17.58%)	388 (40.84%)	235 (24.74%)	160 (16.84%)	Slightly Satisfied
4	Staff exercise patience and listens attentively	280 (29.47%)	360 (37.89%)	117 (12.32%)	193 (20.32%)	Slightly Satisfied
5	Staff give prompt attention to students challenges/difficulties	35 (3.68%)	305 (32.10%)	419 (44.11%)	191 (20.11%)	Dissatisfied

Table 2 shows the level of satisfaction that students have with service delivery in the counseling unit. Out of the five items listed students were slightly satisfied with three namely, possession of empathy and understanding by staff (35.26%), establishment of rapport with students (40.84%) and exercising patience and listening attentively to students (37.89%) However most of the respondents indicated that they were dissatisfied with the number of Student Counselors in their study centres (39.89%), while 44.11% were dissatisfied with staff not giving prompt attention to students' challenges and difficulties. The paucity of Student Counselors in NOUN study centres was identified by Nnaka (2014) who found that most of the study centres have only one or two Student Counselors while some centres do not even have any. Consequently the number of Student Counselors is grossly inadequate for the large population of students in the university. This may also be responsible for the inability of the few Counselors to give prompt attention to students' challenges. From the findings it can be deduced that students are slightly satisfied with most of the services in the counseling unit.

Research Question 3: What is the level of satisfaction of NOUN students with service delivery in the ICT Unit?

Table 3: Level of Students' Satisfaction with Service Delivery in the ICT Unit N= 950

S/N	Indices	Very /S F (%)	Slightly/S F (%)	DS F (%)	Very/ DS F (%)	Level of Satisfaction
1	Available access to the internet	112 (11.79%)	163 (17.16%)	308 (32.42%)	367 (38.63%)	Very Dissatisfied
2	Ease of dropping of courses	108 (11.37%)	176 (18.53%)	227 (23.89%)	439 (46.21%)	Very Dissatisfied
3	Ease of carrying out TMAs	228 (24.00 %)	444 (46.74%)	93 (9.79%)	185 (19.47%)	Slightly Satisfied
4	Display of examination results	101 (10.63%)	190 (20.00%)	236 (23.84%)	423 (44.56%)	Very Dissatisfied
5	Course & examination	195 (20.53%)	459 (48.31%)	159 (16.74%)	137 (14.42%)	Slightly Satisfied

	registration process					
6	Adequate number of ICT facilities and computers systems	27 (2.84%)	114 (12%)	423 (44.53%)	386 (40.63%)	Dissatisfied

Table 3 reveals that students were either very dissatisfied or dissatisfied with 4 out of the 6 items listed under service delivery in the ICT unit. High percentage responses of very dissatisfied and dissatisfied were obtained for items 1, 2, 4 and 6. Under available access to the internet 38.63% were very dissatisfied while 32.42% were dissatisfied. 46.21% and 23.89% were very dissatisfied and dissatisfied respectively with the issue of dropping of courses. Responses on the display of examination results shows very dissatisfied as its highest percentage -44.56% and 23.84% as the percentage of students who are dissatisfied. 44.53% were dissatisfied with the number of ICT facilities while 40.63% were very dissatisfied. From the findings it is obvious that students are dissatisfied with services delivered from the ICT unit of the University. This concurs with the findings of Oyedun (2006), Okafor (2008) and Uduak (2018) who found that a large number of students were either partially satisfied or not satisfied with the provision of internet services in their universities. Adebija et al (2012) also found that most NOUN study centres lack ICT facilities and adequate number of computers. Students' level of satisfaction with course and examination registration procedure was slightly satisfactory for 48.31% and very satisfactory for 20.53%. This agrees with the result obtained by Ofulue and Ogunleye (2017) that students perceived the admission and registration process in NOUN as satisfactory. Providing students access to the internet has remained a recurring issue. The study reveals that a high percentage of students are dissatisfied with the provision of access to the internet. This coincides with findings of Aramide and Bolarinwa (2010) who found that majority of the students in Ibadan study centre provide themselves with electronic facilities and internet services. Nnaka & Ezekannagha (2012) also found that majority of NOUN students (69%) access the internet either at the cybercafés, in their work places or in their homes.

Difficulty in dropping of courses and display of results (which are usually incomplete) obtained high percentage scores for dissatisfaction.

The poor quality of the services delivered to students in these two areas frustrates a lot of students and often results in the students spending extra years in the University.

Research question 4: What is the level of satisfaction of NOUN students with service delivery in the Academic Unit?

Table 4: Level of Students' Satisfaction with Service Delivery in the Academic Unit (N = 950)

S/N	Indices	Very /S F (%)	Slightly/S F (%)	DS F (%)	Very/ DS F (%)	Level of Satisfaction
1	Scheduled time for facilitation	390 (41.05%)	310 (32.64%)	168 (17.68%)	82 (8.63%)	Very Satisfied
2	Online facilitation	226 (23.79%)	358 (37.68%)	269 (28.32%)	97 (10.21%)	Slightly Satisfied
3	Quality of course materials	397 (41.78%)	292 (30.74%)	197 (20.74%)	64 (6.74%)	Very Satisfied
4	Coordination of project and seminar	284 (29.89%)	350 (36.85%)	207 (21.79%)	109 (11.47%)	Slightly Satisfied

From Table 4 it can be seen that very satisfied and slightly satisfied obtained the highest percentage responses from item 1 to 4. Scheduled time for facilitation -41.05% was very satisfied, for online facilitation 23.79% and 37.68% were very satisfied and slightly satisfied respectively. The introduction of online facilitation in NOUN has greatly reduced the frequency of students' visits to the study centres for face to face facilitation, so most of the students are satisfied with it. Majority of the respondents (41.78%) were very satisfied and 30.74% were slightly satisfied with the quality of the course materials. It can be inferred from the responses that majority of the students were very satisfied with the quality of the course materials developed by the academic unit of the university. This coincides with the results obtained by Nnaka (2014) that students expressed satisfaction with the quality of the course materials and the facilitation sessions in NOUN. Very satisfied and slightly satisfied obtained the highest percentage score for coordination of projects and seminars. This can be attributed to the newly introduced project management system in the university, whereby students upload their project proposals and completed projects and

seminars on the Project Administration System (PAS).The PAS has also completely eliminated the complaints of missing projects and missing project results. The results indicate that NOUN students were either very satisfied or slightly satisfied with service delivery from the academic unit.

Research Question 5: What are students' expectations on service delivery in the Library, Counseling, Academic and ICT Units?

The following responses on expectations of students on the service delivery from the selected student support services were gathered from the open ended questions in the questionnaire.

Library: - Students expect that -

6. NOUN should establish standard libraries in the study centres
7. NOUN should allow students to access the e-library. Library should be kept open on weekends at the study centres

Counseling: - Students expect that -

- NOUN should post more Counselors to the study centres
- NOUN should commence online counseling

ICT- Students expect -

- NOUN to give students access to the internet in the study centres
- NOUN to make dropping of course easier and faster
- NOUN to release complete result for students

Academic- Students expect-

- Online facilitation of all courses
- Increase frequency of facilitation
- Online project defence
- Project defence at the study centres

Several studies (Kotler et al 2012, Onditi and Wechuili, 2017 and Uduak, 2018) have shown that the level of students' satisfaction depends on the extent to which their expectations are met. Thus NOUN should endeavour to meet the expectations of its customers - the students.

Conclusion and Recommendations

Student satisfaction with the quality of service delivery is the key to success in any university. NOUN has provided a variety of student support services through which services are rendered to students. This study has identified the level of satisfaction that students have with the service delivery in NOUN. Students' expectations on service delivery in NOUN were also identified. Findings reveal critical areas where improvement is needed especially the Library, the Counseling and the ICT units. The University Management should install modem devices in various sections in the Study Centres especially in the Library. Increase in the number of computer systems in the examination halls, increase in the number of Student Counselors, and reviewing the process of dropping of courses and display of incomplete results will enhance the level of students' satisfaction in NOUN and consequently increase students' enrolment.

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RETHINKING EDUCATION FINANCING AS PANACEA TO EDUCATIONAL CRISIS IN NIGERIA HIGHER INSTITUTIONS

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Abstract

Financing public education has remained an issue of critical concern by individuals and successive governments in Nigeria which many leaders found difficult to handle due to the high demand of investment in the sector. It warranted education activists such as: academic unions, non-academics, development partners, and educational administrators always agitating for revitalization of education in the country which in many instances resulted into industrial disharmony and disruption of academic calendar and social crises. The paper critically assesses the situation from various perspectives and traced the historical evidences on the education finance in the country and proper solutions for exploring other sources of funding education most especially for municipal services in Nigerian institutions of higher learning, public private partnership for enhanced service delivery to both staff and students, dialogue for resolving emerging crises in Nigerian institutions of higher learning for quality education delivery to students and national development.

Introduction

Education is generally a key factor to individual's and national development which needs a lot of support in terms of adequate funding. Education is a tool that can be utilized to transform societal norms and tradition for the betterment of the socio-economic lives of its people. In addition, education is a social and private investment that is collaborated by individuals, students, their family members, employers, government and other international groups. Government in general is responsible for payment of staff salaries, allowances. Purchase of necessary working equipment and facilities for teaching and learning and construction of additional structures and the like, are parts of the responsibilities of the individual institutions which could be supported by various sources. Funding over a long period of time has remained a serious issue in the provision of functional education that can result into a desired sustainable national development. It was commonly known that funding was central and germane to the success of all and the desired development in education that can affect every aspect of human

endeavour. Unfortunately, there has been wide outcry against poor funding of education in the country most especially at the higher education level.

The issue of financing and other related aspects deserve attention in the present context as the mode of financing would determine the emerging contour of the higher education system in Nigeria. However, in view of a steady increase in the demand for selected areas of higher education, notably market-oriented courses, responses forthcoming from private providers have been positive and if government can take advantage of such developments some of the funding crisis could be addressed.

An Insight in to Financing of Education

The underlying rationale for public funding of education is to equip people with the requisite knowledge, skills and capacity to enhance the quality of life, argument productivity and capacity to gain knowledge of new techniques for production, so as to be able to participate evocatively in the development process. Public sector funding of education in Nigeria is anchored on the notion that for society to continue in perpetuity, the new generation must be given the appropriate access to knowledge that previous generation have accumulated. Initially, University of Ibadan being the only University in the country was adequately funded in all aspects of teaching and research. In fact, the first generation universities were all well - funded and some of them established and maintained internationally acclaimed and respected standards. It was reported that there were years in which the amount received was slightly more than the amount requested for. It is on record that remarkable landmark in the financing of education in Nigeria was achieved through the adoption of Macpherson's constitution in 1951, which resulted into demarcating the country into Western, Eastern and Northern regions and placed education at that time on the concurrent legislative list between the federal and regional government. This made the federal government to be responsible for education in the federal territory of Lagos while the regional governments were saddled with the responsibility of financing education at the regions.

A critical review on the budgetary allocation to education will clearly testify the issue of paucity of fund in relation to institutional management and is one of the long and outstanding challenge school

administrators are always battling with. Education in the first National Development plan (1962- 1966) was allocated 10 percent of the total public sector investment. While in the second National Development plan (1970-1974) Education got 13.5 percent of the total planned public sector during which the civil war diverted the attention of the federal government to tackle issues of reconstruction, rehabilitation and reconciliation. In the third National Development plan (1975-1980) allocation to education sector dropped to 50 as it was allocated only 7.5 percent. In the fourth National Development plan (1981-1985) Education sector was allocated 17.3 percent.

Education like every other sector of the economy its annual budgetary allocation didn't improve at each National Development plan. The total allocation to education was less than 8 percent between 1960 and 1995. In addition, the percentage of allocation to education was not up to 13.5 percent since 1996 till 2016 except only in 1997 when 17.5% was allocated which was the closest to UNESCO recommendation that developing countries should allocate 26% of their total expenditure to the education sector in order to promote the necessary rapid development of the sector. The most affected period in terms of paucity of funds to education sector was that of military regime which was characterized by incessant strikes between 1983- 1999 as a result of inadequate funding.

Adamu and Anwukah (2019) claim that funding is one of the major challenges of tertiary education in the country. Where they claimed that, they inherited the implementable agreement between the federal government and the Academic Staff Union (ASUU) whose total value was put in N1.3 trillion, which its payment was to be spread over six years. The previous administration released N 200bn in 2013 to all public universities. Consequently, there were no releases in 2014, 2015, 2016 and 2017 due to economic down turn which resulted into recession. Last year the federal government was able to release only N20bn directly to universities.

Unfortunately, the N200bn which was released to the Central Bank of Nigeria since 2013 for the universities has not been fully accessed. All the 73 public universities have accessed the 1st tranche of 50% of the N200bn. For the 2nd tranche of 40%, only 56 institutions have been able to access the last 10% representing the third tranche of the N200bn. Adamu and Anwukah (2019) also added that N25bn to be shared to

beneficiary institutions directly.

Tertiary Education Trust Fund (TETFUND) allocated a total of 727,225,862,128.86 in critical areas of tertiary education that include infrastructural development, project maintenance, information and communication technology (ICT) support, Entrepreneurship, Library Development, Special High Impact Projects, Academic Staff Development, and Research between 2015-2019 (Adamu and Anwukah, 2019). A break-down of which 74 public universities each got N 337,000,000.00 totalling N 24, 938, 000,000.00 in 2015. In 2016 each public university was allocated 1,009,410,000.00 amounting to N74, 696,340,000.00 while in 2017 each of the 74 public universities was allocated 659, 150,000.00 making a total of 48,777, 100,000.00 In 2018 each of the 74 public universities was allocated N785,823,700.00 bringing the total allocation to public universities to (N58,150,953,800.00).

Between 1990 and 1997, the real value of government allocation for university education declined by 27% even as enrolment grew by 77% Akpanuko, (2016). For three years, 2004-2006, N196 billion was allocated to the Federal Universities which is only 14.8 percent of the required N1.3249 billion as opined by Okojie, (2008). One needs to realize that despite the fact that, Nigeria is currently witnessing increase enrolment of University students as claimed by Udoh (2008). Sanni (2016) is of the opinion that, the university education financing in Nigeria manifested a lack of commitment on the part of the government, impacting upon a qualitative education to its citizenry and that, this has been evident in the last 10 years where the total number of students' enrolment was triple while public resources allocated to the education sector from the Gross Domestic Product continue to decline from 11.5 in 2002 to 8.7 percent in 2013.

Olayiwola (2012) opined that at present more than 90 percent of the funding of University education is received from government. Hence government subvention is the main source of financing university education in Nigeria. Yet, these are grossly inadequate to deliver the University education services.

Then one can easily say that there is an obvious financial crisis in the Nigerian Universities, but the impact seems to differ from one institution to another depending on the proprietor of the institution either state or federal. Okebukola (2002) and Sodunke (2001) asserted that the

state universities are worse hit by the financial stringency. It also appears that the federal universities are more funded by the federal government, this may not be unconnected with the fact that the

Federal government is their sponsor and can afford to allocate more money to these universities, while the state universities are managed by the state government which may not be able to spend much money as the federal government. It then appears that the state universities were made to involve more on alternative sources of funding to complement the government subvention more than the federal universities.

The fact that funds allocation could not meet the university education need was made obvious when the government requires each university to source for at least 10% of its income through alternative sources. In addition, Onuoha (2013) claimed that the federal government through the National University Commission (NUC) has continuously directed all federal universities to explore ways of generating revenues through alternative sources such that the management would not have to look up to the government for solving all their financial problems. Alternative sources of finance are other means through which money comes in apart from government subvention.

Academic Staff Union of University(ASUU) has gone on strike for several times namely: 1992, 1993, 1994, 1996 (five months), 2001(three months), 2002(two weeks), 2003 (six months), 2005(three days), 2006(one week), 2007 (three months), 2008(one week), 2009 (four months), 2010(five months), 2011(three months), 2013(six months), which ended in 2014), and presently ASUU is on strike since March, 2020. It has to be noted that, the key issue that prompted most of the strikes is on funding for the system (Nasiru 2014). He added that, Federal Government shall provide funds for the revitalization of the University system in the following manner in the next six years:

S/N	Year	Amount (billion) Naira
1	2013	200
2	2014	220
3	2015	220
4	2016	220
5	2017	220
6	2018	220
Total	6 years	1.3 trillion

Fifty (50) Polytechnics were allocated N250,000,000.00 amounting to 12,500,000,000.00 in 2015 while the amount of N691,632,000.00 was allocated to 56 polytechnics in 2016 amounting to N37,348,128,000.00 also N450,800,000.00 was allocated to 54 Polytechnics in 2017, amounting to N24,343, 200,000.00. In addition, in 2018, 54 Polytechnics received N 536, 703, 502,000.00 amounting to N 28, 981, 989, 108.00 only. Therefore, the total allocation to Polytechnics for the period under review stood at N103, 173,317,108.00 only (Adamu and Anwukah, 2019).

The total allocation to Colleges of education as presented by the Hon. Minister of Education, Adamu Adamu for their tenure stood at One Hundred and One billion, Six Hundred and Thirty-One Million, Three Hundred and Four Thousand, Five Hundred Naira (N 101,631,304,500.00). A break- down of which N12, 485,000,000.00 in 2015. Colleges of Education in 2016 were allocated with N37, 348,135,000.00. In 2017 they got N23, 743,500,000.00 and in 2018 they got 28,054,669,500.00 only.

Need for Alternative Sources of Funding Higher Education

The need for this alternative generation of fund by the universities and other tertiary institutions was further stressed by the implementation committee of the National Policy on Education that the universities must learn to live within their means and use their internal reservoir of initiative and ingenuity in finding alternative options in the face of the challenges of financial stringency. It was also supported by a giant effort made by the Federal Ministry of Education of inaugurating a committee on rethinking of financing education in Nigeria on the 25th of June, 2020 whose main objective was to call for the need to find out the alternative sources to be been put in place by the tertiary institutions and to discover whether the available alternative sources are fully employed by the tertiary institutions with particular emphasis on public private partnership.

The concept of public –private partnership (PPP) recognizes the existence of alternative options for providing education services besides public finance and public delivery. Governments around the world are exploring different ways to involve the private sector in providing education.

Nigerian government included public-private partnership initiative as part of her agenda for the fulfilment of the country's 2020 plan and to permit the participation of the private sector to correct the nationwide problem. The plan also targeted at improving the public sector's quality of performance through private investment in cash and in kind especially where some responsibilities can be done best by private institution. To address the situation of the terms of reference of the committee it can consider some of the suggestion below:

1. Identify priority areas in tertiary institutions and other educational outfits for public-private partnership investment/ interventions; This involves: Power generation and distribution, Water and Sanitation, Roads Network in Higher Institutions Campuses, Information Technology or Digital Economy involving LMS, Capes, Business Centres etc., Staff Housing and Students Hostels, Transportation System within School and Outside and any other entrepreneurial Opportunity like farming, fishing cattle rearing etc. contracted agreements like: Rehabilitate-operate-transfer (ROT), Build-Operate –Transfer(BOT), Build- own- operate-transfer (BOOT).
2. Identify possible strategies to attract investors/ private partnership;
 - Changes in policies and laws, socio-cultural changes, financial and capacity building, ensure flexibility in contracting private partners;
 - Improved information flows;
 - effective quality assurance system;
 - Competitive and multi stage process for selecting private partners in PPA;
 - splitting the purchaser and provider roles within the education administrative agency;
 - building the capacity of the contracting agency to acquire the resources, information, and skills needed to design, manage the complex contracting process that underlie PPP programmes;
 - Establish appropriate performance measures and include performance incentives and sanctions for failing to perform
3. Organize annual Education Investment Forum (One-Stop-Shop) This can be organized at various levels of education industry like schools and other educational agencies.
4. Develop Follow up Strategies to ensure sustainability; and

- Reward innovation and quality improvement
 - Defining operating requirements and performance standards;
 - Tracking of quality and school efficiency;
 - Establishing a specialize group of authorities to manage PPP programmes and the flow of funds from the government to public schools.
5. Any other issue as may be deemed necessary by the committee:
Some of the alternative sources include: Tuition and fees even though Omoifo (2007) opined that, there is no tuition in Nigerian universities generally, while where tuition are being collected are highly subsidized and that education in Nigeria is almost free, while even the world best university, Popoola (2000) submitted that non-payment of tuition fee by children of elites are forms of economic wastage in the university system and that a system that allowed the children of the rich who could ordinarily pay tuition to receive tuition free university education cannot be entirely efficient, private contribution, consultancy and research activities, community participation, auxiliaries, Alumni, gifts and endowment, and international aid.

The World Bank (2000) reiterated that financing problem of education would have been ameliorated if the various sources that could contribute to education had been tapped particular public contribution to education.

Conclusion

Education is globally accepted to be the primary social activity through which society can duplicate traditions and forms of life that it considers to be desirable. Financing education entails capital incentives and must be supported by individuals, Community, Non-governmental organizations, and corporate bodies. Government alone can no longer shoulder the responsibility of financing education at various levels. Therefore, the need of public private partnership to support the system is very relevant at this critical moment where more people could have access to quality education. It is a high time we have to appreciate the fact that, education is a social and private investment that is collaborated by individuals, students, their family members, employers, government and other international group.

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RESEARCHES IN DISTANCE EDUCATION

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ABSTRACT

Researches in Distance Education are scanty in number in comparison to other areas of research in education. This is due to the absence of a clear cut theory or empirical research data on the problem. However, a good number of researches in Distance Education can be traced from 1980's onward. The major challenges of researches in Distance Education are closely linked with the issue of quality assurance. This paper therefore examines major areas of researches in Open and Distance Education. It discusses distance education research as a developing field, media and technology issues, evaluation and quality development. Finally, it highlights some prospects and future strategies in Distance Education and provides conceptual framework for research in Distance Education.

Introduction

Research on Distance Education has been **subjected** to consistent critique (Benard et al, 2004; Pandey, 2010 and Kerra 2007). It has been characterized as "theoretical and predominantly descriptive" (Pandey, 2010). Research questions should be posed within a theoretical framework and embedded in a holistic structure of research areas within a discipline. However, in the field of distance education a validated meta-structure of research topics is lacking. That is, a map of research areas that would assist to organize the body of knowledge in the field. In addition, the structure of a research discipline constitutes the foundation for identifying gaps and priority areas for researchers. Koul (2009) makes a plea for a comprehensive and cohesive structure internationally to provide firm foundation to the discipline with regard to Distance Education.

Distance Education Research: a Developing Field

Research in Distance Education has a relatively short tradition. In 1980's, reports from distance education research projects started with a

regret of the lack of prior theory or empirical research data on the problem or relevant for the problem in question.

Today, it is more correct to say that distance educators generally have been more engaged in theoretical and practical research related to their own field than their counter parts in the traditional mainstream of education. There are many reasons for this situation and these are also the main reasons for trying to stimulate future research with high quality.

The British Open University has perhaps been the largest source of inspiration for the growth and development of research in distance education. From its beginning, the Open University has had a specific department responsible for research and evaluation, namely the Institute of Educational technology.

Later, similar institution established around the world have also normally organised separate units responsible for research and evaluation activities. Some of these research units have published series of reports which represent valuable source of information and gives an overview of some these reports series in many well established international journals, ICCE/ICDE conference, proceedings and some international bibliographies.

Researches in Distance Education: Quality Assurance Issue

A number of general reviews of the research in distance education have been carved out during the last few years (Moore, 2005; Clark, 2009 and Bates, 2009). One can easily agree that the quantity of reported work is immense. However, some reviewers question whether the quality of the research in distance education is generally acceptable. Moore (2005) argues that most of the researches published are descriptive and cannot be generalized, that it is only marginally based on theory that researchers seem not to take time to consult and refer to previous researches. He specifically regrets that experimental research under controlled conditions is practically non-existent.

Clark (2009) seems to agree with most of Moore's observations. She mentions as a problem that most of the research in distance education has been carried out by academics with little knowledge of pedagogical theory and without training in social science research methodology and design.

In a recent survey of research, Bates (2009) specifically notes that a

review of the major journals on distance education over the past few years shows lot of high quality research has been reported since 2004.

Over the years, a number of reviews of distance education literature have been conducted and published. Panda (1992) reviewed 142 studies on distance education conducted in India under nine broad themes: (1) Concept, growth and development; (2) curriculum, course planning and development; (3) Instruction and teaching; (4) media and technology; (5) learners and learning; (6) Instructional policy and management; (7) economics; (8) evaluation and programme evaluation; and (9) staff development.

In addition, Panda (1992) provided a conceptual framework for distance education research based on the model of systems philosophy, distinguishing between input (e.g. courses, students, and staff development), process (e.g. two-way communication, student support services, evaluation) and output variables (e.g. student achievement and satisfaction, effectiveness and efficiency of the entire system).

Berge and Mrozowski (2001) adopted Sherry's ten issues in distance education (Sherry 1996) for their review of research in distance education between 1990 and 1999, with the following outcome: (1) redefining roles of key participants with focus on training (teachers, students and site facilitators); (2) technology selection and adaptation; (3) design issues; (4) strategies to increase interactivity and active learning; (5) learner characteristics; (6) learner support; (7) operational issues (planning, administration, management and economics); (8) policy and management; (9) equity accessibility; and (10) cost benefit trade-offs.

Olaf (2009) developed categorization schemes that were mapped into publication. By and large, there is general agreement on the basic research topics in distance education, such as student support, instructional design, educational technologies, or interactivity through media. However, the various attempts to describe the broad and interdisciplinary field of distance education show a disparate picture.

In order to identify distance education research priorities for Australia, Jegede (1994) developed a questionnaire that was validated by a group of 36 Australian distance education researchers and practitioners. The questionnaire contained 22 broad groupings of research areas. (1) theory and philosophy; (2) learner characteristics; (3) equity and access; (4) design and development of study materials; (5)

instructional and communication technology; (6) tele-teaching and learning; (7) management and planning; (8) student support services; (9) development of students' study skills; (10) systems for the provision of feedback to students; (11) interactive multimedia; (12) discipline based context; (13) cognition and metacognition; (14) cost benefit analysis; (15) relationship between open learning and distance education; (16) industrial and business training context; (17) research methodology; (18) evaluation; (19) expert learning systems; (20) role of distance education in national development; (21) teacher's education and (22) professional development of distance educators.

With specific reference to Austria, Jegede (1994) listed eight broad groups of research areas that require priority attention: 1. Instructional and communication technology; 2. Industrial and business training context; 3. Role of distance education in national development; 4. Student support services; 5. Evaluation; 6. Equity and access; 7. Design and development of study materials and 8. Interactive multimedia.

Media and Technology

The literature on distance education still generally forecasts that print based text media will be the most important technology for presenting the content of learning in the foreseeable future. Some researchers have been carried out on printed study materials and learning from text. The British Open University has, for instance, a long tradition of research into the development of text based learning materials and how students learn from texts. This research covers a number of research studies on the use of behavioural objectives, graphics, languages and typography, activities in self-instructional texts and deep and peripheral level approaches to learning (Morgan et al 2012 and Kali 2014).

There is a lot of research reports published on the use of new technology, audio and visual media. Bates (2013) book "The Role of Technology in Distance Education and the Bibliography from the Open University Audio-Visual Research Group, IET Papers on Broadcasting represents an introduction to the field.

In a general overview of media applications and research and forecasts for the future, Bates proposes the following concerning research priorities:

“Technological developments need to be preceded and accompanied by research and evaluation, to monitor carefully not only the learning

but also cost and organizational implications. It is important that research priorities are carefully defined. At the moment, government are giving priority to basic research in the area of artificial intelligence and for the development of interactive video. However, distance teaching institutions should be investigating in more immediate and practical issues, such as monitoring student's access to equipment, studying the design implications of video-cassettes, evaluating new types of course design based on new technology and studying the costs and organizational implications of introducing new technology”

Other examples of research on telecommunications technology cover projects on group based learning through audio and video conferencing; audio-graphics, telephone and fax applications for individuals tutoring. For examples two projects on audio teleconferencing could be mentioned. Haward (2009) report a case study and evaluation of student perceptions of effects of the absence of visual cues in audio conferencing. Peterson (2011) has analysed audio conferences in relation to theories of interaction and carried out an evaluation of student's views. As an example of research on video-conferencing, JenKins et al (2010) report on an analysis of student performance and attitudes and comparisons between students in the originating and receiving classroom, costs and administrative challenges.

Countries are implementing drastic measures to slow down the spread of COVID-19 through schools and universities closure. This unprecedented situation is forcing governments and educators to find quick solutions to ensure the continuity of quality education in all levels of education. However, it is clear that these solutions operate at varied technological levels. While some countries or institutions can provide appropriate and different tools for real distance learning (such as fast internet and interactive learning platform) others, at a less advanced technological level, are setting up alternative systems (such as the use of text messages and issue of hand-outs) for distance learning. Ideally, countries should leverage on ICT in ensuring continuation of education during school closure through e-learning. However, in Africa, most teachers, tutors and lectures have limited capacities and access to these technologies, especially among marginalized communities in the continent.

Teaching in Distance Education and the Development of Teaching/Learning Materials

The specific characteristic of distance education has led to the development of some specific pedagogical professions. Two of these are the roles of the designer of distance learning materials and the distance teacher. Theoretical studies on the roles and professions of the distance education and some few surveys among academics in distance education and in institutions planning or preparing for distance education have been carried out.

A recent survey on attitudes towards distance education among academics in USA, Marton (2013) concludes that academics are reserved toward distance study in higher education, is result that is not all promising for the future development of distance education at universities and colleges in the USA.

Evaluation and Quality development

Much of the research reported in the distance education literature involves elements of system evaluation. Still, evaluation, evaluation research and quality development constitute one specific research area with a specific set of methodological constraints and different approaches about how to design and carry out the projects and how to report. For an introduction to evaluation and evaluation research reference can be made about Taylor's (2008) book on practitioner based evaluation and the overview presented by Schuemer (2012) of evaluation theory and practices in selected distance education institutions around the world. Schuemer's book clearly demonstrates that researchers in distance education look upon research and evaluation studies as closely related. While formal research based evaluation has been a necessary and natural part of the activities of distance education institutions, concepts transferred from the business and industrial sector of quality management are relatively new in the field. Tait (2007) has edited a selection of papers that gives an introduction to theory, practice and challenges related to quality assurance in distance and open Learning.

Some Prospects and Future Strategies of Distance Education Research

The above review indicates that research is not lacking in distance education. It is also found that current theoretical debate and discussions on theory, philosophy and research methodology keep a high standard of reflection. The empirical research reported during the last few years, including a number of carefully designed experimental studies; also indicate that a lot of high quality research is taking place. This is probably a result of the fact that today a number of academic institutions around the world have qualified research supervisors who also have authoritative insight in distance education researchers. There is also a trend in distance education research that is being conducted within traditional departments of education.

This trend is clear, for example in Norway, as a result of the traditional universities commencing to develop and offer distance and open learning programmes. Similar developments seem to take place around the world, and might constitute a basis for building up in the future a closer relationship between distance education research and general and adult education research.

There are some challenges for the future of distance education research:

1. Distance education needs different kinds of researches. As applied professional field, it requires both basic research which tests and develops knowledge to guide practice, and researches to solve practical problems (Maren 2011). At the same time research directly designed to solve practical problems can contribute to theory building. It is also significant to base practical research on theory. A strong basis in theory will increase the value of practical research. Research for practice and research for theory both require that the researchers take their time to examine what others have done before.
2. It is probably that co-operation on research might give better results than individual institution based projects. Ten years ago White and Haris (2009) proposed a strategy for co-operative research in distance education.

Maren (2011) sees such an approach as a way of successfully building up a “grounded theory” of distance education. As examples of such approaches one may refer to Keegan et al (2008) who conducted an

international co-operative study including five different institutions experimenting on two way communication and turn round time and feedback interval. Another example is the study on telephone tutoring (Fendar 2001) and postal two way communication and (Gibbs 2003) at the university of Lund including experiments in a number of courses in different institutions around Europe. It will be quite effective if ICDE and its affiliated regional associations take initiative to such cooperative research.

It seems now that must researchers accept the possible contributions from different paradigms of research and that the development of theory and practice in distance education will different specialists, and also that many specific research projects may take advantage of applying research methods and techniques from both the naturalistic/qualitative and the experimental/qualitative tool kits of designs, methods and data (Garrison et al 2008).

The results become more easily and effectively applied when people responsible for the functioning of the system are actively involved in research and evaluation projects. The developments and changes that might be introduced as a result of field related research tend to be accepted and followed up. Another argument for field based research is that distance education basically is a multidisciplinary area involving aspects of economy, business administration, sociology, psychology, geography and many other disciplines. The practitioners are actively involved in the field and their contributions would be appreciated.

The rapid developments in media and communications technologies give birth to new types of organizations systems and programmes and broaden the field of distance education research. There is a great need for research on how different students learn with various kinds of technology in diverse types of programmes. Future research in this area may be driven by educational theory rather than by the general enthusiasm of working with new technology. It seems that in most countries it is easier to fund technology-based projects initiated in technology enabled environments than projects that reflect the theory and practice of distance teaching and learning.

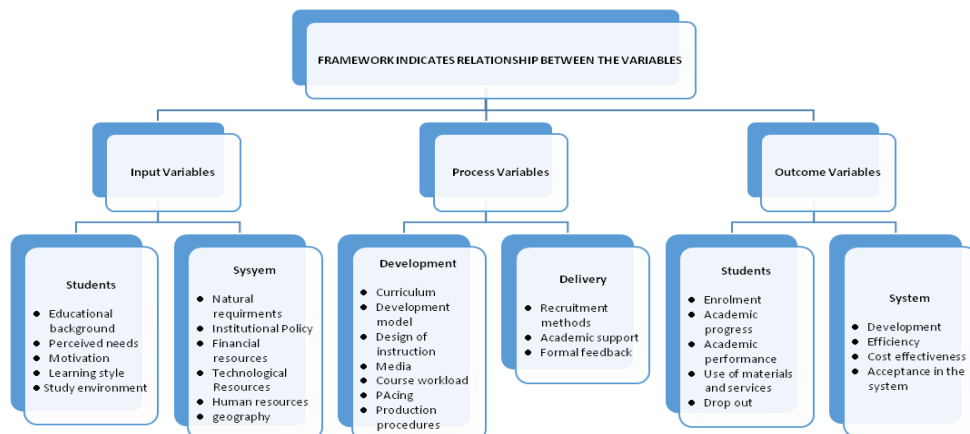
There is need to develop a consistent conceptual framework for research in distance education. Calbert (2006) has suggested a framework for conceptualization, which might be useful, especially to

those new to research in the field. The framework indicates relationship between input, process and outcome variables. The following diagram indicates the envisaged framework of research in Distance Education.

The following diagram indicates the envisaged framework of research in Distance Education.

It is quite likely that the design of a research project would work from left to the right. As an

Example, based on the theory of distance education as didactic



conversation, one could design the teaching material and the teaching process for students with different learning styles and measure academic progress as an outcome variable.

Some years ago, ICDE had a modest programme of stimulating research, especially research based on co-operation between institutions and organisations in different countries. It is significant that ICDE in co-operation with its affiliated regional associations will resume this activity. Regional and worldwide electronic networks give new possibilities. ICDE has now signed a contract with the common wealth of learning to encourage and facilitated research in distance education. As a first activity, one has established a bulletin board for dissemination of information on research in progress or planned. Therefore, researchers and practitioners can now provide and derive information and establish relationships to co-operate and or co-ordinate their efforts with others.

Conclusion

In conclusion, research with field of distance education, to borrow an allegory from Maren (2011), seems to have developed via the stages of childhood and adolescence and is now in the process of growing up. Therefore, there are positive prospects for the future references.

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ASSESSMENT OF CRITICAL THINKING IN THE CLASSROOM

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Abstract

The idea of teaching and assessing critical thinking skills had been bandied around in the education circles for a very long time. It has come to take a greater prominence in the educational debates, especially with the advent of the concept of “21st century skills” and discussions of deeper learning. Stakeholders and reformers in education are increasingly coming to the agreement that critical thinking is a very essential ingredient for a long term success for our students. Although some schools of thought argue that critical thinking are not well defined and therefore cannot be taught or assessed. But if we use a validated critical thinking skills test to assess the skills used to solve problems and make decisions, and also use a critical thinking mindset measure to assess the level of consistent internal motivation or willingness to use the critical thinking skills, the problem is solved. Promoting critical thinking skills is a matter of planning and priority. Our teachers are therefore challenged to push their students towards higher- level thinking activities beyond the Bloom’s taxonomy. The rest of the paper talks about the concept of critical thinking, teaching and assessing critical thinking, planning for critical thinking, questions to help students develop critical thinking skills, among others.

Keywords: Assessment, critical thinking, classroom, academic engagement

Introduction:

Before now, the Bloom’s taxonomy of educational objectives was accepted as the standard for the assessment of academic achievement in our school systems. Today, Researchers are saying that we must go beyond that in order to consider specific dispositions and abilities that are characteristics of critical thinkers. According to Ennis (2015) the recent explosion of interest in critical thinking has occasioned an accompanying interest in the assessment beyond the Bloom’s taxonomy. This is because, according to Vincent- Lancrim (2016) there is a growing consensus that formal education should cultivate the creativity and critical thinking skills in our students to help them succeed in the

modern, globalized economies which are based on knowledge and innovation. But our teachers do not have the ability to foster and monitor progress of the students along this area.

They lack the understanding of how some of these skills materialize at different developmental stages. This is because our education systems do not have established methods of assessing these critical thinking skills formally. Vincent- Lancrim (2016) gave another reason as to the fact that it is not clear how these skills can be visibly and tangibly articulated by teachers, the students themselves and policy makers including curriculum planners. As a result, the competences are not promoted in a systematic way apart from mentioning them in the general objectives.

Our education system should have it as a priority to make the learners acquire critical thinking skills and abilities. According to Bissell and Lemons (2016), numerous national commissions have called for the development of critical thinking in our learners. But the implementation as an explicit goal of education has not been possible because of lack of well-defined scheme for the assessment. Many academic staff do not believe that critical thinking, as a learning goal can be assessed because they have no method of doing so, (Beyer 1984, Cromwell 1992, and Aviles 1999).

Although critical thinking has been regarded as a goal of education, yet not a great deal has been done about it. But since the 1980s, attention to critical thinking instruction has increased significantly. However, Enmis (2009) painted a picture to show that the assessment of critical thinking has been neglected even more than critical thinking instruction. It is very important that we understand the relationship between critical thinking assessment and critical thinking instruction.

The main purpose of assessment in instruction is for improvement. But the purpose of assessing instruction for critical thinking is improving the teaching of disciplined based thinking. These disciplines can be historical, mathematical biological, sociological, psychological among others.

When we aim at improving our students' abilities to think their way through the content of the subjects by using disciplined skills in reasoning them we are leading our students into critical thinking. We should be more particular about our students learning the critical thinking skills and we should decide assessments for that purpose in

view.

The Concept of Critical Thinking

Critical Thinking (CT) had been described variously by different people. But the most generally employed definition of CT is that by Ennis (1962) which says that CT is reflective and reasonable thinking that is focused on deciding what to believe or do. This description can rightly be said to include formulation of hypotheses, questions, alternatives and plans for experiment. It means that CT is a practical activity. This is because deciding what to believe or what to do is a practical activity. Kurtiss (1988), also described CT as an investigation whose purpose is to explore a situation, phenomenon, question or problem to arrive at a hypothesis or conclusion about it that integrates all available information and which can therefore be convincingly justified. It means that in CT, all assumptions are open to question, divergent views are aggressively sought. But the inquiry is not biased in favour of a particular outcome.

It brings about change in the teaching and learning situation. This is because it conditions the mind to suspect the form and function of everything it sees, including the classroom and everything that is taught in it. Weimer (2013) described C.T. to include skills, dispositions and metacognition. It includes argument, analysis and evaluation. It also involves methodological reason, statistical reasoning, causal reasoning and skills for focusing and clarifying questions. While dispositions refer to the willingness to engage in effortful thinking and the tendency to be open-and fair-minded in evaluating claims; Meta cognition means being aware of one's thinking and also being in control of it. According to the teaching professor, cited in Weimer (2015) C.T. can be described as generic or discipline –specific or in both combinations. It means that C.T. is a multidimensional construct which contains some general reasoning skills in some cases, and in other cases, it contains some skills which are specific to the discipline. Any teacher who wants to assess learning outcomes that are associated with C. T. Cannot do that well if he does not understand the definition of C. T. in his discipline.

Most of the formal definitions of C. T. according to Angelo (2010) characterize critical thinking as the intentional application of rational, higher order thinking skills, such as analysis, synthesis, problem recognition and problem solving, inference and evaluation. It should be noted that higher order thinking skills are not likely to be developed

simply as a result of maturation. It is also a fact that students find it difficult to learn a typical higher order skill. This means that C. T. skills are notoriously difficult to teach or to develop. However, they are not impossible to teach.

In a layman's definition, C. T. simply means the objective analysis of facts to form a judgement.

Other definitions include:

- the process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and evaluating information to reach an answer or conclusion (Kerry 2014)
- disciplined thinking that is clear, rational, open-minded and informed by evidence (Glaser, 2017)
- Reasonable, reflective thinking focused on deciding what to believe or do (Elkings 2014).
- Purposeful, self-regulatory judgement which results in interpretation, analysis, evaluation and inference, as well as explanation of the evidential, conceptual, methodological, criteriological or contextual, considerations upon which that judgement is based (Facione, 2011).
- Includes a commitment to using reason in the formulation of our belief (Matrix, 2010).
- The skill and propensity to engage in an activity with reflective skepticism (Reynolds 2011).
- Disciplined, self-directed thinking which exemplifies the perfection of thinking appropriate to a particular mode or domain of thinking. (Walsh, 2007).
- Thinking about one's thinking in a manner designed to organize and clarify, raise the efficiency of, and recognize errors and biases in one's own thinking. C. T. is not 'hard' thinking nor is it directed at solving problems other than improving one's own thinking. C. T. is inward-directed with the intent of maximizing the rationality of the thinker. One does not use C. T. to solve problems – one uses C. T. to improve one's process of thinking (Abrami et al 2014).

From all these and more definitions, it is noted that C. T. descriptions should involve qualities, concepts, and processes such as creativity, imagination, discovery, reflection, empathy, connectivity,

knowledge, subjectivity, ambiguity and inconclusiveness. According to Reynolds (2011) C. T. includes observation interpretation, analysis, inference, evaluation, explanation and metacognition. It means that any individual or group who engages in C. T. should be able to give due consideration to establish: evidence through reality.

- context skills to isolate the problem from context
- relevant criteria for making the judgement well
- applicable methods or techniques for forming the judgement
- Applicable theoretical constructs for understanding the problem and the question at hand.

Since C. T. skills include but not limited to logic, broad intellectual criteria like clarity, credibility, accuracy, precision, relevance, depth, breadth, significance and fairness; it means we should be able to engage problems and decisions using these skills. We should be able to let our students have C. T. Skills. This will enable them engage the problems of the society and make decisions which will eventually bring improvement to our environment.

Why Do We Need C. T.?

As human beings we think it is in our nature to think. But most of the times our thinking in itself is biased, distorted, partial, uninformed or prejudiced. Even at that, the quality of our life and the quality of our products depends on the quality of our thought. When our thinking is shoddy we make costly mistakes which affect both our finances and the quality of life. We therefore have to systematically cultivate excellence in thinking skills. We need C. T. skills because when we improve the quality of our thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them, we, according to Edward (2014)

- Raise vital questions and problems, formulating them clearly and precisely.
- Gather and assess relevant information, using abstract ideas to interpret it effectively to come to well-reasoned conclusions and solutions, testing them against relevant criteria and standards.
- Think open mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications and practical consequences, problems.

We need C.T. for ourselves and for our students and our young ones. CT is self-directed, self-disciplined, self-monitored and a self-corrective thinking. We should encourage it for our young generation in order to develop problem solving abilities that will make them committed to overcome societal problems.

What Cognitive Skills underline CT?

C.T. can be demonstrated by our students when they show some cognitive skills. Those cognitive skills, according to Paul and Elder (2016) include: - when they can:-

- demonstrate a clear understanding of the assignment purpose
- clearly define the issue or problem
- accurately identify the core issues
- appreciate depth and breadth of the problem
- demonstrate fair-mindedness towards the problem
- identify and evaluate significant points of view
- examine relevant points of view fairly, empathically
- gather sufficient, credible, relevant information: Observations statements, logic, data, facts, questions, graphs, themes, assertions, descriptions among others
- include information that opposes as well as supports the argued position
- distinguished between information and inferences drawn from that information
- identify and accurately explain/use relevant key concepts
- accurately identify assumptions or things taken for granted
- make assumptions that are consistent, reasonable and valid
- follow where evidence and reason lead in order to obtain defensible, thoughtful, logical conclusions or solution
- make deep rather than superficial inferences
- identify the most significant implications and consequences of the reasoning, whether positive and/or negative
- Distinguish probable from improbable implications.

The main goal of making sure that we have students who can demonstrate these cognitive skills and therefore possess critical thinking abilities is to be sure that every student in every class and at every

moment is intellectually engaged. This is because any student who is intellectually engaged has it as a routine to focus on:-

- the purpose of instruction
- the question or the issue
- the information relevant to the question
- the key concept he needs to understand
- whatever assumptions he is making
- the implications of his thinking
- the point of view within which he is thinking

It means that such a student is consciously and deliberately thinking his way through the content of his lessons. By so doing he is routinely engaged in critical reading, critical writing, critical listening, critical speaking, critical observing or performing. This student will always strive to make his thinking to be clear, accurate, precise, relevant, deep broad, logical, fair and significant. As a matter of fact such a student will continue to develop his intellectual skills throughout life. This is the type of student we need in our school system. This is because such student will be very relevant in the developmental processes in his society.

The Concept of Assessment

The concept of assessment can be described using these two questions.

- i. Where do you want your students to be at the end of a course or a programme?
- ii. How do you know whether they have got there? In a nutshell, assessment is the prove of collecting information about students' learning and performance to improve education. When teachers teach to test or for examination, assessment is not meaningful. It can only be meaningful if it is thoughtfully and systematically done so that information gathered will:-
 - reflect the goals and values of particular disciplines
 - help the teachers to refine their teaching practices and therefore grow as educators and
 - Help departments and institutions to redefine their curriculum so as to prepare students for an evaluation in their workplace.

The process of assessment in the educational engagement is for improvement. According to Biggs (1995) numerous researchers have

found out that assessment practices impact strongly upon what students learn, and the approach adopted to study. It means that assessment drives the curriculum, the teaching methods and students' approaches to learning. It is unfortunate to note that the assessment practices we use in our educational system encourage much more limited goals and are merely based on the accurate reproduction of course content. There is a need therefore, to have assessment processes which measure broader range of learning outcomes. This is because of the changes in conceptions of the goals for the society and that of education in general.

Our assessment system should emphasize on high quality learning outcomes like conceptual understanding, critical thinking and analysis, and independent interpretation that requires the students to use the deep learning approaches to learning that will help them develop generic skills in problem solving, critical thinking and making judgements.

Teaching for CT as intellectual Engagement

CT has been described as a mode of thinking about any subject, content, problem or anything, where the thinker improves the quality of his thinking using skillful analyses, assessment and reconstruction of the idea. It involves rigorous standards of excellence and mindful command of the use.

According to Paul and Elder (2016) when we think critically, we realize that in every domain of human thought, it is possible and very important to question the parts of thinking, and the standards, for thought. It means that teachers in our educational system should be able to understand CT and the logic of their discipline. This will help them to realize that students are thinking critically when, and only when, they are consciously and deliberately thinking through some dimensions of the logic of the discipline or subject which they are studying the teachers should guide the students to approach each and every subject or discipline as a system of thought and not as a random set of bits and pieces of information which they can just rote memorize and repeat during examination. The teacher should guide the students to recognize that at every given moment, especially in the class, there are questions on the floor, information to be processed, concepts to be used, assumptions to be made, interpretations to be made, implications that are embedded in the reasoning and points of view to be projected. For C.T. such routine questions listed by Paul and Elder (2016) should be used.

Such questions are:

- i. What is the most fundamental issue here?
- ii. From what point of view should I approach this problem?
- iii. Does it make sense for me to assume this?
- iv. What may I reasonably conclude from these data?
- v. What is implied in this graph?
- vi. What is the fundamental concept here?
- vii. is this information consistent with that information?
- viii. What makes this question complex
- ix. How could I check the accuracy of these data?
- x. If this is so, what else is implied
- xi. is this a credible source of information? among others

Students who develop this mental attitude of questioning can be said to be intellectually engaged which shows that they are critically thinking of course. Critical thinking vary from the intellectually simple to the intellectually complex. It can be recognized while students are reading, writing, speaking, listening, observing and performing.

According to Benjamin (2016) they involve one or more elements of thought, one or more standards of thought, one or more traits of mind, a little or a lot of content and disclose a system or part of a system. This is the type of student which will make a difference in his society after graduation. This is the type of student our society needs now.

Assessing Critical Thinking in the Classroom

Having noted the importance of critical thinking in the understanding and reasoning of any individual. It becomes a must that instructional assessments be used to drive instructions towards the form and nature of intellectual engagement which we want our students to have through C. T. unfortunately our classroom assessments are not designed to assess the C. T. skills of the students. According to Paul and Elder (2016) there is significant disconnect between what our classroom tests actually assess and what we want our students to do while participating in or studying in class. But we can scientifically assess the critical thinking skills of our students in their courses and programmes if we are interested in so doing. Weimer (2013) has suggested how critical thinking can be scientifically assessed in the classroom. This proposal offers practical guidelines for our teachers who desire to assess the C. T.

of their students. These include: - the teacher should:

- i. Understand C. T. as a multidimensional construct: - C. T. includes skills, dispositions and metacognition and therefore involves argument analysis and evaluation methodological reasoning, statistical reasoning, causal reasoning and skills for focusing and clarifying questions.
- ii. Select important goals, objectives and outcomes for assessment: - What C. T. skills and knowledge should students be able to demonstrate as a result of being in a course or programme? If the assessment is to be scientific, then the goals, objectives and outcomes must be specified in measurable terms.
- iii. Align assessment with instructional focus: - Measures for assessing the impact of instruction must be sensitive to the changes that the instruction is intended to produce.
- iv. Take an authentic task-oriented approach to assessment. This involves the use of students' performance to assess how well they are completing a given task.
- v. Use the best and most appropriate measures: - C.T. has multiple dimensions therefore multiple measures should be used to assess it.
- vi. Conduct assessments that are sensitive to changes over time: - Assessment should be frequent so as to note when and how changes are taking place.
- vii. Assess frequently, embedding assessment and feedback into instruction: - A formative approach which embeds assessment into instruction and provides the instructor with useful feedback and helps students to focus on their development of CT skills should be used.
- viii. Interpret assessment results cautiously and apply the results appropriately:- consider the quality of the data generated and carefully interpret the results so as to improve the learning outcomes.

In a more recent publication. Chesser (2018) agrees that using the right questions creates powerful sometimes multiple answers and discussion which can spark off imaginations, conjure emotions and create more questions. Such questions as listed by Chesser (2018) are unrestricted and open the mind up to unfettered thought, perfect for innovation and understanding. For easy assessment the questions are categorized into:-

1. Reflection and collaboration

- i. What do you think about what was said?
- ii. How would you agree or disagree with this?
- iii. Are there any other similar answers you can think of with alternative routes?
- iv. Does anyone in this class want to add something to the solution?
- v. How might you convince us that your way is the best way?

2. Self Reflection

- i. How did you determine this to be true?
- ii. Why didn't you consider a different route to the problem?
- iii. Why does that answer make sense to you?
- iv. What if I said that answer is not true?
- v. Is there any way to show exactly what you mean by that?

3. Reasoning

- i. Why do you think this work? Does it always? Why?
- ii. How do you think this is true?
- iii. Show how you might prove that?
- iv. Why assume this?
- v. How might you argue against this?

4. Analysis

- i. How might you show the differences and similarities?
- ii. What patterns might lead you to an alternative answer?
- iii. How many possibilities can you think of and why?
- iv. Predict any number of results?

5. Connections

- i. How does this relate to daily occurrence?
- ii. Which ideas make the most sense and why?
- iii. Which problems feel familiar? Why?
- iv. How does this relate to current events?
- v. What kinds of examples make this problem workable?
- vi. What other problems fit this style or example?

6. Literary Questions

- i. How did any of the characters or events remind you of yourself? Why?
- ii. How did the character's actions affect you? Explain?
- iii. If you were this character, how would the story change?
- iv. What surprised or confused you about the characters and events explain?
- v. Why do you think the author write from this character's view?
- vi. What do you think the author is trying to accomplish?
- vii. How is the author thinking about the world?
- viii. How would the story change from another character view?
- ix. Why do you think this story would actually happen or not?
- x. How can this story teach us something about our lives?
- xi. How do you think the characters resolved the major conflicts in the story?
- xii. How would you have resolved it?
- xiii. How would you change the end of the story and why?

7. Science and Social Questions

- i. What's the purpose for this experiment or argument?
- ii. Would you elaborate on the purpose of this?
- iii. What issues or problems do you see here?
- iv. What evidence or data are given that help make this worthwhile?
- v. What are some of the complexities we should consider?
- vi. What concepts help organize these data, these experience?
- vii. How can you justify this information?
- viii. How can we verify or test the data?
- ix. What details can you add to make this information feel more complete?
- x. Which set of data or information is most relevant or important?
- xi. How is all of this consistent or inconsistent?
- xii. How am I seeing or viewing this information?
- xiii. Objectively or subjectively? Should I then change my view?

When these questions are used in the classroom situation, we provide opportunity for our students to demonstrate their ability to

transfer the type of thinking beyond the original classroom setting. When we get to the situation where students can learn the content of a lesson or course and develop cognitive lift required for them to demonstrate their thinking abilities, it is then that we are sure of producing students who can be self- reliant and relevant in their societies. In other to assess C.T. effectively, we need to use a validated C.T. skills test which measures the problem- solving and decision making skills plus a C.T. mindset measure which is used to assess the level of consistent internal motivation or willingness to use his C.T. skills when it matters in decision making. There are also many standardized instruments which a teacher can use for these purposes,

Conclusion

Critical thinking involves schema development and activation, effective reasoning, creativity and innovation, problem solving and decision making among others. Developing appropriate assessment instruments for our students is a very important part of building C.T. practice into our students. If the students know that they are expected to think critically on tests, and necessary guidelines and preparations are given to them before hand, then the students are more likely to take a critical thinking approach to their learning. It is very essential therefore that we teach and assess C. T. skills of our students, knowing that it is very important for the economy of the future of our nation.

Recommendation

Teachers should learn how to design test items which require higher order thinking skills like analysis, synthesis and evaluation, rather than simple recall of facts. Questions should allow students to explain, justify, draw inferences or conclusions that go beyond given data, or the classroom.

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RETHINKING FULL INTEGRATION OF DIGITAL ASSESSMENT IN NIGERIA HIGHER EDUCATION IN COVID-19 DISPENSATION: STATUS, TOOLS AND CHALLENGES

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Abstract

In view of global pandemic that emanated from COVID-19 invasion, the world higher education order in general and assessment order in particular need overhauling to meet up with the challenges caused by the current events. Such a step would help to improve and sustain quality education standards in various higher institutions in Nigeria. As some institutions are taking positive steps to face the challenges of students' assessment at such a period, others are still skeptical about employment and suitability of digital assessment during instruction delivery and also end-of-semester examinations. Despite the belief that the use of technology for assessment could become a major agent for change within the education system and a growing recognition of the potential of technology in this respect, the implementation of genuinely innovative assessment practices using technological affordances in Nigerian institutions appears to remain narrow in scope. It is on this back drop that this paper focused on rethinking full integration of digital assessment in Nigerian higher education institutions during and post COVID-19 pandemic period. It also examined the present status of higher education institutions assessment modes, strategies to use, digital tools to deploy and challenges that would likely face digital assessment in various institutions. It is therefore suggested that higher education institutions should deploy the use digitalized students' assessment modes to ascertain knowledge and skills of students. Each institution should also make available all equipment and facilities that aid effective digital assessments for the use of both the lecturers and students during examinations.

Keywords: Digital assessment, Formative assessment, Summative assessment, Higher education, Strategies, Tools, COVID-19

Introduction

The global activities at large are going through a restructuring in order to meet with the challenges of COVID-19 pandemic which had taken over all human affairs. The situation had affected governance, health delivery, education, transportation, socio-cultural engagements and really the nations' economy.

The influence of COVID-19 is more on education sector where academic year was disturbed, all schools at all levels were closed down and academic syllabus was seriously affected. School closures affect not only students, teachers, and families but have far-deepening economic and societal consequences. Longfield (2020) emphasized the multifarious social and economic issues emanated from school closures in response to the pandemic. Such issues including student debt, digital learning, food insecurity, and homelessness as well as access to childcare health care, housing, internet, and disability services. The impact was also seen on disadvantaged children and their families, causing interrupted learning, compromised nutrition, childcare problems, and consequent economic cost to families who could not work (Onyekwena and Ekeruche, 2020). At the higher education level, major activities such as lectures, matriculation, convocation and examinations were put on hold due to lockdown. In response to school closures, UNESCO recommended that institutions should take the advantage of open and distance learning programs to resuscitate these activities (UNESCO, 2020). One major component and indeed which all institutions of higher learning hold in high esteem is students' academic assessment which can come in form of practical, seminars, SIWES, teaching practice, practicum, project writing, tests, and examinations.

Assessment occupies central place in teaching and learning processes. Creation of future citizens in the society depends on how assessments are carried out in all institutions of higher education. Indeed, the central purpose of educational assessment is to support learning and acceptable practice instead of focusing on qualifications and the giving reports of achievement. Assessment involves periodic and summative judgments of student performance in terms of overall grades and percentages to ascertain the knowledge and skills acquire during the course of instruction. According to Lovely Professional University (2012), assessment is an ongoing process aimed at understanding and improving student learning. It involves making expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards, and using the resulting information to document, explain, and improve performance. In higher education, assessment are carried out in the form of oral examinations, written

examination, prognostic, diagnostic, power, speed, accuracy, quality, range, essay, objective, daily, weekly, monthly, semester-wise, sessional, speed, power, comprehension, organization and judgment.

The responses of students to assessment tools could be alternate response such as true – false, yes – no, plus – minus; multiple response like best answer and correct answer; completion; matching and essay. Testing is a means to getting information, data or evidences needed for assessment and appraisal at any level of education. Testing is one of the potent and most usable process in any system of examination or evaluation. It envisages the use of instruments or tools for gathering information or data. Question paper is one of the most potent tools employed for collecting and obtaining information about students' achievement in written examinations. Tests of educational achievement differ from those of intelligence in that the former are concerned with the quantity and quality of learning attained in a subject of study, or group to subjects, after a period of instruction. While the latter are general in scope and are intended for the measurement and analysis of psychological processes, although they must of necessity employ some acquired content that resembles the content found in achievement tests. Educational achievement tests are devoted largely to the measurement of the amount of information received, the skills acquired and techniques developed.

In recent years, however, an increasing number have been devised to measure such educational results as attitudes, appreciations, ability to solve problems, to draw inferences from subject matter, to apply generalizations to specific situations and problems. There are six major classes of objectives. These are knowledge, comprehension, application, analysis, synthesis, and evaluation. Each of these is analyzed into several aspects. For example, knowledge is divided into knowledge of specifics, ways and means of dealing with specifics, universals and abstractions in a field. These, in turn, are broken down further into knowledge of specific information terminology ways, means of presenting ideas and phenomena, trends and sequences classification, methodology to categories criteria, ideas and principles in order to employ appropriate modes of assessment.

Three modes of assessment or evaluation are rational, formative and summative. Rational assessment is used at planning stage to planning any programme or activity using participative methodology to get

experts' opinion for arriving at consensus while formative assessment focuses at the implementation stage to identify inadequacies, problems and weaknesses in the educational activities, strategies and development of materials. Summative occurs at the review stage to judge the efficacy and effectiveness of the materials, strategies, programmes, outputs and collateral effects. Evaluation at the first stage will be logical; at the second stage diagnostic, and at the third stage judgmental in nature (Whitelock & Brasher, 2006). Notwithstanding, all the three modes are not considered to stand alone but are interrelated and interdependent. All the four basic techniques of assessment, i.e. testing, observation, inquiry and analysis, will be employed in different situations to collect the relevant evidences about students' growth and development in both cognitive and non-cognitive areas. In testing technique, written examinations, oral testing and practical examinations are corresponding to the assessment of cognitive or psychomotor outcomes of learning. Opatye (2016) reported that written tests are more reliable for measuring the learning outcomes in cognitive domain, whereas practical examinations are more dependable for measuring the learning outcomes in psychomotor domain. Likewise personality tests, interest inventories and attitude scale are more relevant for determining the learning outcomes in affective domain. Written tests are still most acceptable due to better reliability than oral and practical tests for judging the students' achievement, in spite of some limitations.

The advantages of digitalised assessment (DA) otherwise called electronic or technology-based assessment have not been taken to the fullness by the majority of higher institutions (Timmis, Broadfoot, Sutherland & Oldfield, 2016). This paper focused on the integration of digital assessment in Nigerian higher education in COVID-19 dispensation focusing on the status, strategies, tools and challenges. Therefore, the paper seeks to answer the following questions through literatures:

1. What is the current status and modes of assessment in higher institutions in Nigeria?
2. What strategies are available to deploy digitalized assessment in higher education institutions in Nigeria?
3. What tools are available for comprehensive digitalized assessment in higher education institutions in Nigeria?

4. How do higher institutions in Nigeria meet the challenges of implementing digitalized assessment?

Current Status and Modes of Assessment in Nigerian Universities

Assessments in higher education are different forms. Miller and Leskes (2012) identified five levels of assessment in higher education and universities in particular. These levels include assessing individual student learning within courses; individual student learning across courses; courses; programs and the institution.

In Nigerian context, assessment of individual students within courses are carried out by lecturers that are in charge of each course while assessing individual student learning across courses are done by each departments or examination directorates/centres that are saddled with compilation of students results across courses to determine the grade point average (GPA) or cumulative grade point average (CGPA). Courses assessment tasks programs and institutions to evaluate the effectiveness of courses in helping students meet learning objectives, prepare for future courses, and obtain expected levels of knowledge and skills proficiencies and it is carried out by heads of departments and faculties. In assessment of programs, the goal is to measure the alignment between curriculum designs and learning objectives and it is undertaken by accreditation bodies e.g. National Universities Commission (NUC). The fifth level of assessment in higher education involves measuring the effectiveness of the institution in educating students and preparing them for success post-graduation by multiple stakeholders including administrators, faculty, the Ministries of education and NUC. The outcomes obtained from institution-level assessments are used to improve curriculum designs and meet both internal and external requirements for educational quality (Boud & Molloy, 2013).

Looking at the current status of assessment in higher institutions in Nigeria, there are various differences in the modes of assessment across universities. Most universities use both essay (pen-on-paper) and objectives types of examinations to assess students at both undergraduate and postgraduate levels. All courses except General studies (GS) related courses are assessed mostly through essay questions. The General studies courses are assessed using multiple choices questions (MCQ) in digitalized assessment. The main reason

for employing digitalized mode for GS courses is that of large students' population that registered for the courses. For essay type of examinations students are made to physically present at the venues schedule for each of the courses course within the university structures. Examinations supervisors and invigilators who are lecturers are present to see to effective administration of the examinations. Most materials for the assessment are hard copies like question papers, examination attendance sheets, answer scripts, ropes, envelopes, markers, examination malpractice forms and clock. Apart from examinations, students' learning is also assessed using assignment, practical works, projects, seminars, practicum and industrial training where they can demonstrate what they know and can do. These modes of assessments are carried out face-to-face and physical presence which negates the tenets of keeping safe of social distancing during the period of COVID-19. There should be one person in each school who will look after the administrative details given ordering for relevant tests and test material, arranging schedules of time, arranging place for testing, arranging scoring and recording results. In order to assess student learning, students must be given assignments. Assessment is most effective when it occurs at multiple points in time along the student's path. Multiple measures over time provide a way to triangulate data and increase confidence in the results

Digitalized Assessment Strategies in Higher Education Institutions

The only option that is visible to enhance assessment in higher institutions of learning during and after COVID pandemic is the employment of digitalized, electronic, technology-based or computer based modes of assessment. To consider the strategies to use, the following questions are worthy of note:

- What assessment type fits institutional contextual factors?
- Which assessment methods would allow lecturers to comprehend how well students are achieving learning outcomes?
- Did you include various types of assessment methods in the course assessment plan?
- What needs to be graded versus ungraded?
- What type of assessment is appropriate and complete?
- What can be done in and out of lecture rooms?

- How much time will the grading of results take to release to students?
- Are course assessments practicable in terms of students' and instructors' workload?
- What are the loads on students in their other courses?

Bearing these questions in mind will enable assessors to determine appropriate assessment strategies. Major assessment types that offer prospects for involving online approach for higher education are adaptive quizzes, group work, presentation of ideas, and presentation to panel, portfolio, role-play, authentic case study and reflection. Table 1 shows the strategies of assessment and the academic discipline for which they were developed. A range of disciplines were chosen with the type of assessment strategies match each discipline.

Table 1: *Academic discipline and corresponding assessment strategies*

Academic Discipline	Assessment strategies
Agriculture	Essay, Field notes, Diary documents
Arts/Languages	Reflection, Essay, Dialogue, Objective, Debate, Book review
Education	Portfolio, Authentic case study, Essay, Dialogue, Objective
Engineering	Design presentations, Technical reports, Laboratory practical
Law	Essay, Dialogue, Debate, Case analysis, Client report
Health Sciences	Essay, Case analysis, Laboratory practical, Client report
Sciences	Essay, Objective, Charts & graphs, Laboratory practical, Scientific reports
Management	Adaptive quiz, Group work business, Essay, Client report
Social sciences	Role play, Essay, Objective, Map reading,

Each of these assessment strategies could be digitalised using appropriate hardware and software tools.

Assessments at higher education level are to involve quizzes, tests and essays. Each of these traditional strategies of assessment has its place in a curriculum which lecturers are passing on the students. Such assessment with high level skills should contain strategies, such as portfolios, performances, and exhibitions, case analysis, dialogue, and reports etc. which allow students to showcase their talents and what they have learned in a course in creative manner. Many lecturers are now also experimenting with self-evaluation and peer-evaluation. Some educational theorists believe that students are more invested in their performance in the course when they know that they (and their peers) are actively involved in the overall assessment. No matter the type of assessment, instructors must create unambiguous expectations and be open to employing a range of assessment strategies that can be administered using technology (Lau, Rijdsdijk & Eley, 2006).

Tools for Comprehensive Digitalised Assessment

In order to address the challenges COVID-19 pandemic have on higher education students' assessments, many digital tools are available to assist higher educators to assess of their students. As earlier mentioned, students' assessment in the universities are two, that is formative and summative. Various tools available to engender these two types of assessment are as follows:

(i) Digitalised Formative Assessment Tools

Formative assessment diagnoses learning problems of students and give feedback on the academic progress. Digital tools that students and lecturers in higher institutions can use are multi-various. The one to employ depends on the purpose for which the assessment is given. Agarwal, D'Antonio, Roediger, McDermott and McDaniel (2014) emphasized that each formative assessment tool should foster instant feedback and this is made possible using technology. The following digitalized tools are therefore appropriate for formative assessment: Retrieval Practice is an assessment tool that takes place during the learning process to help build knowledge networks in students' minds and help reinforce their learning. It allows the educator to continuously gauge student learning while making it effortful and challenging.

Retrieval practice focuses on helping students retrieve information out of their heads, instead of focusing on pouring knowledge into their heads. It allows the educator to ensure that accurate questions and assessment tools are being utilized to effectively analyze student learning. Instant feedback may be gathered on an individual basis or as a group, depending on the dynamics of the classroom. Socrative, Kahoot, Quizziz, and Quizlet are all examples digitalized tools that allow lecturers and students to attain instant results on the learning taking place. The students may access the system using a variety of different technological tools. They might use the tool from within a learning management system (LMS), or on a mobile device. Lecturers can have students work through retrieval practice together (such as when using a polling tool like PollEverywhere or a game-like tool like Kahoot).

There are also educational technology tools that are more self-paced and provide opportunities for learners to work at their own pace. Many of these services are starting to allow for either approach to be used. Quizlet flashcards and some of their games such as Scatter, Match, and Gravity can be used in a self-directed way by students. Quizlet also has a game called Quizlet Live that can be used with a group of students at one time for retrieval practice.

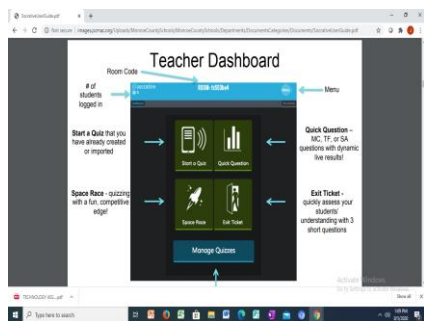


Figure 1a: Retrieval shows Practice App

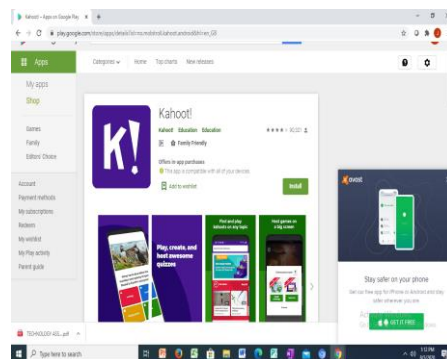


Figure 1b: Kahoot App

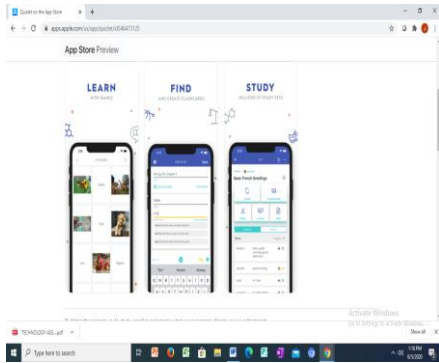


Figure 1c: Quizlet App

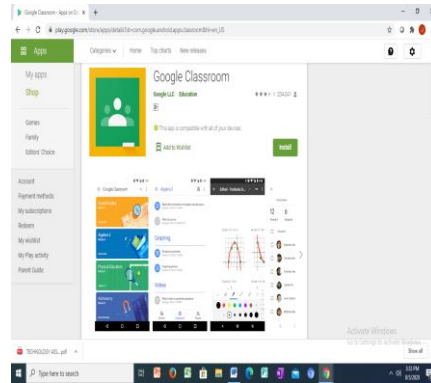


Figure 1d: Google classroom App

Figure 1a is the Retrieval Practice app environment while Figure 1b displays Kahoot App working environment. Other environments of other formative digitalized tools for assessment is as shown on Figure 1c for Quizlet app and Figure 1d for Google classroom.

(ii) Digitalised Summative Assessment Tools

Summative assessment tools allow lecturers to analyze the overall achievement of students. Two broad methods for using digitalised summative assessment are the Learning Management System (LMS) and electronic portfolios (e-Portfolios).

Learning Management System (LMS)

A learning management system (LMS) is often considered the linchpin of a lecturer's summative assessment tool in higher education. Accessibility is a central part to using both formative and summative assessment tools electronically. Steele (2015) emphasized that digitalised must have dedicated technology tools that are aligned with student learning outcomes and that allow the effective gauging of student learning. Most Learning Management Systems have embedded tools that allow for the ease-of-access by most lecturers, their technology familiarity notwithstanding.

The LMS allows for transparency amongst all stakeholders in the learning process. Students can access resources and assignments while communicating with their peers and lecturers. Parents may monitor student progress while also communicating with the institution. Finally,

lecturers find using the LMS very interesting because is the ultimate assessment tool. The most beneficial part of the LMS is that both formative and summative assessments may be given through it. LMS available to be used in universities NEO, Moodle's, Schoology, Jupiter Ed, Engrade, Canvas, or

Google Classroom. Many universities have implemented gradebooks that mimic the LMS grade book, but lack the accessibility in linking and hyperlinking to the array of assessment tools that they use regularly. The systems previously mentioned allow you to run your course, virtually as minimally or involved as you would like, and are tailored to accommodate all levels of technology users. The experienced or novice lecturers may manipulate the LMS in a way that suits the needs of their students, their course design and assessment.

The figures below show the learning and assessment environments for NEO LMS App (Figure 2a), Moodle LMS App (Figure 2b), Talent LMS App (Figure 2c) and Paradiso LMS App (Figure 2d).

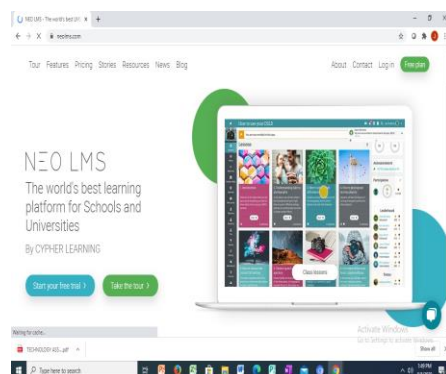


Figure 2a: NEO LMS App

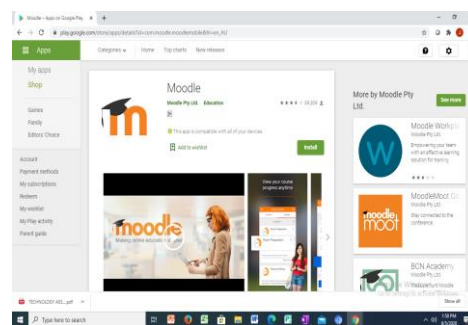


Figure 2b: Moodle LMS App

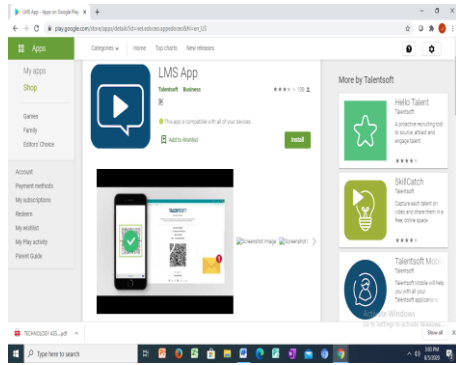


Figure 2c: Talent LMS App

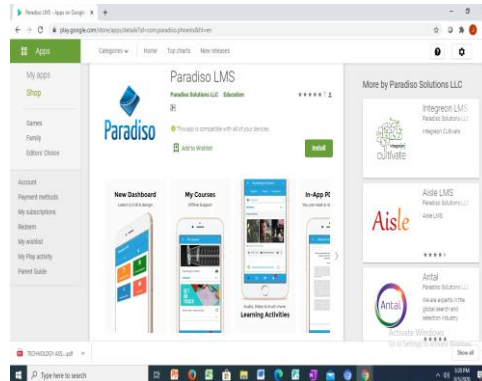


Figure 2d: Paradiso LMS App

Electronic Portfolios

Strategies to make higher education students demonstrate global learning is through the use of an e-portfolio. According to Haring and Luo (2016), e-portfolio is an electronic account of student work/progress used at all educational levels from early education through higher education. E-portfolios assist deep learning and reflective practices across various learning contexts as they facilitate overall learning. The e-portfolio allows for students to reflect on and integrate their work to view overall learning progress and have become a successful assessment tool is because they require significant and purposeful work from the student. When students develop e-portfolio process students may experience student–faculty interaction, which allows students to evaluate and discuss their own learning over time (Garrett, 2011). This tool is most effective it connected to the LMS already being used utilized by the institution.

The artifacts, rubrics, and criteria for the e-portfolio will vary based on the course layout and educational level of the students. Digital assignments through the LMS may allow for summative assessments to be less stressful (Nu-Man & Porter (2018). Students have different approaches to learning and to foster and enhance their education we need to understand their learning style. During the summative assessment process, students may be allowed to upload videos, files, and documents they originate for benchmark assignments developed by their instructors to show their overall learning. Exposure to the tablets and regular use eases anxiety for the students yielding a calmer and more

productive testing environment when taking the virtual assessment.

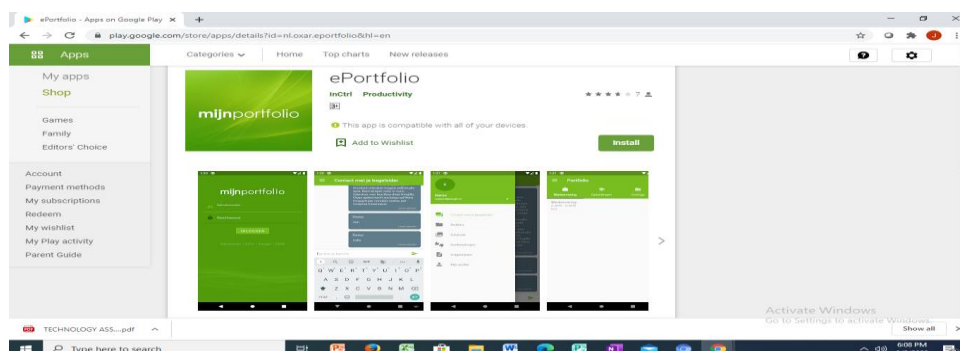


Figure 3: MijnePortfolio App

These tools could be installed through comprehensive subscriptions by the institutions so as to make them available for the use of both lecturers and students. Some of them could be freely downloaded to be used for a short while.

Apart from software application tools, the hardware necessary for full integration of digitalized assessment each institution has to make available high capacity computer (server) to host the LMS and other software apps. Other hardware tools that could be used are laptops, iPad, tablets, Android Cell phones and internet facilities. Besides these applications and hardware tools, institutional arrangement need to be made for provision of data to enhance uninterrupted internet

Connectivity. Investment on the tools would enable each institution to go fully for digitalized assessment.

Justification of Full Integration of Digitalized Assessment in Higher Institutions

Assessment with the use of digital technologies has been seen to revolutionize the educational system in this present dispensation. Integration of DA in higher education is said to be considered at such a time like this when social distancing has been elevated as means to control COVID-19. Pellegrino and Quellmalz (2010) while justifying the essence of digitalized assessment emphasized that it provides

immediate feedback which is 'real-time and learner-led feedback to diagnose and reduce misconceptions readily. Such an online immediate feedback leads to useful and new forms of teacher and learner engagement, improvements of the assessment experience and increased student participation. Another reason for full integration of digitalized assessment is serving as a means of collaborative learning among students. DA affords opportunities for peer assessment, undertaking and tracking knowledge building and sharing activities, co-evaluation and social interaction. Digitalized assessment also gives more room for personalized responses to work and progress and can foster self-evaluative and self-regulated learning through diverse collections of evidence, immediate formative feedback, better tracking of progress to learning outcomes and reflection on achievements (Angus & Watson, 2009). DA presents challenging situations to assess higher order skills like problem-solving, decision making, and testing hypotheses, which is considered to be more authentic to future work experiences and what skills and knowledge will be required after formal education.

Full integration of DA during and after COVID-19 pandemic in higher institution learning system would widen range of assessment where complex data and models for assessing multi-faced-skills, varied knowledge and cognitive processes that have been considered problematic to assess like simulations, decision making and scientific enquiry. Schwartz and Arena (2009) argued for the use of DA by asserting for flexibility and giving of appropriate responses when offering approach, format and timing of assessments for university students who choose the time and place on their when the examination would be sat for. National Open University of Nigeria set out the on-demand online examination for students who wrote the exams at their own chosen time and location they wanted during the peak of COVID-19 threats.

It has also been argued that DA enhances efficiency and reduces lecturers' workloads especially in the areas of data management such as marking, moderating, results collation and storing information by helping lecturers use their time and resources better in research and community development services. DA has power to improve undergraduate academic performance with greater students' engagement (Angus & Watson, 2009). Digital technologies can integrate assessment and instruction, as in an all-inclusive learning environments or

programmes that monitor how students solve problems on the computer and provide immediate feedback especially during the administration of DA formative assessment. James (2014) reiterated that DA in addition draws its strength for full integration in higher education level due to the fact that it tracks assessment validity through the use of technological media rather than textual assessment. Reliability of test items are made possible with scoring and robust data sets for deeper analysis. When DA is employed, successful use of computer-assisted assessment for multiple choice testing involves significant institutional commitment, technical infrastructure, and high levels of quality assurance practices. Likewise, taking a set of assessment tools and affordances at face value can invalidate and diminish the reliability of the results attain.

Innovation in assessment is a delicate matter whether technology is involved or not, and it is seen to be particularly risky in the area of summative assessment, which is publicly accountable, heavily controlled and has important consequences on the cohort of students undergoing assessment.

Potential Challenges to the Integration of Digitalised Assessment Modes in Nigerian Higher Education Institutions

As good and effective as DA is in coping with assessment during and after COVID-19 challenges, technology enhanced assessment practices faces some challenges which the users need to cope with. Such challenges include:

- Lack of policy leadership and system-wide in Nigeria to guide the use of digitalised assessment in higher institutions.
- Weak institutional internet bandwidth that hampers uninterrupted connectivity when the students are undertaking digitalized assessments.
- Epileptic electricity power supply that hinders effective working of the DA facilities during the administration of online examinations. This often results in high costs of purchasing fuels to generate electrical power from alternate sources.
- Students' identity verification and security issues when taking digitalized examinations. How do institutions ensure that students that are writing online examinations are the authentic without impersonations?

- Concerns over reliability and validity of digitalized assessment (such as how to ensure all students receive equivalent tests if questions are selected at random from an electronic question bank).
- Lack of staff time and training for rethinking assessment strategies and how to use new technologies, from a technological and pedagogical perspective
- Implementing new technology systems requires significant investment in training, support and interoperability. Also, some tools require large capital investment and infrastructure that many institutions do not want to prioritise (e.g. having enough computers for those taking exams for on-screen testing).
- Practitioners are concerned with the plagiarism detection and invigilation issues when digitalized examinations or tests are taken.
- Complexities in scalability, transferability and harmonization of DA practices, particularly in institutions where different departments often have autonomous, separate working practices and cultures
- Educational standards might be compromised when DA tools malfunction during the administration of examination for this occurrence disorganises and sets the students into emotional imbalance.
- Constraints within higher education examination system, particularly among the State and Federal owned universities that have wide financial supports among universities.
- Lack of suitable physical spaces for the administration of digitalized assessment, which have not been developed to address the needs and purposes of comprehensive online assessment.

Conclusion

As the educational systems are passing through a lot of transformations in order to meet with the demands of COVID-19, the modes of students' assessment administration also need to be reconsidered. Despite the large number of challenges facing digitalised assessment, its integration in the present dispensation could not be over emphasized. Multiple strategies are important when improving digital assessment practice, including conceptual frameworks for assessment, supportive institutional policies and departmental initiatives. Essential hardware

and software tools are available for both formative and summative digitalised assessment which higher education instructors/facilitators can use to ascertain knowledge and skills acquire by the students. It behooves each institution to put in place active leadership and management support, pedagogical and technical support for staff and solid staff development to integrate fully the digitalised assessment. Such deep entrenchment of the digitalized assessment system may encourage a gloomy outlook of higher education curriculum implementation and reform current assessment processes in various institutions.

Technology has the potential to be a force for change across a spectrum of optimistic and challenging responses related to assessment. Perhaps, its most effective role to rethink the way assessment happens now and in the future in various institutions of higher education.

Suggestions

In view of the submissions made on digitalized assessment in this paper, the following suggestions are made:

1. Governments at both Federal and State levels including private proprietors of higher institutions should make provisions for enough funds available for institutions to transform from traditional to digitalized modes of assessment.
2. Higher institutional bodies controlling higher education in Nigeria like National Universities Commission (NUC) should come up with policies that will guide digitalized assessment in various institutions.
3. Higher institutions need to cultivate new assessment practices based on principles and theories of learning.
4. Universities should develop new digitalised assessment tools that reflect pedagogical principles.
5. Institutions should construct new responses to the current emphasis on technology enhanced summative assessment.
6. Each department should merge the activities involved in online curriculum, instruction and assessment offering the prospect for digitalised assessment to take a more central and regular role in learning.

7. Investigate how digital technologies can support fairer, more equitable, and democratised assessment methods.
8. Institutions should respond to ethical challenges presented by the use of digital technologies in assessment during and after COVID-19 pandemic.
9. Lecturers should consider new contexts relevant to assessment using digital technologies, considering learners' lives and social, cultural, educational and technical backgrounds.

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DIGITAL LEARNING IN HIGHER EDUCATION IN NIGERIA ISSUES, CHALLENGES AND PROSPECTS

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Abstract

The World technology is changing fast and higher educational institutions must prepare to change so as to meet up with the challenge. The method of teaching and learning in higher educational institutions in Nigeria has been the traditional method which requires classroom face to face interaction between the teachers and the students. So, there is need for a paradigm shift. The paper discussed the concept of digital learning, issues, prospect and the current state of digital learning in higher education in Nigeria. The paper identified some of the challenges to digital learning in higher institutions in Nigeria to include inability of schools to access the internet due to poor connectivity, high cost of data, inability of higher institutions to purchase institutional bandwidth, inadequate supply of electricity and poor security arrangement for digital facilities. The paper concluded that higher educational institutions should adopt alternative approach to learning in order to give the graduates capacity for employment and also mitigate the effects of covid-19 pandemic and beyond. The way forward for digitalization of Higher Education identified are; total transformation to digital learning, co-operation and collaboration among staff and student/stakeholder in higher education, proper funding of universities and other higher institutions and provision of constant power supply among others to make full implementation of digital learning in higher institution a reality

Keywords: Digital, learning, higher, education, issues.

Introduction

Education is regarded as one of the most important instruments in achieving rapid social and economic development of any nation. This assertion is very relevant to higher education in order to achieve the nation's goals and aspiration. Higher education is the highest level of education in Nigeria. FRN (2014:52) defines higher education as the education given after post basic education in institutions such as universities, colleges of education, polytechnics, monotronics and

other specialized institutions such as colleges of Agriculture, school of health technology and the National Teachers Institute (NTI). This definition shows that higher education should offer something higher than what the students have got from primary and secondary education. The goals of higher education as stipulated in the FRN (2014) are:

- a. Contribute to national development through high level manpower training
- b. Provide accessible and affordable quality learning opportunities in formal and informal education in response to the needs and interests of all Nigerians;
- c. Provide high quality career counselling and lifelong learning programmes that prepare students with the knowledge and skill for self-reliance and the world of work;
- d. Reduce skill shortages through the production of skilled manpower relevant to the needs of the labour market
- e. Promote and encourage scholarship entrepreneurship and community service;
- f. Forge and cement national unity; and
- g. Promote national and international understanding and interaction.

Tertiary educational institutions shall pursue the goals stated above amongst others through;

- a. Quality teaching and learning
- b. Research and development
- c. High standard in the quality of facilities, services and resources.

Good method of teaching and learning must be used in order to attain these laudable goals. The method of teaching and learning in higher institutions in Nigeria has been the face- to-face classroom method. This method is associated with some challenges, and the outbreak of the corona virus since January 2020, has created need for an alternative method of learning. Coronavirus was declared a pandemic by the World Health Organization (WHO) in January, 2020. Consequently the Minister of education ordered the closure of all educational institutions in Nigeria on March 23rd, 2020. The prolonged lockdown of schools led to the release of another circular by the Minister for schools to use alternative method of teaching - move lectures online. Many private and few public higher institutions complied with the minister's instructions. Such institutions have graduated their final year students

and have moved to the next semester. While the higher institutions that could not move lectures online are lagging behind. It is evident that online or digital learning is inevitable in our higher institution. Hence, there is need to discuss the issues in digital learning in higher institutions in Nigeria to see the present conditions of the higher institutions in aspect of digital learning; the challenges the higher institutions are facing and the prospects of digital learning.

Issues in Digital Learning in Higher Institutions in Nigeria

Digital learning is any instructional practice that effectively uses technology to strengthen students learning experience. It can also be referred to as E-learning. Usunomena (2020) defines digital learning as any type of learning delivered electronically by a web browser, through intranet, internet, CD-ROM/DVD, multimedia platform and other facilities. Usunomena added that being in a Global village; education should not be restricted in places like school. With digital or e-learning, learner become lifelong learner in respective of time and place.

From the view of Makuku (2020) digital learning is the computer and network enable transfer of skills and knowledge for the diffusion of innovative teaching. In another view, Balogun (2020) opine that digital learning is all about learning with the use of technologies presumably computer and other modern tools.

Electronic technology is used as a method of teaching and learning, to monitor the performance of the learners and to report the progress in learning. Usunomena listed the following as some of the general e-learning facilities: Computers, Flash Drive, Modern, Printer/Scanner, Memory Cards, Hard Drives, Audio Tapes, video/Video Tapes, Megaphone, E-Book Readers, Pod Casting, Youtube, Wifi, Projectors, Smart Board, Virtual Classroom, Internet Facilities Bandwidth, and Digital Phones.

Furthermore, Eze (2018) opine that e-learning is technology mediated and digitally empowered learning that utilizes hardware like tablets, Printers, Computers, Digital Videos, Scanner, Over Head Projector. Software Operating Systems Cloud Technologies.

From the definitions above, digital learning can therefore be seen as learning that is facilitated by technology and it gives student control over time, place and path. Learning is no longer restricted to school environment, day or year.

In spite of the innovative approaches in adopting digital learning in higher institutions by developed nations, Higher Institutions Nigeria has not fully adapted digital learning. Presently only few private and public higher institutions have adopted digital learning. For instance, Balogun (2020) gave a detailed account of the use of digital learning at the Edo University Iyamho. Balogun stressed that lecturers and students were trained on how to utilize digital learning facilities available in the school. And parents are also given opportunity to log in on request to get feedback about their children performance. According to Balogun, the following specialized e-learning facilities and platforms are available and utilized in the university. E-Library, Anatomage table, Power Laboratory system, CANVAS, SIMMAN 3G Manikins, communication technology team and a host of other facilities.

In addition, Idris (2020) maintain that only a few of Nigeria's 216 universities and polytechnics have adopted digital alternative learning. Idris stressed that Lagos State University (LASU), has made the most remarkable progress among public universities. The University of Nigeria, Nsukka and Ahmadu Bello University (ABU), Zaria also operates digital learning for undergraduate students. But UNN platform is restricted to selected one-off courses rather than degree program, though the post graduates students in Business Administration enjoy learning remotely.

On the other hand private Universities in Nigeria have made a huge progress in digital learning. Idris, disclosed that American University of Nigeria (AUN) is leading amongst others. Others include Covenant University, Babcock University, Joseph Ayo Babalola University, Crawford and Mountain Top University.

Anene (2014) observed earlier that there was development in the Nigerian education sector as regard the use of information and communication technology in schools. Such development is an encouragement for the use of e-learning. But due to the series of challenges, the extent of utilization is still minimal. Some of such challenges are discussed bellow.

Challenges of Digital Learning

In spite of the prospect of digital learning, many higher institutions in Nigeria have not been able to utilize it fully because of the following challenges amongst others.

Access to Internet

Digital learning is faced with the problem of access and accessibility to internet facilities. Less population of the student has opportunity to internet. And most times access is poor, making it difficult to fully utilize e-learning facilities. This can also be seen in the view of Oguche (2017) who stressed that there are few internet service providers in Nigeria and most times the service is not easily accessible due to poor connectivity. The quality of education that can be achieved using digital learning depends largely on the level and quality of digital access.

High Cost of Data

Apart from access to network connectivity, the cost of data is high. Low income earners find it difficult to meet up with the cost thereby students from such families are at a disadvantage. Digital learning worked mainly for parents that are urban dwellers where internet facilities are available and affordable. It means the more the population of staff and students who are less affluence and digitally screwed the farther they are left behind. This will increase digital divide and social inequality.

Inability of Higher Institution to Purchase Institutional Bandwidth

Anene (2014) reveal some of the challenges of digital learning to include lack of Bandwidth, computer hardware and software for deploying an effective ICT platform. The greater the bandwidth, the greater the increasing capacity and speed of transmission. Bandwidth refers to the amount of information that can be sent or received at any point in time on the computer network.

Inadequate Supply of Electricity

One of the characteristics of developing country is poor infrastructural facilities. Electricity can be seen as a major infrastructural problem in Nigeria. Digital learning cannot thrive without electricity. The major source of energy supply in higher institutions and homes in Nigeria is generator or solar system. Many students especially in rural areas have insufficient access thus militating against the use of digital learning. Haruna (2018) stressed that many higher institutions in Nigeria experience inadequate supply of electricity. Eze (2018) stressed that intranet facilities in many higher institutions in Nigeria are inadequate because of cost of maintenance as a result of unstable power supply.

Poor Security Arrangement and Poor Maintenance Culture

In most cases where digital facilities exist, the facilities are not adequately catered for nor maintained properly. Some higher institutions recorded cases of vandalization of ICT lab. Oguiche (2017) observed that there is palpable lack of maintenance culture of infrastructure in Nigeria.

Incompatibility of Online Environment to Some Field of Study

Some courses of study may not be online compliance. These challenges are compounded for special needs students on one hand. Vocational skills need hands-on approach, language manipulation, interpreting, sight translation; speaking, listening classes require immediate feedback.

On the other hand, courses that involve field work are not also compatible to digital learning. Ralph (2020) observed that online environment is incompatible with some fields of study. For instance, courses that involve field work or practical experiment on animals. A faculty member exclaimed; as an academic unit in arts education, we are dead in the water if we cannot meet in person. In addition, how does one teach welding, dance, phlebotomy online? You can listen to the student's assignments and videos, but it cannot be compared to the physical class.

Impersonal Relationship

Digital learning enhances impersonal relationship. Ralph maintained that relationship and trust is built through face-to-face teaching. Education is not only about content delivery but about processes and skills, which can only partially happen at a distance. What works in the classroom often does not work online and vice versa. In essence, digital learning may enhance only cognitive domain, the psycho motor and affective domain may be neglected.

Shortage of Trained Personnel

Many higher institutions in Nigeria are bedeviled with the problem of inadequate trained personnel. Haruna (2018) observed that many higher institutions have insufficient trained personnel who can perform application of software, operating systems, internet access and network administration. Pedagogical trainings and workshops are needed for lecturers to develop a range of new skills to operate online teaching and also the students need to be taught how to operate the facilities needed

for online learning.

Prospect of Digital Learning on Higher Education

The transition from face-to-face learning to digital learning has major prospects for higher education. Some of the prospects are summarized below:

Educational Opportunities.

It supports educational opportunities for all types of learning materials that are independent of time, and location and by broad access to learning materials. It also supports the education of all kinds of learners. Teaching should not be about what the students can learn easily, but about how each student can learn easily. So, students can move at their pace with less unhealthy competition and tension.

Abundance of Information and Ease of Sharing.

The world of internet is exploding with information. Information can be accessed and make use of with convenience. Sudeshina (2020) added that it is much easier to update the content online, ensuring the relevance of the material. With several learning tools, sharing of information becomes easier. The connected learning creates an ecosystem of coordination which if used efficiently will lead to better learning outcomes as well as enhanced collaboration skills.

Learning Opportunity for Educators

Digital learning benefits both the lecturers and the students. The use of technology along with textbooks raises the ability of lecturers to become more effective in carrying out their functions. Graduates will have greater capacity for employment through digital skills because the skill gap will be covered.

Having looked at the issues, challenges and prospects of digital learning and its prospect, the following are suggested as some of the way forward.

Total transformation to Digital learning

Digital transformation has become a necessity for the survival of education in the new digital world. Higher educational institutions are therefore urged to adjust and adopt digital technologies and methodologies.

Cooperation and collaborations among educational stake holders

To achieve digital learning in the higher institutions, there must be a change of mindset of all the stakeholders. People must be ready to turn from the old ways of doing things and accept changes. Fear of failure to acquire new skills must be set aside. Having achieved this, they must cooperate and collaborate in order to work together in peace. Illechukwu (2013) observed earlier that the great challenges of digital learning include the unwillingness to change to a new method of computer literacy among lecturers and students.

Availability and adequacy of Digital Learning Facilities

This is one of the basic requirements for the utilization of digital learning in higher institutions. The necessary hardware, software and power must be provided for digital learning to be successfully utilized in higher institution. Though digital facilities are very expensive, it is very essential in the day-to-day running of higher institutions.

Training of personnel/technical support unit

Higher institutions should educate and up skill the staff so that they can thrive and succeed because you cannot give what you do not have. Digital skills should be compulsory for everyone if digital learning must be achieved. In addition, they must be a technical support unit to support both the lecturers and the students. It is very important to have technical support such that if a lecturer or student is experiencing any problem, they should be able and available to solve the problem.

Problem of funding of higher institutions

One major problem of higher institutions in Nigeria is inadequate fund. Akuh (2016) opine that investment and adequate fund in higher education have multiple effects on other factors. With adequate fund, higher institutions will be able to purchase and provide essential facilities needed for the full adaptation of digital learning. With adequate fund, institutions can choose cost effective learning management system. Higher institutions can purchase packages that are effective and cheaper as well. Institutions can also find out the network that is functioning in their area. Effort can be made towards wide listed network so that students and staff can access e-learning with little or no cost.

It should be noted that bandwidth is a major issue in the deployment of digital learning. The higher the quality and quantity of audio, video, interaction and processing tasks, the more sophisticated the communication technology required. So, there is financial imperative to manage the amount of Bandwidth used.

Conclusion

Although digital learning is saddled with challenges like access to internet, exorbitant cost of data, shortage of trained personnel and inadequate fund amongst others, the benefits are enormous. The challenges can be solved, through collaboration and cooperation among the stakeholders. The Government should increase allocation to the educational sector in order to make fund available to provide the necessary facilities for digital learning in higher institutions. Concise efforts should be made for higher institution in Nigeria to brace up its digital capability building if it must remain relevant to the society to achieve its goal. Through this the goals of higher education as stipulated in FRN (2014) can be achieved. The paper therefore concludes that digital learning is not an option but should be compulsory in higher institutions in Nigeria. The World is in the new normal, higher institutions in Nigeria must not be left behind.

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CRISIS MANAGEMENT AMONG YOUTHS FOR ATTAINMENT VIOLENT FREE SOCIETY IN LAGOS: WOMEN COUNSELLORS' PERSPECTIVES

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Abstract

This study investigated crisis management among youths for attainment violent free society in Lagos: Women Counsellors' Perspectives. The study adopted a descriptive survey design. One research question and one hypothesis guided the study. The population of the study was 100 youths drawn from Alimosho, Agege and Ikeja Local Government Areas in Lagos). A 10 item researcher structured questionnaire with interview were used as the instruments for data collection. The reliability index of 0.05 was obtained using test re-test reliability. Mean and standard deviation were used to answer one research question and t-test for the null hypothesis. Findings of the study revealed that women counsellors have influence for effective crisis management and attainment of sustainable violent free society among youths in Lagos State. Amongst recommendations made were: (1) The government should make sure that women counsellors are employed in every sector in Nigeria.(2) Women counsellors should be well trained and versatile through exposure to workshops, seminars, conferences and professional training to enhance better productivity and practice.(3) Federal government should approve sponsorship for training women counsellors. Government should curb and check the excesses of the force enforce agencies in Nigeria.

Introduction

Burks and Steffbre in McLead (2009) defined counselling as a professional relationship between a trained counsellor and a student. This relationship is usually person to person, although it may sometimes involve more than two persons. It is designed to understand and clarify their views of life space, to learn to reach their self-determined goals through well informed choices and through resolution of problems of an emotional and inter personal nature.

Counsellors: A counsellor is a professionally trained individual who has received university degree at either first, second or even at PhD level with all the skills needed to be able to effectively counsel a counselee or client who is faced with challenges either on choice of career, education, marriage and other related problems. Many people adapt to life`s

challenges by using personal resources, friends and family, or religious faith. But even with these resources,

Hackney Cormier (2013), acknowledged that challenges can sometimes accumulate to the point that the unencumbered, skilled, helper can facilitate the process of growth and adaptation of such challenges.

A well trained counsellor is expected to be intelligent so as to be able to engage in mental ability or activities that can enable him/her unravel her clients` problems and proffer acceptable solutions to them. A good counsellor owes his/her clients the responsibility of keeping whatever transpired during their counselling encounter intact this is referred to as confidentiality that is ability to keep secrets. A good counsellor must be receptive to people, friendly, be able to communicate such feeling to them so that they can equally reciprocate the same gesture. Furthermore, a counsellor should be patient, tolerant and be capable of accepting his clients without limits or discriminations. A good counsellor empathises with clients during counselling in order to understand their view points, feelings, thoughts and actions (Saidu, 2018).

Crisis Management: Crisis is a disagreement over social issues, beliefs and ideologies (Horowitz and Borden 2002).Bloisi (2007) sees conflict as a disagreement between two or more parties who perceive that they have incompatible concerns. The researchers see conflict disharmony or hostility within individuals or group of people with different interest. Crisis has its negative and positive sides, the negative aspects results to disruption, violence, tension and even death while the positive aspect results to effective control of a peaceful society through dialogue to resolve misunderstanding.

Education is a key to unity for it unites people from different background. A culture of peace is an integral approach in preventing violence and violent crisis and alternative to the culture of war and violence based on education for peace, the promotion of sustainable economic and social development, respect for human rights, equalizing between men and women democratic participation, tolerance, and free flow of information and disarmament, (UN,1999).

With introduction of culture of peace, peace plays more role than conflict; it involves respect for worker, plight, democracy, respect and dignity for all, tolerance, freedom of speech, gender equality, social

development and cultural identity and diversity. Learning to have a peaceful life is a long term process and a life time experience that require participation at all levels- family, school and community. Education contributes a lot in this process. This means that culture of peace is everybody`s responsibility and education is the major means through which it will be achieved.

Tami (2016) sees peace as a result of an understanding in a healthy manner without conflict. The researcher in her own perspective sees peace as a state of quietness and tranquillity. Peace grows through non-violence, acceptance, fairness and communication. Living or staying with peace is very important, that is why there must be peace in the society especially in Lagos so as to enjoy enjoyable peaceful co-existence. Peace is the base to human dignity and development and education plays a very important role in acquiring the capacity to live together peacefully. Peace helps to avert conflicts and crisis from thwarting progress in the society.

Need for Security

Ekpiken 2015 clearly stated that Nigeria is faced with contemporary security challenges that were not envisaged decades ago as exemplified by various terrorist attacks currently being experienced in some parts of the country.

Low number of pupils/ students enrolments in schools, displacement of families/ school children, psychological trauma and health related challenges, using of teenagers as suicide bombers, retirement and exodus of teachers/lecturers, affecting examination bodies and halting of NYSC orientation in some parts of the country especially North-East. In Nigeria, the main cause of people`s displacement are not natural disaster but man-made adversities such as terrorism, Fulani herdsmen/ farmers` clashes, armed attacks communal clashes and religious clashes (Hadiza, 2008).

Statement of the Problem

Lagos, a merger city in Nigeria comprises different groups and levels of individual tend to be exposed to crisis most of the time. Due to the present situation of insecurity and poverty level in the city of Lagos, there are frequent occurrences of violent which has led to crisis that led to loss of many lives that if those involved were curbed, the crisis would

have been resolved amicably through counselling intervention.

Purpose of Study

The main purpose of the study is to investigate Crisis management for attainment of sustainable violent free society among youths in Lagos: Women Counsellors` perspectives. Other specific objectives are to identify the roles women counsellors in reducing violent in Lagos society, and to suggest ways the government can foster counselling in egalitarian society, find out causes of crises in Lagos State and proffer solution to how to manage such crises to engender sustainable violent free society.

Research Question

1. What are the causes of crisis in Lagos State?

Research Hypothesis

Ho1: There is no significant difference in managing crisis among youths in Lagos State through counselling.

Research Methodology

A research design employed for this study is descriptive survey design.

The population comprised of 100 youths from Alimosho (35), Agege (35) and Ikeja (30) Local Government Areas in Lagos. Random sampling was used to select youths from the three local government areas.

A 10 item questionnaire structured by the researcher was used as the instrument for data collection. The questionnaire was divided into two segments dealing with demographic data and items for answering Research Questions and also interview. The questionnaire was subjected to expert validation using experts in guidance and counselling. Their comments and observations were effected and incorporated with in. The instrument was given to 20 people who were not part of the subjects and made up of in- school youths and got reliability co-efficient of 0.05.

Data analysis

Mean and standard deviation were used to answer the research questions and t-test for the null hypotheses.

Presentation of Result

Table 1: Mean ratings of counselling activities youths were exposed to and the extent by which they promoted peace and managed crisis in the society in Lagos state.

S/N	Counselling activities	X	SD	DECISION
1	Improved communication	3.55	0.83	HE
2	Lower rate of violence	3.89	0.99	HE
3	Improves cordial relationships	3.45	0.67	HE
4	Reduces chaos and crisis	3.72	0.52	HE
5	Increases stability and harmony	3.66	0.64	HE
	Grand Total	3.65		HE

The data in table 1 shows that grand mean of counsellors are above decision rule value of 2.50, that is 3.65. Items in table 1 show that women counsellors render help to a high extent in crisis management in the society among youths in Lagos State.

Table 2: Causes of Crises in Lagos

Causes of Crises in Lagos	Percentage to what extent	Ranking
Negative peer group influence	31%	1 st
Influence through hard drugs	30%	2 nd
Law enforcement agents	20%	3 rd
Low/ Lack of formal Education	19%	4 th

The data in table 2 shows that negative influence caused by peer group ranked first with 31% respondents, this indicates that peer group encourages involvement in crisis.

T- Test analysis for hypothesis testing

Table 3: T-test difference in the mean responses of counselling activities that promote peace among youths in the society on the extent of crisis occurrences in Lagos State.

Group	X	SD	N	DF	T-Cal	T-Crit	Pro-L	DEC
W.Couns	3	880	881	652481	65	1.96	0.05	ACCEPT
Masses	3	650	91		85			

From the result on table 3, it was revealed that the calculated t- value of 1.65 was obtained. Since it is less than t-critical value of 1.96 needed for significance at 0.05 level of significance, it means that the null hypothesis is accepted showing that there is no significance difference in the mean responses of the respondents on how often crisis occur in Lagos State.

Discussion

Findings of the study revealed that women counsellors have influence for effective crisis management and attainment of sustainable violent free society to a great extent. For example youths are influenced by their peer to involve in political thuggery, high assassins and so on Eburu (2015) clearly states that Nigeria today has been characterized by crises and conflicts accompanied by massive loss of lives and properties among ethnic nationals, religious groups and foreigners. Innocent citizens have been used as instruments to fight wars and combat insecurity on national issues for problems they have little or no knowledge about. The second item which says crisis is caused through hard drugs ranked second with 30% respondents. Hard drugs adversely instigates crime and crisis, most youths of now a days take all sort of hard drugs so that they can be bold to inform in different shady business during parties, political rallies and many others this is in line with the statement of Hadiza (2008) who observed that Nigeria, amidst insecurity exist suspicion and lack of trust arising from political thuggery like the institutional review question, Niger Delta crises, the Boko Haram insurgency and other unwanted crises in the country. Furthermore, the youths have also in recent time involved themselves in anti- social behaviour capable of dismembering the unity of the country and some of these incessant negative behaviour include their involvement in violent demonstration, anti- party street fighting, kidnapping, rape, ritual killings, drug abuse hostage taking, closure of schools, killing of staff and students, abduction of staff and students. Thirdly, law enforcement agencies such as Lasma and Police force are part of causes of crisis in Lagos they subject youths to a lot of problems and provocation. This point ranked third with 20% respondents. Security agents are expected to protect our youths and not provoke them in this present time of insecurity in our country Nigeria as buttressed by Ekpiken (2015) who clearly stated that Nigeria is faced with contemporary security

challenges that were not envisaged decades ago as exemplified by various terrorist attacks currently being experienced in some parts of the country. The issue of national security is very important. He states that the people's well-being economically, socially, politically, internationally and so on is greatly influenced by her status on national security. Finally, Low and lack of education ranked fourth with 19% respondents. Harris and Synott (2002), sees peace education as a fact of holistic education, which takes into consideration the whole body and soul, mind, heart and will. This shows that peace education is the reform or transforming of every aspect of a person's development, thinking ability and behavioural attitude.

Conclusion

Women counsellors use peace education in managing crises in Lagos State this has positive effect on peaceful co-existence in the merger city of Lagos in spite of the enormous population. A women counsellor with their professional ethic has effectively and efficiently employed their talent and vocation used peace education as very vital role for effective handling of crises and conflicts among youths in the society in Lagos State.

Recommendations

- Amongst recommendations made are:
- The government should make sure women counsellors are employed in every sector in Nigeria.
- Women counsellors should be well trained and versatile through exposure to workshops, seminars, conferences and professional training to enhance better productivity and practice.
- Federal government should approve sponsorship for training women counsellors.
- Youths should learn many skills such as tailoring, barbing, buying and selling of petty items, farming and others.
- Government should encourage the youths who are drop-out to go back to school and sponsor them.

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CAUSES OF TRUANCY AND STUDENTS' ACADEMIC PERFORMANCE IN PUBLIC SENIOR SECONDARY SCHOOLS IN ABUJA MUNICIPAL AREA COUNCIL, NIGERIA

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Abstract

This study examined the causes of truancy and students' academic performance in public senior secondary schools in Abuja Municipal Area Council (AMAC), Nigeria. Two research questions were raised while one null hypothesis was formulated. Descriptive survey and ex-post facto research designs were adopted. A sample of 12 out of 24 public senior secondary schools in AMAC was used, which was 50% of the population. Also, a total number of 240 teachers (20 teachers per school) out of 1639 teachers were randomly selected from the selected schools. The method of selection was through a simple random sampling technique. Two instruments used for data collection were a 15 item questionnaire and past academic records of students in West African Senior Secondary Certificate Examination (WASSCE) in five subjects including English language and Mathematics from 2012 to 2017. The Causes of Students Truancy Questionnaire (CSTQ) was pilot tested and reliability co-efficient of 0.82 was obtained, using Cronbach's alpha. However, mean, frequency, standard deviation and percentage were used to answer the research questions while Pearson's product-moment correlation co-efficient was used to test the hypothesis at 0.05 significance level. The study showed that there was a significant relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC, implying that causes of truancy has negative effect on students' academic performance. It was recommended that, functional monitoring and disciplinary committees should be established in public senior secondary schools in AMAC to monitor truancy among students in order to curb the causes.

Keywords: Causes of Truancy, Students' Academic Performance and Senior Secondary Schools

Introduction

School is place where necessary attributes such as knowledge, values and skills are passed to the students so that they can become productive in the society. In schools, teaching and learning take place so that students can acquire the required knowledge, values and skills so that

they can become responsible citizens of a nation. Mahuta (2007) viewed school as a centre of knowledge and it possesses the power to mould and shape the character of individuals in the society.

However, truancy is one of the acts of indiscipline in public senior secondary schools that has affected effective teaching and learning, and led to poor academic performance of students as well as poor quality education in Nigeria. Truancy is a deliberate act exhibited by students in public senior secondary schools in Abuja Municipal Area Council (AMAC), Nigeria. Students do engage in truancy without any concrete and reasonable reasons. Truancy is a delinquent and anti-social behaviour (Animasahun, 2009). Nwana (2004) explained that truancy is an act of intentionally absenting of oneself from school without permission, leaving without authorization and dodging of specific classes. Animasahun (2007) described truancy to be an act of staying off school, which is one of the several kinds of anti-social behaviours. Peck (2002) opined that the various behavioural disorders like stealing, violence, drug abuse, examination malpractice, sexual abuse and truancy have so undermined effective teaching-learning processes that some teachers have become helpless and disorganized in their task of impacting knowledge to the learners.

Furthermore, there are many causes of truancy in public senior secondary in AMAC. Some of these causes are environment, social influence, parenting, peer group, school, finance, self-esteem and so on. Ubogu (2004) identified causes of truancy as illness, financial hardship, age, social class, geographical area, and institutional influence schools related factors such as teachers' attitude, poor administration, and high cost of education. Ma'aruf (2005) identified four major home factors responsible for truancy, namely: poor relationship between children and parents; poor physical conditions at home; use of corporal punishment in the house; and lack of parental interest in the child's welfare. On the other hand, academic performance is accomplishment of the students in given task, study and examination, which is measured by results. Ezeaneche (2016) describe student's academic performance as the result obtained creditably or otherwise by student at both internal and external examination. Academic performance is also extent to which a student has achieved his/her short or long term educational goals.

In addition, studies have shown that students' truancy have negative effect on their academic performance. According to Baker and Jansen

(2000), truancy leads to lower academic achievements. Williams (2000) observed that truancy has interfered adversely with students' academic performance as well as their moral standard. In the short term, truancy can predict maladjustment, poor academic performance, school dropout, substance abuse, delinquency, and teenage pregnancy while in the long term, evidence reveals truancy as a predictor of poor adult outcomes, including violence, marital instability, job instability, adult criminality, and incarceration (Omeje, 2018). Thus, this study examined the causes of truancy and students' academic performance in public senior secondary schools in AMAC, Nigeria.

Statement of the Problem

Truancy is common indiscipline act found among students in public senior secondary schools in AMAC, Nigeria. Truancy among students has adverse effect on their academic performance. However, bullying, gangsterism, mental health problems, teenage pregnancy, giving in to peer group pressure to skip school, boredom, poor grade (especially being held back a grade), lack of ambition, low self-esteem, drug and alcohol use, lack of care by the parents and so on, are problems responsible for an increased rate of truancy among students in public senior secondary schools in AMAC, which often led to poor academic performance. According to Zhang et al. (2007), the causes of truancy can be positioned with four major categories.

These categories include family factors, school factors, economic influence and student variables. If the problem of truancy among students in public senior secondary schools in AMAC is not properly solved, it would greatly affect the efforts of government to achieving the objectives of secondary education in AMAC. Thus, this study examined the students' truancy and their academic performance in public senior secondary school in AMAC, Nigeria.

Purpose of the study

Specially, this study sought to achieve the following objectives:

- i. Determine the causes of truancy among students in public senior secondary schools in AMAC.
- ii. Examine the trend in students' academic performance in public senior secondary schools in AMAC from 2012 to 2017.

- iii. Investigate whether there is any relationship between causes of truancy and students' academic performance in public secondary schools in AMAC.

Research Question

The following research questions were answered:

- i. What are the causes of truancy among students in public senior secondary schools in AMAC?
- ii. What is the trend in students' academic performance in public senior secondary schools in AMAC from 2012 to 2017?

Hypothesis

The following null hypothesis was formulated to guide the study:

HO₁: There is no significant relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC.

Methodology

In this study, descriptive survey and ex-post facto research designs were employed. A sample of 12 out of 24 public senior secondary schools in AMAC was used, which was 50% of the population. Also, a total number of 240 teachers (20 teachers per school) out of 1639 teachers were randomly selected from the selected schools. The method of selection was through a simple random sampling technique. Two instruments used for data collection were a questionnaire and past academic records of students in West African Senior Secondary Certificate Examination (WASSCE) in five subjects including English language and Mathematics from 2012 to 2017. The questionnaire tagged "Causes of Students' Truancy Questionnaire" (CSTQ) contained 15 question items, which were used to obtain information on the causes of truancy among students, and it was administered to the teachers. The respondents were required to answer the items on a 4 point rating scale, ranging from 4 to 1 as follows: Strongly Agree (SA) is 4 points, Agree (A) is 3 points, Disagree D is 2 points and Strongly Disagree (SD) is 1 point. The respondents were required to tick against the options that reflect their opinions about the causes of truancy among students in public senior secondary schools in AMAC. To ascertain the validity of the instruments, content

validity was adopted. The questionnaire was pilot tested in two public senior secondary schools in AMAC that were not part of the sample and reliability co-efficient of 0.82 was obtained, using Cronbach's alpha. Also, the study used 4617 record of students who sat for West African Senior Secondary Certificate Examination (WASSCE) in five subjects including English Language and Mathematics from 2012 to 2017.

However, the mean, standard deviation, frequency and percentage were used to answer the research questions while Pearson's product-moment correlation co-efficient was used to test the hypothesis at 0.05 significance level. The decision rule for the results of data analysis was that a mean score of 2.50 and above was considered as positive response (agree) and less than 2.50 was considered as negative response (disagree). In addition, the calculated probability (p-value) that was greater than the significance level of 0.05 was considered acceptable while the p-value that was less than the significance level of 0.05 was considered not acceptable. The above methods enable the researcher to examine the causes of truancy and students' academic performance in public senior secondary schools in AMAC.

Results: Research Question One

What are the causes of truancy among students in public senior secondary schools in AMAC?

Table 1: *Analysis of the Causes of Truancy among Students in Public Senior Secondary Schools in AMAC*

S/No	Causes of Truancy among Students Items:	Mean	Standard Deviation	Decision
1.	Unfriendly attitude of some teachers towards students.	3.04	1.00	Agree
2.	Lateness to school by the students.	3.00	1.00	Agree
3.	Poor academic performance.	2.28	1.00	Disagree
4.	Location of the school (if it is too far from home).	3.00	1.02	Agree
5.	Too much punishment given	2.98	1.01	Agree

	to the students.			
6.	Lack of educational facilities in the school.	3.11	1.02	Agree
7.	Students' involvement in gang activity.	2.80	1.00	Agree
8.	Poor lesson delivery by the teachers.	2.84	1.02	Agree
9.	Peer group pressure.	2.98	1.01	Agree
10.	Lack of ambition and laziness among students.	2.92	1.02	Agree
11.	Lack of parental care.	2.89	1.01	Agree
12.	Unaddressed bullying among students by the school authority.	2.77	1.02	Agree
13.	Drug and alcohol use.	3.06	1.00	Agree
14.	Teenage pregnancy.	2.83	1.01	Agree
15.	Low self-esteem and mental health issues among students.	2.74	1.02	Agree
Overall Assessment		2.92	1.01	Agree

Table 1 presents the causes of truancy among students in public senior secondary schools in AMAC. The overall assessment mean score of 2.92 was higher than the 2.50 cut-off point. This means that majority of the respondents agreed to the causes of truancy among students in public senior secondary schools in AMAC. Also, item 13 has the highest mean score of 3.11, which indicated that lack of educational facilities in the school is a major cause of truancy among students while item 15 has the lowest mean score of 2.28, which implied that low self-esteem and mental health issues among students is a minor cause of truancy among students.

Research Question Two

What is the trend in students' academic performance in public senior secondary schools in AMAC from 2012-2017?

Table 2: *Analysis of the Trend in Students' Academic Performance in Public Senior Secondary Schools in AMAC from 2012-2017*

Year	Number of Candidates	4	3	2	1	Mean	Standard Deviation
2012/2013	916	357	469	50	40	3.35	1.01
2013/2014	910	336	448	77	47	3.18	1.00
2014/2015	951	350	450	79	66	3.15	1.01
2015/2016	909	335	444	82	48	3.17	1.00
2016/2017	931	340	468	72	51	3.18	1.01
Total	4617	1724	2279	360	254	3.19	1.01
%Trend	100%	37%	49%	8%	6%		

Source: FCT Education Resource Centre: WAEC Results of selected schools (2012-2017)

Key: 4 = 5 credits including English Language and Mathematics

3 = 5 credits with either English Language or Mathematics

2 = 5 credits with neither Mathematics nor English Language.

1 = Less than 5 credits.

Table 2 shows the academic performance of students in SSCE between 2012 and 2017 in 12 selected public senior secondary schools in AMAC. From the above table, the overall performance level shows that 37% of students had five credits and above including English Language and Mathematics, 49% of students had five credits with either English Language or Mathematics, 8% had five credits with neither Mathematics nor English Language while 6% had less than five credits. Also, details of the data analysis indicated that the students had the highest performance in 2012/2013 academic session with mean score of 3.25 and the least performance in 2014/2015 academic session with mean score of 3.15.

Test of Hypothesis

HO₁: There is no significant relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC.

Table 3: *Analysis of the Relationship between Causes of Truancy and Students' Academic Performance in Public Senior Secondary Schools in AMAC*

Variables	N	Mean	Standard Deviation	R	p-value	Decision
Causes of Students' Truancy	240	2.92	1.01			HO ₁
Academic Performance	4617	3.19	1.01	0.39	0.00	Not Accepted

Table 3 shows the relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC. The calculated value of Pearson's product-moment correlation coefficient (r) was 0.39, which indicated that there is positive relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC. Also, the p-value of 0.00 is less than 0.05 (5%) significance level, implying that there was a significant relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC. Therefore, the null hypothesis was not accepted.

Discussion

From the result of data analysis, the study revealed that majority of the respondents agreed to the causes of truancy among students in public senior secondary schools in AMAC. This finding is in line with the findings of Okwakpam and Okwakpam (2012) that revealed that the school to some extent contributes to the causes of truancy. This finding supports Owodunni (2008) who reported that the student will exhibit truancy if there is an improper class placement. This finding is in agreement with the findings of Malcolm, Wilson, Davidson and Kirk (2003), which identified causes of truancy as bullied by school staff, boredom, and dislike of teachers and avoidance of tests

Also, the study showed that the trend in students' academic performance in public senior secondary schools in AMAC revealed that the students had the highest performance in 2012/2013 academic session and the least performance in 2014/2015 academic session. This means that students in 2012/2013 academic session had better chance to secure admission into the tertiary institution. The finding of this study is not in line with the findings of Ogunshola (2019), who stated that the least performance recorded was in 2011/2012 academic session

while the highest performance recorded was in 2015/2016 academic session, indicating that the students in 2015/2016 academic session had better chance to gain admission into the tertiary institution such as University, Polytechnic as well as Colleges of Education. This finding is in line with the discovery of Thomas (2004) who confirmed that there was a marked level of individual difference in academic performance which however, has been linked to differences in students' disposition and personality.

The findings of this study ascertained that there was a significant relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC. This means that cause of truancy has negative effect on students' academic performance. This study is in line with the study of Olufemi (2013) who stated that there was a significant relationship between truancy and academic performance of students thereby, truancy hinders effective learning and could lead to poor academic performance of truants.

Conclusion

This study revealed that there was a significant relationship between causes of truancy and students' academic performance in public senior secondary schools in AMAC. This means that causes of truancy has negative effect on students' academic performance. However, students' truancy can lead to poor academic performance as well as school dropout, bullying, drug and alcohol abuse, stealing, delinquency, teenage pregnancy, violence, mental instability, crimes, and so on, which could greatly affect the objectives of secondary education in public senior secondary school in AMAC. Thus, drastic measures need to be taken to curb truancy among students in public senior secondary schools in AMAC if the objectives of secondary education will be achieved.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Functional monitoring and disciplinary committees should be established in public senior secondary schools in AMAC to monitor truancy among students in order to curb the causes.

2. Parents should be informed immediately if their wards are absent from school.
3. School administration should ensure that students who engaged in truancy are counselled.
4. There should be functional guidance and counselling services in the public senior secondary schools in AMAC, which could help curb truancy among students.

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QUALITY ASSURANCE: A PANACEA FOR QUALITY AND FUNCTIONAL SECONDARY EDUCATION IN NIGERIA

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Abstract

Education system has some kinds of check and balances put in place to ensure standard and quality in the system, the measures can be internal or external, this is referred to as quality assurance. Both internal and external measures and strategies are adopted at various levels of educational system to ensure quality and functional education, which eventually lead to national development. Stakeholders are expected to ensure standards in different aspects of education like school facilities, teachers, students, instructional materials in order to ensure quality outputs (products). This paper therefore focuses on the quality assurance as a panacea for quality and functional secondary education in Nigeria.

Keywords: Quality, Quality Assurance, Quality Education, Secondary Education, Functional Education

Introduction

Education is one of the fundamental factors of development, which leads to individual quality of live and translates to broad social benefits of people and society in general. According to Asukwo, Ogbonna and

Godson (2019), education is a complex system, requiring a holistic education system with a national framework that clearly outlines fundamental elements of quality assurance, which is the bedrock of quality education. Quality is a standard or distinct aspect of something compared to another of its kind (Ofor-Douglas, 2020). Ajayi and Adegbesan (2007) see quality as the totality of the features of a process, production, service on its performance. Hornby (2000) defines quality as the standard of something when it is compared with other things, like how good or bad something is. He further defined quality assurance as the practice of managing the way goods are produced or services are provided to make sure they are kept at a high standard.

Undoubtedly, one of the major challenges facing Nigeria today is high rate of unemployment. This among others prompted government to recognize this fact which has led to introduction of entrepreneurial studies in senior secondary curriculum. Obioma, (2013) posits that the structure of the old Senior Secondary Education Curriculum (SSEC) was reviewed to enable the New Senior Secondary Education Curriculum (SSEC) attain the four focal areas of National Economic Empowerment Development Strategies (NEEDS). Its elements are; value re-orientation, poverty eradication, wealth creation and job creation. He further noted that Senior Secondary Education Curriculum (SSEC) was developed based on the philosophy, which majorly was to ensure among other things that:

- i. Every senior secondary school graduate should have been well prepared for higher education as well as being self-reliant on completion of schooling.
- ii. The development of Trade/Entrepreneurship skills, which was very key to the re-structuring of the old (SSEC) was given priority of place.
- iii. Youths and school leavers are equipped with life-long trade and entrepreneurial skills to enable them cope with the world of work.
- iv. The acquisition of civic culture by young school learners to further activate their potentials for patriotism and self-actualization.

According to Egbujuo (2018), the main focus of the New Secondary Education paradigm is to equip students with relevant skills for employability. This can be actualized through quality and functional education with relevant curriculum and qualified and competent teachers to impart the knowledge. Ijaiya, (2020) opined that no matter how good

the pre-service training of teacher is, they cannot acquire all skills they would need throughout their careers. Hence the need to update them to address societal needs. To achieve these goals therefore, certain measures has to be in place to monitor school activities, both internally and externally in order to achieve desired goals. Therefore, the application of quality assurance strategies is vital to the realization of functional and quality secondary education in Nigeria.

Concept of Quality Assurance

Quality assurance simply means setting and maintaining error free standard in organization (Ofor-Douglas, 2020). According to Borahm and Ziarati (2010), quality assurance refers to the planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality. Materu (2007) viewed quality assurance as a planned and systematic review process of an institution or programme whether or not acceptable standards of education, scholarship, and infrastructure are being met, maintained and enhanced. Miriam and Joy (2020) opined that quality assurance has to do with compliance with standards set in ensuring that schools achieve the objectives for which they are established.

According to Sofowora (2010) cited in Agommuoh (2014), quality assurance is a mechanism used to evaluate the efficiency and appropriateness in teaching and learning in secondary schools so as to ensure the delivery of high quality education. He further opined that quality assurance is a holistic method of identifying and resolving problem within the educational system in order to ensure continuous quality improvement.

Quality Assurance in Nigerian Secondary Education

Secondary Education is the education children receive after primary education and before tertiary stage (FRN, 2013). The broad goals of secondary education within the overall Nigerian education policy are to prepare students for useful living within the society, and to prepare students for higher education. According to Federal Republic of Nigeria (FRN, 2014), government shall establish efficient and effective quality assurance agencies at Federal, States/FCT and Local Government Levels for monitoring and maintaining set standards at all levels of Education below tertiary level. (FRN, 2014) further stated that quality assurance

agencies shall operate autonomous bodies supervised by the Minister of Education/Commissioner for Education as may be appropriate. According to Stella (2011), quality assurance in education refers to those actions that an educational institution undertakes to ensure that they provide required standard for education, in order to produce quality manpower for national development.

Quality standards are critical and depend on effective policy planning, implementation and monitoring. According to Etejere, Shittu, Eniola and Arigbe (2020), the quality in education system includes quality of its inputs, quality of teachers, instructions and evaluation procedures among others and they must be properly supervised for sustenance. Quality assurance in education means the pertinent and suitability of the education programmes to meet the needs of the institution and achieve the set objectives (Fadipe, 2009). Babalola (2004) sees quality assurance in education as a proactive means of ensuring quality of inputs, teaching-learning process, academic achievement of pupils and school environment before things get out of hands. Obioma (2012) defines quality assurance in education as an all-encompassing concept which includes all inputs, process, and actions through which the quality of education is developed, improved and maintained. Thus, quality assurance in secondary education is a proactive measure put in place to enhance and maintain high academic standards adopted by relevant stakeholders and to ensure the system standards remain high enough to achieve the set goals. Quality standards are therefore critical and key to the realization of secondary education objectives. This can be achieved through effective policy planning, viable and functional curriculum implementation and monitoring.

However, to ensure qualitative education in the public secondary school system, Babalola (2004) posited that the following steps can be taken for effective internal quality assurance.

- **Monitoring:** This has to do with keeping a watching eye in the input, process, output and environment of an educational system to ensure that things keep going the right direction and according to set standards. For example, monitoring of students' progress from one class to the other.

- Evaluation: This involves assessment appraisal, valuation and estimation of the worth of education inputs, process and outcome for the purposes of making judgment and corrective criticism.
- Supervision: This deals with overseeing those who are responsible for one thing or the other (teaching, learning, resource utilizations, management etc) in the process of educating a student.
- Inspection: This is more penetrating and piercing than supervision. It is job-focused and scientific in approach; it involves close examination, checking, scrutiny and assessment of available facilities of institutions with a view to establishing how far a particular institution had met prescribed standard.

From the foregoing, quality assurance in Nigerian secondary schools can be internal or external. According to Stella (2011), internal quality assurance measures are those strategies generated internally by institutions themselves to ensure academic quality as opposed to strategies imposed on them by legislation from external controlling bodies (external quality assurance). It is aimed at ensuring quality in staff, students, academic programme, teaching and learning. Some of the internal quality assurance strategies include; recruitment of quality teachers, use of quality instructional materials, adequate funding, well-stocked library with relevant textbooks, effective implementation of curriculum and staff development among others. Uzodinma (2008) defines internal quality assurance as those practices or activities carried out by an institution itself in order to ensure high academic standard, while external quality assurance are those practices or activities carried out by external controlling agencies to ensure high academic standard in schools.

Therefore, quality assurance in Nigerian secondary education involves scrutiny by stakeholders, both internally and externally, including other government agencies to continually checking the process of achieving quality education.

Functional and Quality Education

According to Maduegbunam and Okafor (2014), functional education is the type of education that equips the recipient with the knowledge and skills needed for that performance of productive task. It is the type of education that helps the society meets their development needs. Ocho

(2005) sees functional education as that process through which an individual is transformed into a participant in the social and economic development of his society. It is a kind of education that emphasizes practice more than theory. He posits further that Nigerian education has not been functional because too much emphasis has been placed on theoretical and academic knowledge. For Nigerian education to be functional according Ali (2000), it must be practical and useful. He further maintain that it should have the ability and capacity to ensure food sufficiency, employment, provides services desirable to the people and enthrone democracy. Due to the fact that functional education gives the individual the opportunity of living within and contributing to the economic development of his society, it is a system of education that takes cognizance of the dynamics of the labour market, equips its graduates with operational skills and competencies to enable them become self self-reliant.

Maduegbunam and Okafor (2014) opine that the quality of education operating in a place determines the quality of the people found in the place as well as the rate of development therein. What determines the quality of education is its ability to serve the needs of the society where it operates. It therefore means that education that has good quality will at the same time be functional. Egbujoo (2018) believe that failure of education to produce the needed middle-level manpower with requisite skills and know-how needed to perform active role in the quest for prosperity and growth was clear to all stakeholders.

It was obvious that the prime step in the reform process was the reform of the content taught as the then senior secondary school curriculum cannot be used to bring about the needed change in the system. It entailed the development of a new model of senior secondary education that will combine general education with relevant skills for employability. The traditional model of the then senior secondary education needed to be changed to usher in a model that will change the youth employability landscape. According to Obioma (2013), the rationale for the restructuring of the old Senior Secondary Education Curriculum justified the efforts at obtaining highly enriched new Senior Secondary Education Curriculum with the incorporation of Trade/Entrepreneurship skills development which are essential for wealth creation, self-reliance and self-development.

The introduction of Entrepreneurship/Trade Subjects in the

secondary schools in Nigeria was a fresh initiative, which according to NERDC (2011) aimed at ensuring that graduates from secondary schools are among other things professionally trained in entrepreneurship skills and processes, relevant Information Communication Technology (ICT) skill that equip them for challenges of labour market. According to Apeji (2013) cited in Apeji, (2017), the new Senior Secondary Education Curriculum consists of a total of 39 subjects. They include four compulsory cross-cutting core subjects (English Language, General Mathematics, One Trade/Entrepreneurship Studies and Civic Education), and four distinct fields of studies categorized as: Senior Secondary Science and Mathematics; Senior Secondary Business Studies; Senior Secondary Humanities; and Senior Secondary Technology. There are also 34 Trade/Entrepreneurial subjects that are designed and developed in such a way that for those who are unable to pursue post secondary education, they would have acquire such skills that would enable them fit properly in the competitive world of enterprise to the extent that they would be able to live independent and fulfilled economic lives. According to Junaidu, cited in Egbujuo (2018), the infusion of the entrepreneurship contents into the trade subjects is to enable the recipients of the curriculum develop a positive attitude towards entrepreneurship; business and self-employment, and thus enable them take up successful careers of their choice in business at the end of their course at the secondary education level.

The structure of New Senior Secondary Education Curriculum, if well implemented will give the recipients the opportunity of living and contributing to the economic development of the society. The recipient will receive quality and functional education, which takes cognizance of dynamics of labour market, equips its graduates with occupational skills and competencies to enable them to be self-reliant. Therefore, if the curriculum is faithfully implemented, it will solve the growing unemployment rates, and students will have a skill that will make them become self-reliant rather than roaming the streets and constituting nuisance in the society. Okebukola (2015) posits that once the new Senior Secondary Education Curriculum is well implemented, the products from the system would help grow the economy. Thus, the new structure of senior secondary education curriculum is relevance to make Nigerian education to be functional and qualitative, and make it more

responsive to the need of the society.

Strategies for the Attainment of Quality in Secondary Education

According to Oxford Advanced Learners' Dictionary (2000), strategy is a plan that is intended to achieve a particular purpose. In the pursuit of quality in secondary education, it is important to have efficient control mechanism put in place to achieve the set educational objectives. Quality assurance according to Stella (2010) can be internal or external.

In view of this, quality can be attained internally and externally. FRN (2014) stated that quality assurance agencies in both states Ministries of Education/FCT Education Secretariat and Local Government Education Authorities in collaboration with Federal Quality Assurance Agency shall be responsible for the organization of supervision and inspection of all educational institutions under their jurisdiction. This is referred to as external quality assurance. Uzodinma (2008) cited in Stella (2011) posits that internal quality assurance mechanism involves intra-institution activities or practices for maintaining and improving quality of programmes. Internal quality assurance measures are those strategies generated internally by institution themselves to ensure academic quality as opposed to strategies imposed on them by legislation from external controlling bodies (external quality assurance). It is aimed at ensuring quality in staff, students, academic programmes, teaching and learning. Ahmed (2020) posits that school principal is the actor involved in spearheading the roles of supervision, inspection and monitoring of teaching and learning process, usually supported by the vice principals, and Heads of Departments (HODs) in order to achieve and maintain standard within the school system.

However, for quality to be maintained in secondary schools, internal quality assurance measures that should be put in place includes; professional leadership, conducive learning environment, effective teaching and learning, instructional materials, well-stocked library with relevant textbooks, laboratories, monitoring students' performance and evaluating school performance.

Thus, it is strongly believed that if those strategies are put in place in Nigerian secondary schools, graduates of secondary schools will be adequately and functionally equipped with the necessary and needed ingredients for self-realization, and will be able to contribute adequately

and meaningfully to the social growth of the society.

Conclusion and Suggestions

Quality and functional education is the type of education that is pedagogically and developmentally sound and educate the recipient in becoming an active and productive member of the society. Thus, quality and functional education is the key to the development and survival of the society, and viable curriculum is the vehicle through which it can be attained. The new Senior Secondary Education Curriculum (SSEC) is designed to impact quality and functional education to the recipients, and to prepare the Nigerian youth to be productive. However, for quality to be assured in Nigerian secondary schools, the following suggestions are made:

- Curriculum implementation committee should be set up to regularly monitor schools to ensure total compliance with implementation of curriculum.
- Government and all stakeholders should be organizing seminars, workshops, and conferences regularly for teachers to acquaint them with modern method of teaching for them to impart sound knowledge and relevant skills to the learners.
- Government should employ more qualified and competent teachers, especially science, technical and entrepreneurial related subject teachers.
- Provision of instructional materials, equipment and relevant textbooks to enhance teaching learning effectiveness.
- Students' support and mentoring service units should be strengthen to provide guidance and counseling services to students.
- Adequate funding.

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RELATIONSHIP AMONG SELF-ESTEEM AND EMOTIONAL INTELLIGENCE OF UNIVERSITIES STUDENTS IN TARAUNI LOCAL GOVERNMENT AREA OF KANO STATE, NIGERIA

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Abstract

The study focused on assessing the relationship among self-esteem and emotional intelligence of the universities students in Tarauni Local Government Area of Kano State. Correlational design was adopted in the population of 1,362 universities' students in the study area. In consonance with the Research Advisors (2006), stratified sampling method was used to sample the 306 subjects who participated in the study. Rosenberg Self-esteem Scale and State Emotional Intelligence Scale served as the instruments used for the study. Having applied Cronbatch Alpha method, the result of pilot-testing indicates 0.82 reliability coefficients for the former and 0.79 for the later. 3 research objectives, 2 research questions and 1 research hypothesis were planned to manage the study. The research questions were answered using mean and standard deviation, but Pearson Product Moment Correlation was employed to test the hypothesis and analysed the results. The major finding of the study disclosed that there exist a significant correlation between the self-esteem and emotional intelligence of the students. Hence, among the recommendations it has suggested that appropriate educational interceptions should be put in place by the teachers, parents, educationist, government and general education stake holders; to increase and enhance the self-esteem and emotional intelligence of the students, in order to positively influence their academic achievement and future productivity.

Keywords: Self-esteem, Emotional intelligence & Universities Students

Introduction

With the repercussions of the ongoing web of globalization and the countries's intentions for attaining the Millennium Development Goals, University students are considered the main column of countries' educational system; hence, attention to this population's mental sets and the development of their self-esteem and emotional intelligence causes societies progress. Self-esteem is considered as an emotional response

and a general feeling about the self that may be more or less positive.

University students who are mostly young adolescents were faced with an unstable emotion, uncertain social values, unidentified status and crises of identity formation. In this period, the factors such as poor self-esteem and emotional interruption may cause psychological discomfort. Several researches have proved that there exist a positive correlation between the emotional intelligence and self-esteem (Biti et al, 2016). Based on the literature, social relationship and emotion played important role and influence the student's self-esteem (Abdu Rani and Marzuki, 2017). And that low emotional intelligence results in interpersonal difficulties, low self-esteem, poor impulsive control, loneliness, suicidal thoughts, drug addiction, stress, alcohol usage, depression, anxiety, aggressive behaviours (Biti et al, 2016), shyness and academic failure. Hence, past researches proved that self-esteem is a vital indicator and predictor of high emotional intelligence and the vice-versa among students. For instance, Tajpreet and Maheshwari (2015) reported a positive strong relationship between their subjects' emotional intelligence and self-esteem. Similarly HasanVanda and Khaledian (2012) revealed a positive correlation between emotional intelligence and all five elements of self-esteem among students.

Ojo (2020) conceptualized self-esteem as having pride in oneself-esteem as a sense of self-worth on how you regard yourself and self-respect. And that when people feel bad about themselves from time to time they have low self-esteem, in contrast when they feel good about themselves always they have high self-esteem. And that in Maslow (1970) Hierarchy of need, self-esteem need is accompanied by feeling of inferiority, negativism and incompetence. Lagu (2018) cited Santrock (2008) who asserted that Maslow included self-esteem in his hierarchy of needs. He described two different forms of esteem: the need for respect from others and the need for self-respect, or inner self-esteem. According to Maslow, without the fulfillment of the self-esteem need, individual will be driven to seek it and unable to grow and obtain self-actualization. Butt et al (2011) viewed self-esteem as the disposition to experience oneself as being competent to cope with basic challenges of life and of being worthy of happiness. It is the confidence in one's ability to learn, make appropriate choices and decisions, and respond to change effectively. Abd Rani and Marzuki (2017) cited Rosenberg (1979) who defined self-esteem as a worthiness of a person as human

being. Self-esteem is also defined as set of attitudes and opinions that individuals use in their relations with outside world. Such as to believe in personal success, to mobilize depending on the purpose to be achieved, to experience failure more or less deeply, to improve personal performance based on your previous experience; all directly related to self-esteem (Varestanu and Iftime, 2013). According to Tajpreet and Maheshwari (2015) self-esteem is seen as ability for appreciating one's own worth, importance and having the character to be accountable for oneself and to act responsibly towards others. It doesn't mean seeing oneself as the greatest person in the world but it refers to how we feel about or how we value ourselves.

Thus, self-esteem refers to the sets of some mental dispositions that prepares individuals to properly act in-line with their expectations of successful life through appropriate evaluations of their self-concept, self-efficacy, self-knowledge, self-worth, self-image, self-confident, self-respect, self-improvement, self-understanding and self-love. Hence, when self-esteem develops one's behaviour will be congruent. But when his/her self-esteem deviates from the proper expected self-esteem, unhealthy behaviours, feelings and mentality arise.

Butt et al cited Reece and Brandt (2005) who believed that there are two types of self-esteem; high self-esteem and low self-esteem. Bibi et al (2016) have cited Ditto and Griffin (1993) asserting that people who have high level of self-esteem perceive things more positively and they rationalized things as compare to those people who have low self-esteem.

Likewise Hoelter and Harper (1997), in Lagu (2018) further explain consequences of self-esteem as follows: low self-esteem has been inflicted in low levels of achievement, depression and many other adjustment problems. Individuals with high self-esteem tend to focus on their strengths, whereas those with low self-esteem are more likely to dwell in their negative quality or weakness. Butt et al (2011) cited Reece and Brandt (2005) who identified the following characteristics of people with high self-esteem:

- They are future oriented and are not overly concerned with past mistakes or failures. They learn from their errors but are not mobilized by them. They believe that every experience has something to teach if they are willing to learn.

- They are better able to cope with life's problems and disappointments. Successful people realize that problems need not depress them or make them anxious. It is their attitude towards the problem that makes all the difference.
- They are able to feel all dimensions of emotions without letting those emotions affect their behaviour in a negative way. They realize that emotions cannot be handled either by repressing them or by giving them free rein.
- They are less likely to take things personally. They respect themselves and others.
- They are able to accept other people as unique, talented individuals. They learn to accept others for who they are and what they can do. They build mutual trust based on each individual's uniqueness. Accepting others is a good indication that you accept yourself.
- They exhibit a variety of self-confident behaviours. They accept compliments or gifts by saying "Thank you", without making self-critical excuses and without feeling obligated to return the favor. They can laugh at their situation without self-ridicule. They let others be right or wrong without attempting to correct or ridicule them.
- They feel free to express opinions even if their ideas differ from those of peers or parents.
- The characteristics of people with low self-esteem were identified by Johnson (2004) as cited in Butt et al (2011) as follows:
- Fearful of exploring their real life. They believe that others are responsible for how they feel. Fearful of taking responsibility of his or her own emotions and actions. Feels and acts like a victim.
- Judgmental of self and others. They put self down, shameful, blaming, self-critical, self-condemning and many other negative attitudes.
- They triangulate by talking badly about one person to another. They rationalize negatively through jealousy and envy of others. They have trouble being genuinely happy for the success of others.
- They are perfectionists, always dependencies/addiction, compulsive, self-defeating thinking and behaviour, and does not

like the work one does. They focus on what doesn't get done instead of what does.

- They leave tasks and relationship unfinished and walk away without resolving issues.
- They judge self-worth by comparing to others, and feel inferior. They do not accept or give compliments. They are not comfortable with self, hard to be alone with self.
- They avoid new endeavors, fear mistakes or failures. They are irrational response ruled by emotions.
- They lack purpose in life and defined goals. They feel inadequate to handle new situations and they are easily unstressed. They feel resentful when they don't win.
- They are vulnerable to opinions, comments and attitudes of others. They continue to blame past experience (or family) instead of dealing with current self (the past is the explanation, not an excuse).

The concept of emotional intelligence have been coined from two independent concepts, namely: "emotion" and "intelligence"; the former according to Mangal (2010) refers to agitated or excited state of our mind and body. It is also a sort of feelings or affective experiences which are characterized by physiological changes that generally lead them to perform some or the other types of behavioural acts. The later, however, may be referred to as the ability to learn, understand and think in logical way about things (Hornby, 2010). Various scholars have written extensively on the concept of emotional intelligence. Anokam and Ononuju (2018) asserted that emotional intelligence involves a set of mental abilities in which individual employ higher level of processes regarding their attention to feelings, clarity of feelings, discriminating ability of feelings and mood-regulating strategies. According to Hanior, Akume and Akuto (2018) emotional intelligence is observed when a person demonstrates the competencies that constitutes self-awareness, self-management, social awareness, emphatic understanding and social skills at times and ways in sufficient frequency to be effective in the situation. They have also cited Bar-on (1997) to define emotional intelligence as being concerned with understanding oneself and others, relating to people, and adapting to and coping with the immediate surroundings to be more successful in dealing with environment

demands. Parsa (2015) have cited Salovey and Mayer (1997) who documented that emotional intelligence can be divided into four branches: (i) emotional perception and expression (or ability to correctly identify how people are feeling), (ii) emotional facilitation of thoughts (or ability to create emotions and to integrate one's feelings into the way one thinks), (iii) emotional understanding (or ability to understand the causes of emotions) and (iv) emotional management (or the ability to discover and implement effective strategies utilizing one's emotions to assist in great achievement, rather than being used by one's emotions). With regard to the characteristics of emotionally intelligence Person, Mangal (2010) posits that a person will be termed emotionally intelligent in proportion if he is able to:

- i. Identify and perceive various types of emotions in others (through face reading, body language and voice tone etc);
- ii. Sense his feelings and emotions;
- iii. Incorporate the perceived emotions in his thoughts (such as using his emotions feeling in analyzing, problem solving, decision making etc);
- iv. Have proper understanding of the nature, intensity and outcomes of his emotions; and
- v. Exercise proper control and regulation over the expression and use of emotions in dealing with his self and others so as to promote harmony, prosperity and peace.

Reference to foregoing, emotional intelligence may be referred to as ability for an individual to appropriately understand and master how to handle his/her own emotions, feelings, attitudes, interests and behaviour; as well as the other people's emotions, feelings, interests and behaviour; in order to effectively manage and control/manipulate his/her emotions, through pace, expressions, body actions and spoken words; thereby promoting harmony, prosperity and peaceful coexistence between him/her and other people's he/she get contact with.

Objectives of the study

- i. To determine the level of self-esteem among the universities students in Tarauni Local Government Area of Kano State.
- ii. To determine the level of emotional intelligence among the universities students in Tarauni Local Government Area of Kano State.

- iii. To determine the relationship between self-esteem and emotional intelligence of the universities students in Tarauni Local Government Area of Kano State.

Research Questions

- i. What is the level of Self-esteem among the Universities Students in Tarauni Local Government Area of Kano State?
- ii. What is the level of Emotional Intelligence among the Universities Students in Tarauni Local Government Area of Kano State?

Research Hypothesis

Ho: There is no any significant relationship between self-esteem and emotional intelligence of the universities students in Tarauni Local Government Area of Kano State.

Materials and Methods

With its intention to survey the relationship between self-esteem and emotional intelligence of universities students, the study adopt a correlational design. The targeted area of the study was Tarauni Local Government Area of Kano State. The population of the study consists of all the universities students in Tarauni Local Government Area, numbered 1,362 (National Association of Kano State Students, 2019); from which 306 (156 males and 150 females) students were sampled using stratified random sampling technique in-line with the Research Advisors (2006) Provisions. Two instruments were used for the study: (i) Rosenberg Self-esteem Scale, it was initially developed by Rosenberg (1965), but adapted from Abd Rani and Marzuki (2017); consisting 10 items comprising different aspects of self-esteem. It has a reliability index of 0.82; (ii) State Emotional Intelligence Scale, originally developed by shuttle et al (1998), but adapted from Inuwa (2018); which made up of 33 items geared to assess the student's emotional intelligence with reliability index of 0.80 to 0.90. The two instruments were pilot tested concurrently on 20 students of polytechnics, and with aid of Cronbach Alpha technique, 0.82 and 0.79 reliability coefficients were produced for the first and the second instruments respectively. Hence the two instruments were found worthy to assess self-esteem and emotional intelligence of the students. A day for the National Association of Kano State Student's meeting over the

then ongoing Association of Academic Staffs Union of Universities' strike; held at Yusuf Maitama Sule University, Kano; was used to administer the instruments to the respondents, with the assistance of five research assistants. And they were filled and retrieved with 100% return rate. Mean and standard deviation were used to answer the research questions, whereas the research hypothesis was tested using Pearson Product Moment Correlation (PPMC) all of Statistical Package of Social Sciences (SPSS), at 0.05 level of significance.

Results and Discussions

Research Question one: What is the level of self-esteem among universities students in Tarauni Local Government Area of Kano State?

Table 1: Levels of self-esteem among universities students in Tarauni Local Government Area of Kano State

Level of self-esteem (SE)	N	Minimum	Maximum	Mean	SD
High SE	201	67.00	100.00	85.84	6.80
Low SE	105	38.00	87.00	67.86	11.92
Total Average	306	38.00	100.00	76.64	13.15

Table 1 above indicates that students with high level of self-esteem were the majority 201 representing 65.68% (\bar{X} =85.84; SD = 6.80), while students with low level of self-esteem account for 105 representing 34.32% (\bar{X} =67.86; SD = 11.92). Hence universities students in Tarauni Local Government Area have high level of self-esteem.

Research Question Two: What is the level of emotional intelligence among universities students in Tarauni Local Government Area of Kano State?

Table 2: Levels of emotional intelligence among universities students in Tarauni Local Government Area of Kano State

Level of self-esteem (SE)	N	Minimum	Maximum	Mean	SD
High SE	218	69.00	100.00	95.98	7.14
Low SE	88	34.00	91.00	71.63	11.32
Total Average	306	34.00	100.00	82.15	11.53

Reference to Table 2 reveals that students with high emotional intelligence were the majority representing 71.24% ($X = 95.98$; $SD = 7.14$), whereas students with low emotional intelligence accounted for 88 representing 28.76 ($X = 71.63$; $SD = 11.32$). Thus, universities students in Tarauni Local Government Area of Kano State have high level of emotional intelligence.

Testing the Hypothesis (Ho): There is no any significant relationship between self-esteem and emotional intelligence of the universities students in Tarauni Local Government Area of Kano State.

Table 3: Pearson correlation between self-esteem and emotional intelligence of universities students in Tarauni Local Government Area of Kano State

Variables	N	Mean	SD	Df	R	P	Decision
Self-esteem	306	76.64	13.15	304	0.66**	0.000	Rejected
Emotional Intelligence	306	82.15	11.53				

**** Correlation is significant at > 0.05 level of significance (2-tailed)**

Table 3 reveals the Pearson Product Moment Correlation statistic which shows that significant relationship exist between self-esteem and emotional intelligence of the students, with $r = 0.66$ and $P\text{-Value} = 0.000$. The $P\text{-value}$ is lower than the 0.05 level of significance, hence, the null hypothesis is hereby rejected, and its correspondence alternate hypothesis is retained. It also indicates that both self-esteem and emotional intelligence of the subjects used to predict one another.

The present finding supports the findings of Bibi et al (2016) who

made known that Pearson correlation indicates that both self-esteem and emotional intelligence of the university students are highly positively correlated. It also corroborates the findings of Abd Rani and Marzuki (2017) who postulated that self-esteem positively correlated with interpersonal and general mood, and that an increase in interpersonal and general mood were correlated with increase in self-esteem. Similarly the present finding aligned with that of Tajpreet and Maheshwari (2015) who posits that their study shows a strong positive relationship between emotional intelligence and self-esteem. Another finding that is in consistent with the present one was that of Hasanvanda and Khaledian (2012) who disclosed a positive correlation between the emotional intelligent and all five elements of self-esteem. But contrarily the present finding negates the finding of Hossein (2014) who found no significant relation between emotional intelligence and self-esteem.

Hence, the present study concludes that the universities students of Tarauni Local Government Area of Kano State have high level of self-esteem and emotional intelligence; and that their emotional intelligence and self-esteem were strongly and positively correlated, as each of them predicts the other.

Recommendations

- i. As the study proves that self-esteem is positively related to the student's emotional intelligence, appropriate interventions should be put in place by the teachers, parents, educationists, government and all education stake holders, to increase the self-esteem of the students in order to positively influence their emotional intelligence, academic achievement and future productivity.
- ii. In counseling sessions, the counselors should endeavor to make aware among their clients how high self-esteem and emotional intelligence contributes immensely to overcoming their mental maladjustments and other psychological problems. As well as how low self-esteem and poor emotional intelligence leads to a handicap mental set.
- iii. Students should be regularly assessed by their teachers for their emotional intelligence as it significantly affects their self-esteem, and vice-versa, in order to enhance and strengthen their ability to maintain high self-esteem and emotional intelligence.

- iv. Educational interventions should be included in our curriculums to appropriately manage emotional immaturity and low self-esteem among the students.
- v. In order to increase one's self-esteem, he/she shall engage frequently on self-knowledge, self-acceptance, self-worth, self-recognition, self-imagination, self-confidence, self-improvement and self-love. As well as all sorts of positive attitudes, such as morality, honesty, accepting failure, empathy, forgiveness, endurance, moral reasoning, perseverance, self-assertion, and general self-discovery.
- vi. Parents should help their wards to feel themselves important, capable and who should have successful future, to enhance their self-esteem.
- vii. Since this study focused on universities students, other categories of students should be taken care of by future researches.
- viii. Other vital variables ignored in this study like moral reasoning, shyness, identity formation, discipline, self-efficacy, anxiety and other variables that may possibly related to emotional intelligence and self-esteem, should be investigated in relation to the two constructs by the future researches.

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ACADEMIC COUNSELLING STRATEGIES FOR STUDENTS WITH LEARNING DISABILITIES IN OPEN AND DISTANCE LEARNING INSTITUTIONS

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Abstract

Learning disabilities are disorders in psychological activities that are key to understanding or acquiring knowledge, which manifest in inability to read, write, listen, speak, form words, spell, and engage in mathematical calculations. This chapter looks at the academic counselling strategies needed to assist students with learning disabilities in Open and Distance Learning (ODL) institutions. The forms of learning disabilities as identified here include dyslexia, dysgraphia, dyscalculia, dyspraxia, auditory processing disorder, and visual processing disorder, which are characterized by poor reading skill, poor hand writing, inability to engage in mathematical calculations and poor motor coordination skills. Some of the consequences of learning disabilities are poor academic performance, rejection, loss of values and self-concept, social isolation, and negative perception of the worth of academic activities. The causal factors of learning disabilities include biological and environmental factors, carelessness, nervousness, and related school variables. Learning disabilities can be sorted out by academic counsellors using appropriate counselling strategies like instructional counselling, confrontation, peer tutoring, mentoring, scaffolding and assertive training. It is suggested that counsellors in the ODL institutions should be equipped with necessary counselling materials and regularly attend seminars, conferences and workshops to acquire the knowledge necessary to assist students with learning disabilities.

Keywords: Counselling, students, learning disabilities, ODL.

Introduction

In both conventional and non-conventional institutions of learning, students' academic performance is a function of several variables including ability and disability dispositions. In both cases, it is often a herculean task to ensure that poor performing students catch up with their counterparts on the other side of academic divide. For the Open and Distance Learning (ODL) institutions, individuals of varying

personality constructs enroll into various programmes to acquire lifelong learning in order to update their knowledge and acquire some skills necessary for living. Statutorily, ODL institutions provide inclusive or “all embracing” education as a means of educating a large number of people including students with disabilities without discrimination in similar environment.

According to Oluka and Egbo (2014), inclusive implies placing children unconditionally into the regular educational system without regard to nature and severity of their disability. Perhaps, this is one of the reasons why students with learning disabilities are accommodated in ODL institutions irrespective of the peculiar nature of such institutions.

With the flexibility nature of the mode of interactions in ODL institutions, many people often take solace and avail themselves of the opportunities provided by the institutions. Ukwueze (2018) asserts that between 2012 and 2014, young Nigerians below 22 years of age besieged the National Open University of Nigeria (NOUN) for enrollment. In the like manner, people with learning disabilities usually enroll since admission is cheap and devoid of competitive aptitude tests. To ensure accessible quality distance education, the UNESCO (2002) suggested improved and sustainable student support systems for actualization. Sequel to this, various experts assert that students in ODL institutions require learner support, especially student guidance with effective information and administrative systems to impact on teaching for academic success and positive self-esteem (Thorpe, 2002; Tait, 2003).

Studies indicate that students with learning disabilities often display varying degrees of academic backwardness due to dysgraphia, poor expression of thoughts in words, incoherent use of words, and poor organization of ideas (Awopetu, 2010; Bames, 2012). This cognitive abnormality is not peculiar to any particular level of education but cuts across primary, secondary and tertiary education levels as children and youths with learning difficulties are found in every classroom (Akande, Olowonirejuaro & Abolarin, 2010).

Since the inception of distance learning all over the world, and Nigeria in particular, there has been a growing concern on how students with learning disabilities can fit into such a laudable human endeavour in order to achieve their aims and become proud products of distance education. Similarly, it has been observed over the years from the

reports of the external examiners who handle examination scripts of the National Open University of Nigeria that several students usually perform below expectation due to illegible and uncoordinated hand writing and other forms of disability. Some students often call to inquire why they failed their courses after putting in their best during their semester examinations. Those of them that are bold enough usually pay some fees to have their scripts remarked to ascertain if they actually failed. This calls for some psychological dispensations through academic counselling intervention strategies that can be applied to assuage the situation.

Conceptual Clarifications

It is of significant importance to clarify some basic concepts used in this chapter in order to explicitly give a direction to the paper. These concepts include academic counselling, learning disabilities, and open and distance learning.

Academic Counselling is a process of assisting students to overcome problems that may interfere in their academic activities. It is an aspect of counselling services used to encourage students to meet up with their academic challenges in order to remain focused and achieve their academic and life goals.

Academic counselling is an innovative input in educational development, which many nations have accepted as a means of ensuring effective instructional delivery and student support as it generally gives students self-understanding and the required basis for successful academic pursuit. Hence, it is the professional responsibility of academic counsellors to assist students in coping with educational issues, especially examination anxiety and tutor them for higher level achievement (Ukwueze & Eya, 2018) as well as aiding them in subject selection, future plan of programme of study and time management (breda-guide.tripod.com/module8.htm).

Learning Disabilities can be described as disorders of the basic psychological processes that affect the way a child learns, which manifest through difficulties in listening, thinking, talking, reading, writing, spelling, or arithmetic (Shukla, 2005). For the purpose of clarity, Shukla (2005) states that learning difficulties do not include

conditions caused by visual, hearing, or motor handicaps, mental retardation, emotional disturbances, or environmental disadvantage. Thus, students with learning disabilities in open and distance learning institutions are students that show signs of poor academic performance due to inability to study at par with their counterparts of the same developmental stage or level in the same institutions as a result of inherent or psychological imbalance, which can only be tackled through psychological interventions using counselling.

Open and distance learning (ODL) is an aspect of educational activity that occurs in a flexible and inclusive situation where the instructor and the students are physically separated in either synchronous, asynchronous or both platforms. Learners enjoy their studies through correspondence, video, or e-learning. Generally, open and distance education is a means of providing access to learning for people who are geographically distant, which could be through distance learning, e-learning and/or online teaching (Moore, Dickson-Dean and Galyen, 2011). In the context of this chapter, open and distance learning is a technology-based learning institution that enables students to learn and acquire knowledge at their own pace and convenience while being away from their teachers and institutions. Ordinarily, students are provided with necessary learning materials using technologically based tools like internet and social media. Historically, this form of education dates back to early 1728 when an advertisement in the Boston Gazette promoted Caleb Phillips, teacher of the new method of shorthand, who sought for students that would learn through weekly mailed lessons (Holmberg, 2005). Due to the huge success of distance learning as an aspect of disseminating knowledge via some educational programmes, the University of London became the first university to offer distance learning degrees through its Extension Programme in 1858 (Hochberg, 2006). In Nigeria, distance learning is also seen as a no contact and somewhat part time education environment where learners are removed in time and space from the teacher using a variety of media and technologies to provide access to quality education to a large number of people (FRN, 2004). Today, the National Open University of Nigeria (NOUN) offers various programmes in several fields, including education, using a single mode platform. Similarly, the National Teachers' Institute (NTI), Kaduna, a single mode institution, is a

distance learning institution statutorily saddled with the responsibility of training and re-training of teachers in Nigeria. There are also, some dual mode conventional universities which offer education programmes for teacher preparation and indeed, other programmes in administration, social sciences, arts and humanities through distance learning.

The focus of this paper is on the fate of students with learning disabilities in such institutions with a view to providing appropriate counselling strategies that can be used to assist them in maximising their academic benefits in order to achieve their life goals.

Academic counselling as a panacea for learning disabilities has its primordial stand on the Instructional Model (IM) of Sorenson (1964). The model is a cognitive theory propounded to solve man's problems. According to the theory, man has the ability, worth and potential to grow, change and cope with his disability, especially when his dignity is put into consideration. An individual's frustration is due to lack of information and guidance on how to tackle his/her inappropriate skills in facing life challenges (including academic activities). The theory postulates that advisory method as well as guided inquiry method could be used to teach students new skills and provide adequate information needed to explain alternative actions open to them. By implication, the academic counsellor applying this model has to give concrete suggestions using some principles of reinforcement in order to alter or counter some disabilities and achieve desired behaviours or actions. Thus, the model is quite appropriate in providing direction to the course and tenets of this paper.

Available literature as earlier stated indicates that in ODL institutions, there are students with learning disabilities. As a result, emphasis in this chapter is on the forms and features of learning disabilities among students; causes of learning disabilities; challenges of students with learning disabilities; and appropriate counselling intervention strategies that can be applied to effectively handle the problem of learning disabilities among students in ODL institutions.

Forms and Features of Learning Disabilities among Students

Historically, it was Sam Kirk who coined the term *learning disabilities* in 1963 and was expanded by the Individuals with Disabilities Education Act (IDEA) of 1977 to connote disorder in one or more of the basic psychological processes involved in understanding or in using

language, spoken or written, which may manifest itself in imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations (Turnbull, Turnbull, Shank, Smith & Leal, 2002). It is regarded as intrinsic disorders caused by dysfunction of the central nervous system. The need for the knowledge of the forms of learning disabilities is very important. Igwue and Akuto (2009) are of the opinion that knowledge of behaviour problem classification allows in-depth analysis of such problem in the school setting, citing learning disorders as Axis I category of behaviour disorders. There are various forms of learning disabilities as there are various personalities in schools. Shukla (2005) identifies forms of learning disabilities as perceptual handicaps, dyslexia, and developmental aphasia. Perceptual handicaps involve inability to perceive the meaning of concepts during learning. It is the inability to understand a concept or think of something in a particular way or pattern.

Dyslexia is a reading disability which results to inability to distinguish among letters of the alphabet and translating words on paper into meaningful language. It is a first order learning disability followed by dyscalculia, which interferes with students' ability to learn. Dyslexia is characterised by problems in expressive or receptive, oral or written language (Turnbull, Turnbull, Shank, Smith and Leal, 2002).

It is a severe reading disability that manifests when a student omits, inserts, substitutes or reverses words in a sentence as he reads a passage. Due to inability to recall or discern basic facts, sequence and/or themes, students with reading disability (dyslexia) find it difficult to comprehend what they have read (Turnbull et al., 2002). These authors assert that reading problems among students with learning disabilities can hinder academic progress if not addressed. Developmental aphasia is pathological disability which involves partial or total loss of language skills due to brain damage during birth, which continues to grow as the child develops. It is the inability to understand or produce speech due to brain damage.

Other forms of learning disabilities as identified by Awopetu (2010) include dyscalculia, dysgraphia, dyspraxia, auditory processing disorder and visual processing disorder. Dyscalculia is the inability of a learner to tackle mathematical problems and other issues involving scientific calculations and common addition and subtraction of objects. Such a person has difficulty with numbers and arithmetic. He/she lacks the

understanding of mathematical language and the ability to engage in abstract reasoning. He/she is deficient in reading, interpreting and applying symbols and mathematical formulae.

Dysgraphia is a language-connected disability that results to difficulty in writing. It is characterised by poor hand writing, poor spelling, uncoordinated numerical figures and poor organisation of ideas (Awopetu, 2010). Students with writing disabilities (dysgraphia) often have hard time in getting started and feel overwhelmed by the task; they struggle to organise and use mechanics of writing; struggle to develop their ideas fluently; have difficulties with spelling and constructing written products legibly; and often submit very brief written work (Turnbull et al., 2002).

Dyspraxia is a disability that involves difficulty in manual dexterity. A student in this category lacks fine motor skills due to sensory integration disorder and displays poor hand-eye coordination.

Auditory Processing Disability is a disorder of minor hearing impairment, which results to difficulty in ascertaining differences between sounds. Characteristically, a student that is having this disability has problems of reading or pronouncing words, comprehension and language (Awopetu, 2010).

Visual Processing Disability is the inability to recognise and interpret features pictorially. A student with this disability is also deficient in reading and interpreting symbols, mathematical formulae, diagrams, maps, charts, pictures and similar illustrations.

Causes of Learning Disabilities

There are several reasons that several experts have adduced as causes of learning disabilities. Ozoh (2010) attributes learning disabilities like dyslexia, dyscalculia, attention deficit disorder and attention deficit hyperactivity disorder to both biological and psychological factors as put forward by medical sciences. These variables include damage to brain structure and genetic character that can lead to the development of information processing weaknesses at birth. Specifically, biological issues are related to neurobiological problems that lead to learning disabilities. These are from birth and run through an individual's lineage. Genetic factors can generally cause reading, writing and language disabilities (Kolawole, 2010).

In this case, it is reasoned that dividends of learning disabilities like

poor academic performance, laziness and lack of interest in academic activities can be transmitted through the genes from parents to children. Similarly, foetal exposure to alcohol, hard drugs and harmful chemicals during pregnancy result to giving birth to children with inadequate brain capacity that can result to learning disabilities later in life. In the same vein, maturation lag, a delayed process of maturity in one or several skills and areas of development can result to learning disabilities. This may account for reasons why students of the same age may differ significantly in their study capacity and performance. Some of them repeat classes severally due to maturation lag.

Nervousness is a biological variable that manifests when a student gets easily agitated or apprehensive over an issue, which may trigger off fear in him/her. This occurs when the nerves of an individual are affected. When a student is not relaxed or calm while engaging in academic activities over time, he/she is bound to develop learning disabilities that will affect his/her performances.

Carelessness is another factor that can lead to a disability like dysgraphia. When a student displays continuous carelessness and care free attitude towards his/her academic activities over a period of time, such a behaviour may become habitual and inimical to learning.

Learning disabilities can also be attributed to school related issues. Kolawole (2010) asserts that enrolment into schools at premature age, irregular attendance at school and poor teaching are school related variables that may cause learning disabilities. Related to this is lack of supervision of class work and inconsistency or lack of giving and marking of assignments by teachers, which exposes students to the risk of doing things by themselves.

There are equally some environmental variables that can result to learning disabilities in schools. Prolonged poor health status, malnutrition and inadequate resources can interact with the hereditary dispositions of students at any stage in life to trigger off learning disabilities. For instance, prolonged poor health condition and malnutrition can cause Parkinson's disease in adult students, which can automatically lead to dysgraphia.

Challenges of Students with Learning Disabilities

Turnbull et al (2002) assert that students with learning disabilities often display behavioural, social and emotional characteristics that affect their

academic and social lives. Evidence abound that students with learning disabilities experience social problems, emotional difficulties and conduct problems, which often lead to social rejection and low rates of social acceptance (Karvale and Forness, 1996; Settle and Milich, 1999). In most cases, they have fewer friends and peers they can relate with thereby developing poor interpersonal relationships. This may be due to lack of knowledge, inability to learn from appropriate modelling, inability to read social cues, and misinterpretation of the feelings of others (Bryan, 1997). Some of them are usually seen by teachers, parents and peers as trouble makers who should be avoided. Such people feel confused about the right persons to discuss their academic problems with. In the process, they lose some values and self-worth, lack motivation and self-esteem and engage in erratic, undesirable behaviours and learned helplessness.

Another serious challenge facing students with learning disabilities is poor performance in cognitive assessment. As earlier stated, students with learning disabilities have hard time starting a written work during tests, struggle to organise their ideas and quickly submit brief written work, which often make them to miss some vital points needed for grading and ultimately score very low marks during assessment. Those that suffer from dysgraphia often write what some examiners cannot read and comprehend thereby earning low marks. Observations and unconfirmed sources indicate that undergraduates with poor hand writing skills often graduate with third class and pass degrees.

Similarly, students with learning disabilities are often frustrated after several years of erratic and thwarted attempts at learning, mastering academic skills, and performing well in examinations (Turnbull et al, 2002). This frustration usually leads to loss of academic sessions, feeling of inadequacy, lack of interest in academic activities and drop out or frequent change of academic programmes.

In most cases, students with learning disabilities come to a conclusion that education is difficult to pursue and see lessons as hard to understand. In this case, they may find it difficult to keep time with teachers and classmates. This will equally affect their level of participation in class activities and may label themselves as poor students and seen by peers and teachers as such.

Counselling Intervention Strategies for Learning Disabilities

In the past, several efforts were made to proffer solutions to learning disabilities. Awopetu (2010) asserts that early treatment strategies bothered on using care-givers and other adults, neuro-educational intervention like phonics methods of teaching reading skills, teaching students the tricks to overcome specific deficits and drug therapy using neuro-stimulants. Hock, Deshler and Schumaker, (1999) are of the opinion that learning disabilities can be treated using principles and rules that help students with learning disabilities how to study independently, and how to generalise their skills and behaviours to new situations. Turnbull et al (2002) also suggest anchored instruction or leaning by situating instruction around a topic that is interesting to the affected students. Other intervention strategies earlier suggested are self-questioning, inspiration application, and reciprocal teaching strategies.

The self-questioning strategy is a sequence that involves paying attention to cues, asking some questions, keeping predictions in mind, identifying the answers to the questions earlier asked and talking about the answers. The strategy enables students with learning disabilities to acquire skills necessary to tackle complex reading disabilities. The inspiration application strategy is a software programme developed to integrate visual mapping and outlining environments to help students comprehend concepts and information (Turnbull et. al., 2002). Reciprocal teaching intervention strategy is a teaching method whereby a student with learning disabilities and his/her teacher lead each other in discussing about text already read by both of them using the principles of question generation where metacognitive skills are taught (Shukla, 2005). The strategy helps to teach how to understand reading comprehension by deducing meaning from the texts before them.

As laudable as the above intervention strategies might be, there are some basic and obvious facts or gaps that can be deduced from them. For instance, the strategies were put together for children with learning disabilities in lower schools. Adult learners were not in focus when such strategies were researched upon for the results to be generalised for use in the school system. It is in line with this gap that this chapter devotes the next paragraphs to counselling intervention strategies for students with learning disabilities in open and distance learning institutions where both young and adult learners are found.

Since the causal factors of learning disabilities are both genetic and

environmental, it is reasoned that in ODL institutions, the counselling strategies as suggested below, which are not mutually exclusive could be applied by academic counsellors for interventions. They are instructional counselling, confrontation, individualised counselling, assertive training, peer tutoring, mentoring, remedial teaching and scaffolding strategies.

Instructional counselling strategy: This approach derives its principles from the theoretical perspective of this paper. It involves assisting students with learning disabilities in creating step-by-step plan that breaks assignments into various and simple tasks using heuristic or teaching-learning principles. The strategy equally involves drilling of students in the skills of certain activities such as reading, writing, and arithmetic to solve dyslexia, dysgraphia and dyscalculia. Use of mapping programmes like inspirations and exercises capable of strengthening hand and wrist muscles can enable adult learners with learning disabilities overcome their reading and other academic problems. Instructional counselling strategy is similar to reciprocal teaching but it goes beyond teaching of reading comprehension only, which is the main target of the latter.

Confrontation counselling strategy: This is a cognitive approach to undesirable behaviours which involves strict criticism during interactions to enable clients think reasonably and realistically. It gives room for disputation of ideas and presentation of skills rationally. Confrontation technique of counselling can be applied by counsellors to assist students in inculcating effective learning behaviour by identifying incongruity in their learning skills; pointing out those issues clearly to enable them work through the conflict or resolution (Ukwueze, 2014). The counsellor can go extra miles to set reasonable writing expectations and stick to his/her position in order to solve a problem like dysgraphia. Similarly, the counsellor can provide alternatives to undesired skills in order to ensure that the right skills are imbibed. This approach sorts out discrepancies through periodic summary of discussions and feedback using didactic principles.

Individualised counselling strategy: This is yet another psychological approach that academic counsellors in ODL institutions can apply to remedy learning disabilities. Individualised counselling strategy is an

interaction process where the academic counsellor discusses with a student with learning disabilities on one-on-one interaction to assist the student in sorting out his/her academic problems. Through psychological testing, the counsellor can identify the cause of the disability presented to him/her and apply the appropriate counselling skills and processes that can solve the problem. Each interaction may be accompanied with assignments on certain skills to improve learning disabilities.

The student can be given assignment on forming and tracing of letters in order to improve his/her motor coordination and develop dexterity in writing.

Assertive training strategy: It is reported in the literature that students with learning disabilities have emotional difficulties and conduct problems like withdrawal, lack of self-esteem and low rates of social acceptance (Settle and Milich, 1999). Such students need assertive training in order to fully realise themselves and accept themselves the way they are and understand that their disabilities can be reversed or improved upon. This could be achieved by teaching them how to assert themselves positively through value clarification. The counsellor needs to work on their self-worth and ask them to take responsibility of their actions in order to improve their self-esteem and forge ahead in their studies unhindered.

Peer tutoring strategy: Academic counsellors in ODL institutions can adopt peer tutoring strategy where one student teaches another student the skills of coping with learning disabilities. Here, students are trained to provide their peers with counselling by sharing materials that reflect their experiences in order to teach the essence of the need for appropriate learning skills. The academic counsellors need to first of all identify the students with learning disabilities and group them according to their forms and characteristics. Thereafter, a roster is prepared for meetings either synchronously or asynchronously under close monitoring and guidance. Students with learning disabilities can equally be engaged as peer tutors since students learn faster from their colleagues. This strategy can effectively be applied in sorting out dyscalculia challenges.

Mentoring strategy: A mentor is an individual or a role model who offers support to another person (Shukla, 2005). Thus, mentoring is a process of detailing an experienced individual to give support role to a person being mentored so that he/she can benefit from the knowledge and experience of the mentor. Academic counsellors in ODL institutions can mentor their students with learning disabilities by spending time with them on a regular basis where they (counsellors) encourage, provide activities and make suggestions on how the students can improve on their disabilities. The students can also look upon some significant others in their communities as well as students without disabilities in their classes so that they can emulate them and aspire to achieve the same height as those mentors have achieved. In this regard, counsellors can assign some good students to mentor some students with learning disabilities.

Remedial counselling strategy: This is a counselling intervention strategy that engages cognitive process in order to correct some errors. The academic counsellors can use this approach to teach students with disabilities what they ought to have learnt previously. This can be done by providing instruction to the weak students due to learning disabilities, the skills and support needed to strengthen the required skills of learning. The counsellor can also assemble several techniques and skills of counselling that can help to achieve the desired counselling objectives during remedial counselling such as e-counselling, especially in ODL institutions where students are found in different locations with different backgrounds.

Scaffolding counselling strategy: This is a new concept in counselling, which involves breaking down of counselling tasks and problems into smaller tasks, modelling the desired behaviours, providing students with needed support and allowing them to take responsibility of their actions.

The counsellors' assistance is highly minimal as students are in charge of the tasks of solving their problems. Thus, in ODL institutions, an academic counsellor may use this counselling strategy by demonstrating the required skills needed for solving a particular learning disability; allowing the student with learning disabilities to practice the required skill together with him/her; allowing the student to independently demonstrate and practice the required skill; and ensuring

systematic and detailed instruction that can enable students to imbibe the desired learning skills that can improve their cognitive competence.

It is important to restate that these counselling strategies as explained are interwoven and closely related. The selection of each strategy depends on the experience of the counsellor in handling it, the nature of the learning disabilities, time factor, resources available and willingness of students to seek for treatment. A combination of the strategies can be adopted for treatment depending on the forms and features of the learning disabilities to be treated.

Suggestions

In view of the quantum significance of academic counselling in ODL institutions, this paper has the following suggestions to make:

- the learner support services should be reinvigorated in order to place counsellors in their right perspectives with clear-cut autonomy so that they can be answerable to the Vice-chancellors or presidents of their institutions only;
- Counsellors should be exposed to regular seminars, conferences and workshops where they can be exposed to the tenets of learning disabilities and other disorders that affect academic activities. They should be well informed during such training and development exercises about how to identify and evaluate the forms and characteristics of learning disabilities quantitatively and qualitatively to enable them proffer appropriate intervention strategies when the need arises;
- counselling offices should be equipped with materials such as tracing papers, coloured papers, computers with bold keyboards, standardised psychological tests for identification and classification of students with learning disabilities;
- every study centre of every ODL institution should have at least two professional counsellors that will always attend to students' problems; and
- There should be data for internet services to enable counsellors embark on e-counselling via online interactions with students since some of them are found in distant locations.

Conclusion

ODL is a technology-driven academic venture that attracts students from varying environments and personalities. It is an inclusive and flexible education system that admits a large number of students irrespective of gender, race, and ability or disability. There are many able students as well as students with learning disabilities co-existing in order to achieve their academic goals and become useful in the society. Students with learning disabilities often perform below expectation when subjected to the same cognitive assignment with their peers and mates who have no disability or difficulty in learning.

Individuals with learning disabilities suffer from dyslexia, dysgraphia, dyscalculia, auditory processing disorder and visual processing disorder among others, which are caused by biological and environmental variables. Such people perform poorly in academic activities and assessment, show signs of irritability and frustration, feel alienated by peers, parents and teachers, become withdrawn, lack motivation and self-esteem, misinterpret the feelings of others and perceive education as a difficult human endeavour. They need counselling to assist them in overcoming their inability to cope with their peers academically. In particular, academic counselling strategies are needed to teach them the skills to read, write and engage in mathematical concepts. This is quite necessary since they are adult learners that find themselves competing in a flexible mode of education with students that are academically able and active.

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ENHANCING THE SKILLS OF ELECTRICAL INSTALLATION CRAFTSMEN IN NIGERIA- THE WAY FORWARD

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Abstract

Nigeria requires its efficient and capable skilled workforce to manage the construction industry. The workforce comprises the engineers, technicians and the craftsmen from Nigerian universities, polytechnics and technical colleges. The importance of the skilled workforce cannot be overemphasized as it contributes immensely to the social and economic development of the country and its contribution to the national gross profit. The aim of this study is to examine the issue of inadequate skills among electrical installation craft men in Nigeria, through a critique of literature relating to industry skills and education and how robots have been introduced into the construction industry to perform excellently well in place of humans in various vocational and technical fields due to inadequacies in performance of the skilled workforce. The review reveals that the potential factors contributing to inadequate skills of the craft men in construction industry include: out of date educational facilities, inadequate educational materials, tools and equipment's amongst others.

Keywords- Skills, Electrical Installation, Vocational & Technical, Robotics, Construction industry

Introduction

In the last decade, inadequate skills among craft men has become an important matter for discussion in construction industry in the whole world (Shah and Burke, 2003; Trendle, 2008). Developed countries like United Kingdom, United States of America, Germany, China, Australia and host of others still complained about issue of inadequate skills among their skilled workgroup, as it impedes and threaten their economy due to some factors like, construction workers lack of appropriate training, workers being new on the job role and some other factors (Ofori, 2000; Shah and Burke, 2003) that debar the progress of the industry.

Inadequate skills issue among the electrical Installation craft men affects construction industry in the whole sphere, construction industry in sub-Saharan Africa were not an exemption, they were also complaining about the incompetence of their labor workforce, which

affects productivity of the industry (Jonathan & Eric, 2009). Developing countries like Benin, Egypt, Libya, Algeria, Ghana and Nigeria among others were complaining about how issue of inadequate skill affected the economy of their various countries (Jonathan & Eric, 2009).

In the sub-Saharan Africa employers across the region already identify the gross inadequate skilled workforce as a major constraint to their businesses. In Ghana, the issue of inadequate skills among electrical installation craft men have been well documented (Edum-Fotwe, 2006). In Ghana inadequate skills among the craft workforce cuts across a range of market sectors like construction, hospitality industry, manufacturing, mining to mention few (Anderson, 2008). For construction industries in Ghana, inadequate skills issues are real and potentially harmful to the industry. The Ghanaian government is involved in tackling the issue of inadequate skills among the workforce due to its consequent implication on the industry and their community at large.

Similarly, it is general knowledge, that Nigeria is also faced with lack of skills development among its skilled labor workforce, especially the craft men. Hence, the issue of inadequate skill is of key importance most especially in the Nigerian construction industry. This has been observed by Awe et al., 2014, has had adverse effect on the construction industry in area of production and workforce (especially among craft men, who are graduates of technical college in Nigeria).

In sub-Sahara Africa and the developed world, construction industries have established inadequate skills. Hence, there exist gaps of incompetence among the labor workforce of construction industries in sub-Saharan Africa

Thus, the issue of inadequate skills cannot be over emphasized as it has become key and very importance most especially in Nigerian construction industry. This has been observed to have adverse effect on the industry in area of production and its workforce. This affects mostly the craft men, who are the graduates of technical college in Nigeria (Awe et al., 2014; Baqadir et al., 2011). Consequently, the society at large has the conviction that graduates of technical college does not have the ability and instruction in terms of skills acquisition as required for the demands of the construction industry.

The stakeholders and the general public at large in Nigeria have complained about the graduates of technical college who are the major

skilled artisan manpower of the industry. The complaints centered on unsatisfactory performance and expertise requirement at the workplace (Ogwo and Oranu, 2006; Awe et al., 2010). Hitherto, one of the problems and requirements of the construction industry in Nigeria, is that of inadequate skills among its workforce (Ofori, 2004).

Technical Vocational Education and Training (TVET) have been identified as an instrument that can help resolve the skill technicalities within the Nigerian construction industry.

Definition of Skill

“Skill” is defined as “the ability to competently perform a particular task assigned” (United Kingdom Commission Employer Skills Survey, 2010) or to perform “a specified task at a certain level of expertise” (Shah and Burke, 2003; Trendle, 2008). Similarly, a ‘skill ‘can be described as “ the capability to carry out job assigned to a level of competence and this can be built upon through learning” (OECD, 2011).

Within the construction industry, skill therefore is an activity involving knowledge, judgement, accuracy and mastery, all of which are acquire as a result of long training and practice in a workplace (Odusami, 2002; Awe, 2010). The concept of skill has been defined differently by writers in different forms. Skills could also be looked into from another perspective as being expert in area of specialization (Wood, 1988). It could be termed as capability to carry out jobs perfectly without supervision.

Classification of skills

Skills could be classified into few different ways, though skill have many characteristics. In this study skills could be classified as been generic, technical skill and hard skill (Ofori, 2004). Other skill categories include academic and cognitive and employability. Particular skills can be classified under a number of different skill types since these are overlapping categorization with varying relevance for specific job sector or roles. The classification will be discussed in this section with a view to creating a categorization relevant for measuring skills in the construction industry.

Academic or Cognitive Skills

These are basic academic skills needed to support learning in different subjects such as physics, English, mathematics and biology among other subjects. Most importantly, it is mandatory for all secondary school students to have academic skills in order to further their education in higher institutions of learning. These subjects are learned in school and it should be transferable to applications where needed. They are assessed using standardized test (Jayaram and Musau, 2017).

Generic or Specific Skill

This is a combination of skills that deal with problem solving, communications, or team work. The combination of these skills are applicable for use across all jobs and are meant for use in all situations and across disciplines (Kearns, 2001; Pumphery, 2001).

Technical Skills

These are specific skills for use across professions which are technical in nature, to include academic subjects like mathematics, physics, chemistry, biology and other subjects applied in different programs like, mathematics applied in plumbing works, physics applied in electrical installation with respect to equipment's and facilities (e.g. operation of a switch gear). Technical skills are defined as those skills acquired both at formal and non-formal institution of learning relating to the profession of one's choice as an apprentice, in the replica of the workplace for employment (Litecky et al., 2004).

Soft-Skills

Soft skills are part of requirement that makes you qualified, to successfully work as part of a growing industry. Soft skills are defined as an array of person's attributes and way of life to include goals, skills possessed, friendliness, reasoning, and motivation that makes an individual in life (Sorrel, 2017; Litecky et al., 2004).

Employability Skills

These are set of skills acquired by an individual in order to gain employment into a workplace. These skills are used for the development of oneself and for gaining employment into the world of work, these set of skills makes you to be successful and becomes competent in your

field of discipline (Robinson, 2000). These skills could be acquired through formal and non-formal training institutions, the purpose of employability skills are numerous, part of which are to gain employment and also to make contribution to the development of the workplace, possessing employability skills is an advantage, it gives edge to who possess it during promotion exercise than other counterparts who does not have it (Curtis & McKenzie, 2001; Bridgstock, 2009). These skills comprise of some attributes employers are looking for in graduates looking for employment, they include communication and interpersonal skills, working under pressure and to deadlines, problem solving skills, initiative and self-motivation, numeracy, team working, negotiation, ability to learn and adapt and valuing diversity and difference, though these attributes differ from one workplace to another. These attributes if possessed by an employee is useful for all and sundry, even though these skills are found lacking in most graduates looking for employment and those already engaged in employment (Dacre Pool and Sewell, 2007).

Skills demanded by construction Companies

The employers in the construction industry are looking for the skilled workforce with the right skills (Crowson et al., 2000; Jayaram & Engmann, 2017) and qualities to contribute to the development and success of the industry. Skills identified by the construction industry to be of importance include, academic or cognitive skills, generic skills, technical or vocational skills and work-related attitudes or soft skills (Stasz, 2001).

Construction companies in Nigeria found out that students of technical college are found deficient in some skills (Odusami, 2002; Awe, 2010). The major skill deficiencies previously found in construction industry in Africa, most especially Nigeria are cognitive especially numeracy and critical thinking, non-cognitive especially communication, leadership, and decision-making and technical skills among the craft workers (Jayaram and Engmann, 2017; Lututala, 2012; Odusami, 2002; Awe, 2007). Hudson, (2000). Manson et al., (2009), however, identified technical and practical skills as the most deficient skills within the United Kingdom (UK) construction industry.

Evidence of inadequate skills among craftsmen in Construction industry

Inadequate skills could be traced back to education and training (Chan and Dainty 2007; Gann and Senker, 1998). The relevant curricula and the teaching methods should be reviewed and updated

Inadequate skill is one of the pressing issues and concerns of industries throughout the world. Researchers has shown that Inadequate skill is experienced by all the industries worldwide, it has become a global issue, ranging from construction, manufacturing, health sector and host of others (Aring, 2012). Inadequate skill is a problem that has been in existence for ages; it is not a new occurrence within industries and has always been a recurring problem over the ages (Aring, 2012; Ofori, 2004).

The 2010 World Economic forum report on talent mobility states that the world is facing a global demographic shock and Inadequate skills among craft men This is a global challenge that is so great that no single stakeholder can solve alone” (Ofori, 1990; Aring, 2012). Globally therefore, the issue of Inadequate skills has become a significant issue that affects industries across the universe in which no single entity can resolve the challenges alone (Ofori, 2004; Aring, 2012).

The construction industry is facing difficulty in hiring skilled workers, which resulted into skills shortages hampering the production output of the industry and its business performance (Whittock, 2002; Ofori, 2004).

Evidence of inadequate skills among the craftsmen in Nigeria

Research relating to inadequate skills among the craft men in construction has become an issue of discussion in various developed countries together with developing countries, most especially the existence of skills deficiencies within the craft men in the construction industry (Manson et al., 2002; Dainty et al., 2004; UNESCO, 2012). The issue could be attributed or traced back to education and training for not providing the necessary and adequate skills needed by the construction industry, which has become a universal challenge. UNESCO (2012) reported that there are skills deficiencies throughout the world. The skills deficiency crisis in the construction industry is not peculiar to

Nigeria. It was recorded by Hass et al. (2001) that the issue of labor shortage and skills deficiency has become a major challenge in the construction industry, thereby affecting the USA and other countries of the world vigorously.

In Nigeria, research on inadequate skills in relation to skilled workforce in construction industry is under explored. Employers realized that there are also areas of skill deficiencies within the skilled workforce graduates (Odusami et al., 2003; Oloyede et al., 2010; Olusegun & Micheal, 2011). These deficiencies are at various levels, though more so within the craftsmen.

Previous research by Udofia (2012), Ogwo and Oranu (2006) reveal evidences of skill deficiency in Nigeria that include the following: industry comments; importation of expatriates; and unemployment of technical graduates. These are discussed in further detail below

Insufficient Skills

Lack of adequate skills and expertise on part of skilled craft men has become a big challenge. The construction industry has been complaining about these set of craft workers in area of practical and technical skills. Majorly, the industry relied on hybrid of skills for employment in which they are found lacking (Odusami et al., 2003; Oloyede et al., 2010; Nicoleau & Sackman, 2017 Olusegun and Micheal, 2011). The inadequate training received from both the formal and informal training has contributed to the lack of skill. The school and obsolete equipment's has contributed greatly to skills gap (Oni, 2007).

Importation of expatriates

Inadequate skills among the Nigerian craftsmen has prompted the federal government of Nigeria to import expatriates from developed countries to manage the construction works (Nigerian Punch, 2006). Such activity suggests, that the local workforce is not competent enough to handle such big projects due to insufficient skills (Oni, 2007).

Unemployment

Despite the large number of graduates of technical colleges (GTC) in Nigeria and the availability of the construction work, GTC graduates remain unemployed as a result of their incompetence (Obiegbo, 2002; Olaitan et al., 2000). Majority of skilled craft men and alumnus of

technical colleges in Nigeria are found roaming about the street, mainly because the training acquired do not match the industry requirement. There are lots of dissimilarity between the vocational educational curriculum in skills development and those skills required by the construction industry which are meant for employability and development of the construction industry (Awe, 2007; Olaitan et al., 2000).

Factors causing inadequate skills

Research by Obiegbo (2002), Olaitan et al. (2006) and others affirm host of other components that combine together to cause inadequate construction skills part of which are: lack of educational training, inappropriate skills and inadequate training and demand for multi-skill approach among others, It has been noted that the construction craftsmen have been criticized due to incompetency in their various disciplines and this has caused a bad impression on the kind of jobs produced and delivered. They are not recognized because of their low performance and poor work attitude which has an adverse effect on the industry. These factors contributing to the inadequate skills are further discussed below.

Lack of Educational Training

It is widely known and have been criticized, that, most craftsmen are not competent and lack adequate skills in their profession. This has been traced back to education and training curriculum which needs to be reviewed according to Oketch, (2007); Awe, (2010) and Olaitan et al., (1999) respectively. The lack of competence and adequate skills has contributed greatly to skills gap in Nigeria. The issue of education is a worldwide problem.

The main reason for the unstable education is that the curriculum guiding the programme of study has not been reviewed and developed to suit the industry need for sometimes (Namuddu et al., 2017). Inappropriate skills and inadequate training from non-experts to the craft trainees (Oketch, 2007; Olaitan et al., 1999) has contributed greatly to skills gap challenges in the construction industry.

Inappropriate skills and inadequate training

The lack of inadequate training and transfer of inappropriate skill has

contributed to skills gap, coupled with textbooks that are out-of-date which the instructors use in transferring and imparting training to students (Udofia et al., 2012). In that vein, Awe et al (2010) stress that facilities for practical works in most technical colleges are obsolete and not functioning, coupled with non-availability of modern tools and equipment for vocational training. It has been noticed that the curriculum guiding the technical college disciplines is not delivering much needed employment skills due to non-competency on part of the instructors and curriculum developers (Nicoleau and Sackman, 21017).

Demand for multi-skills approach

The Single skills approach is where workers master one specific craft trade. This is common in Nigeria and it is becoming increasingly inappropriate for the present-day industry (Arhani et al., 2003). It is also among the factors that causes skills gap. Conversely, multiskilling is the ability of a worker to carryout various jobs learnt in formal and non-formal setting which involves acquisition of skills knowledge and attitude used in various roles in the workplace. Multiskilling according to Collins dictionary is the act of training workers and entrants to engage in different roles and jobs.

Ejohwomu et al. (2006) highlighted that parts of the benefit of multiskilling is that it validates for a longer period of employment and gives maximum rate of income, it equally allows longevity of employment and also gives maximum income with reduced number of employees. Multiskilling have been discussed by different researchers to be very effective on issue of employment and job related issues in area of skilled workers and craftsmanship (Slomp & Molleman, 2003; Gomar et al., 2002; Piper & Liska; 2000; Thomas & Horman, 2002; Hass et al., 2001; Tam et al., 2001, Lill, 2009).

Investigations in this area are still sparse in Nigeria (Obiegbu, 2002; Olaitan et al., 1999; Murray et al., 2002).

SUGGESTED STRATEGIES FOR COMBATING INADEQUATE SKILLS

Apprenticeship Training

In combating the inadequate skills that is evident, Germany has taken the step of introducing a dual modern apprenticeship model. To develop a world first class workforce and resolve the challenges that are

prevailing, vocational technical education is the answer in Germany (OECD, 2011). Apprenticeship training programmes have been organized and identified by the vocational and education training as a route of providing successful and highly skilled workers. The workforce is employed in various workplaces of interest where the apprentice becomes an expert in a chosen profession. According to Holzer and Lerman (2007) the body that makes up the construction industry in some states attest to the fact that apprenticeship as a form of training has improved the quality and competence of trained skilled craft men. The apprenticeship scheme has been yielding positive results.

The use of Constructivist Model

The model of learning-by-doing is proposed by the constructivist and is commonly adopted in vocational and technical education. Some of the most skills intensive professions in developed countries use the same form of learning. It was observed and noted that students who receive some vocational training at the same time as they are taking academic courses tend to do better in those courses than students taking only academic courses (Billet, 1996; Kerka, 1997; Doolittle et al., 1999; Elkjaer, 2003; Kelly and Kellam, 2009).

Training and Retraining the Skilled Workforce

Training and retraining of the workforce will contribute to closing the skills gap, as training and retraining all refer to the process of imparting skills on the workforce (Bokini, 2005). The training could be in form of classroom training as recommended by (Solomon et al., 2012), trade group training by (Solomon et al., 2012), apprenticeship training recommended by (Zou et al., 2008) on the job training as recommended by (Awe, 2010) and coaching and mentoring by (Umar, 2005; Ugwuja, 2010; Odesola and Idoro, 2014), as they all contribute to combating the skills gap.

Functions and implications of Introducing Robots to the industry

Robots have been introduced into the construction industry to perform excellently well in place of humans, they can conform to different kinds of jobs ranging from installation, fixing and erecting pillars within and around the construction site (Warszawski, 1984; Jackson, 1990). The robots possess some economic potentials to include saving the number

of employees recruited into the industry, the robots work especially under unsafe, laborious and demanding environment, and they produce superior kind of job. The application of robotics to construction to date have been very limited in scope (Warszawski, 1984; Jackson, 1990; Jayaraj and Divakar, 2018). Robots are used in every area of construction work to include Electrical installation for high voltage transmission lines, obstacle recognition for power transmission line inspection among other installations both in Electrical domestic and industrial installations (De Souza et al., 2004; Fu et al., 2006; Katrasnik et al., 2008; Miller et al., 2017; Nayyerloo et al., 2009; Jiang and Mamisher, 2004; Wang et al., 2010).

Conclusion:

This paper is a review of literature on inadequate skills on the part of craft men. It is well noted that the construction industry requires a competent skilled workforce to run the industry, this set of skilled workforce are supposed to be competent in their area of expertise, but due to lack of skill, the construction industry has complained about their lack of skill, this led to the investigation into the skills demand of construction companies. Investigations shows that the graduates of technical colleges in Nigeria lack various skills in their area of expertise to include communication skills, literacy skills, numeracy and cognitive skills.

The lack of skills among the craftsmen is the major cause of skills gap. It shows clearly, from the literature review that skills deficiency exists in Nigeria and elsewhere some contributory factors are listed in the text, factors causing skills deficiency were discussed and strategies for combating the skills deficiency that is prevalent were discussed.

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TOWARDS ACADEMIC RESOURCEFULNESS AMONG ISLAMIC MODEL SCHOOLS IN ABUJA: GREAT HEIGHTS ACADEMY AS PROTOTYPE

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Abstract

A conventional curriculum based school in Nigeria is said to meet its target when it achieves the aim and objectives stated in the document submitted as communiqué of the National Curriculum Conference held in Lagos in 1969. Meanwhile, the schools established by Muslim individuals or organizations, and referred to as Islamic Model Schools, have never unanimously embraced a communiqué that would spell out a common curriculum to meet the supposed common targets of the Islamic Model Schools, anywhere in Nigeria. This paper found that Great Heights Academy, Abuja improvises “Islamic Perspectives” as an alternative subject and a form of resourcefulness to fill the vacuum in what the conventional standard schedules as Curriculum of Islamic Studies. This work aims to examine the concept of “Islamic perspectives”. It analyses the contents of the textbooks used for it across classes, and the methodology of teaching it at Great Heights Academy, Abuja. The School’s achievements through the implementation of “Islamic Perspectives” are among the nitty-gritty of this paper. Recommendations are offered to the Academy on how to improve on the application of “Islamic Perspectives” so that it yields better results and so that the Academy serves as a model for other schools that may later follow suit. Islamic Model Schools in Abuja are urged to embrace the application of “Islamic Perspectives” for optimum production of students with moral and academic excellence. The approach applied in this paper involved narrative, comparative and analytical, based on personal experience of, and field study conducted by, the writer.

Introduction

The common saying, “necessity is the mother of invention” is a summary that explains the relationship that naturally exists between a given human society and its system of training or contents of its education curriculum for its upcoming youth. The saying also reveals the secret of disparity in the perspectives of education in different nations, traditions, ideologies or religions in the world; ranging from

Greece and Rome to secularism and humanism, to mention but a few. The perspective of the Greek has it that an educated man is one who is physically and mentally firm. The Roman perspective of education attached preference to oratorical and military training over anything else. The secularist, otherwise known as modernist would always hold on to the perspective that education is a process that helps the man to live well in this material world.

Holding on to a different perspective, the humanists conceived education as a continuous process of mental, emotional and moral development, as initiation into quality life, which helps man to see different points of view to another (Gazali, 2005:60).

The Islamic perspectives of education or knowledge are clearly indicated in the glorious Qur'an in a number of verses. Some examples of what Islam expects from knowledgeable people as expressed in some verses are here: "It is indeed those who have knowledge among the servants of Allah that fear Him (Allah). Verily, Allah is All-Mighty, Oft-Forgiving" (*Sūrah al-Fātir*, 28). "So be conscious of Allah; and Allah will make you know. And Allah is the All-Knower of each and everything" (*Sūrah al-Baqara*, 282). "And mix not truth with falsehood, nor conceal the truth while you know (the true knowledge)" (*Sūrah al-Baqara*, 42). Certainly, in Islamic perspectives, none of firmness, oratory, materialism or intelligence to see different points of view can define who a knowledgeable person is, but high sense of consciousness, selflessness, morality, virtuous values etc. do. Therefore, Islamic perspective of education is to guide human race towards righteousness. It provides concrete intellectualism to present evidence of the true religion to the unbelievers and reinforce the faith of the believers. It was on the basis of this perspective that Muslims in Africa designed *Sangaya*, an education system which cuts across Sudan, Somalia, Mauritania, Nigeria, Morocco and Egypt (Abu Shahbah, 2003:269).

The term *Sangaya* exclusively refers to the traditional schools that taught the Muslim children the art of recitation and memorization of the Qur'an and when they graduated from this stage, they moved to the advanced level where other Islamic sciences were studied (Biu and Shettima, 2016:91). The schools are known as *Sangaya* (or *Tsangaya*) in Borno and Yobe, *Makarantar Al-Qur'an* in Kano, Kaduna and Katsina and *MakarantarAllo* or *Zaure* in Sokoto, Zamfara and Kebbi (Biu and Shettima, 2016:92). The system is termed *Ilekewu* among the Yoruba

speaking Muslims. The system was very effective in Nigeria, that Ibn Batūta is quoted to have confirmed, while narrating his past centuries experience, that “in almost every mosque, a mallam was found surrounded with different categories of learners” (Abu Shahbah, 2003:270). This scenario reportedly continued until the final triumph of Colonial Masters over the people of northern Nigeria which reached its climax in 1903 (Kannike, 2017:107). This has been elsewhere traced to its root and explained as:

‘...for the fact that the British administrators were bent on showing superiority of the type of education they introduced over the traditional Islamic education, as a result of which they gradually and systematically phase out or marginalize Islamic (Sangaya) education and extinguish the literary tradition which prospered for centuries’ (Kannike, 2017:106).

Following the collapse of the traditional Islamic education, the Western secular system of education took over. At first, Muslims ignored, avoided and condemned the system. The few Muslim parents who sent their children to Western schools were insulted and their children were greeted with hostilities by kids of their own age who were not enrolled in the system. They would stand by their homes and chant the derogatory songs composed to discourage every Western school-going child not to go to the school (Mustapha, 2014: 50). However, the conscious Muslims started to realise the need for alternative when they began to experience assault from their non-Muslim counterparts who used Western education and values to win converts from among the Muslim population (Yahaya, 2013:25).

The pressure became more serious when the future of a Muslim child was not in any way assured. This is because Western education and language have become parts of the pre-conditions for participation in the government civil services. It apparently became impossible for the elites to completely jettison the adoption of Western education. Thus, the thought for inclusion of Islamic studies in government school curriculum emerged.

After series of complaints, protests and debates, the curricula of secular schools were reviewed with inclusiveness of Islamic and Christian Religious Studies (Yahaya, 2013:25). After the inclusion

however, the Nigerian Muslims realised that the worth of the curriculum is nothing to write home about. Consequently, the Muslim stakeholders chose the alternative of combining the secular curriculum and the required basic knowledge of Islam for a Muslim child. An extension of this consequence is the introduction of Islamic Model Schools, the category to which Great Heights Academy, Abuja belongs.

It is against this background that this paper intends to briefly examine the secular schools in Abuja and their curriculum before studying the typical curriculum of Islamic Model Schools that situate in Abuja. The work gives a brief introduction of Great Heights Academy, Abuja with emphasis on its concept and application of “Islamic Perspectives”. It is equally important in this paper to x-ray the standpoint of the School about this improvised subject regarding its syllabus and textbooks, methodology of its teaching, its attached activities and benefits to the School. The final sub-heading shall be recommendations, concerning the subject, to the School in reference, other Islamic Model Schools and the entire Muslim Ummah.

Secular Schools in Abuja and their Curriculum

Abuja is the Federal Capital Territory of Nigeria. The Territory was formed in 1976 from parts of former Nasarawa, Niger, and Kogi states and it is in the central region of Nigeria, bordered to the north by Kaduna State, to the east by Nasarawa State, to the south-west by Kogi State and to the west by Niger State. The largest indigenous group in Abuja is Gbagyi (also known as the Gwari). The next largest indigenous group is the Koro. Smaller indigenous groups also inhabit the area, such as the Gade, Egbura, Gwandara, Bassa and the Ganagana. The Federal Capital Territory (FCT) is divided into six area councils namely, Gwagwalada, Abaji, Kuje, Bwari, Kwali and Abuja Municipal Area council (AMAC) (AbdulMumin, 2016:23).

Western Education was introduced to the area now called the FCT, Abuja as early as the period of Colonial Masters and was well introduced to neighbouring areas that later became Kwara, Niger, Kogi and Nasarawa states as well as in all the rural areas as from then. It should be noted that the first missionaries to arrive Nigeria were those of the Wesleyan Methodist who settled in Badagry in 1842. In December of the same year, Church Missionary Society (C.M.S) emerged and the arrival of Roman Catholic Mission (R.C.M) was witnessed in 1860s

(Yahaya, 2013:26). As the Catholic Mission Society was extending its evangelical programmes to other parts of the country, Samuel Ajayi Crowther opened the first two schools in 1858, one for boys and the other for girls in Igbihin and Onitsha respectively (Fafunwa, 1974:31). These Missionaries and those who came after them established churches and schools simultaneously purposely to preach the gospels and make the converts (Ayandele, 1990:84).

As the existence of British schools continued to spread across different parts of Abuja, so was the number of schools continued to increase with Primary schools getting more popularity and multiplication over the Secondary schools (Osoba & Fajana, 1980:571). Even though, most parts of what later became Abuja were remote around this time, the European masters did not discriminate between one area and another in the establishment of schools. However, the education policy of the British in Abuja and other parts of Nigeria emphasised only reading, writing and arithmetic in English language, without any consideration for the people's religion or culture. At suitable age, the missionaries expected the children to be apprenticed in useful trades/skills in gardening and agriculture etc. Only the most promising youths were considered for further education that would prepare them as school teachers in the interior, catechists and ministers (NTI, 1990:58).

With the recommendations of the Ashby panel of 1959 and communiqué of the National Curriculum Conference of 1969, Nigerian schools' curricula which are now under the control of indigenous government, became well developed and standardised. The secondary education which was hitherto selective became accessible to all and to meet the increasing number of students; Government opened many new secondary schools.

Generally, the curriculum was English Language, Mathematics, History, Geography, Religious Knowledge, Local Languages, Fine and Applied Arts, General Science, Biology, Chemistry and Physics. French was introduced gradually to replace Latin and Greek (NTI, 1990:68). It is important to note that this curriculum, which remains the standard in Abuja secular secondary schools, was tailored purposely to meet the requirement of foreign examinations and not the requirement of the people's religion or life filled with high sense of moral standard. When the Islamic Model Schools eventually emerged, unification of their

curriculum became an obvious challenge.

Islamic Model Schools in Abuja and their Curriculum

The history of Islamic education in Nigeria is the same as the history of the religion of Islam itself. This is because Islam goes to any place or community along with its own form of education. Islamic education entails giving instruction on purely theological matters, such that the trainee would be able to recite the glorious Qur'an, learn and practice some basics of Islam. It is also a process of self-discipline, which ensures spiritual and intellectual growth of the individual. As a system of education, it entails clarifying the very nature of life (here and hereafter), and prescribing the position of man and his role on earth. (Adeyemo, interviewed) Since the Muslims realised the crucial need of establishing the schools they can call their own and customise to fulfil the need of the Ummah, the Islamic Model Schools have kept increasing in number on daily basis. In the FCT Abuja, there are numerous Islamic nursery and primary schools. Below is the list of registered Islamic schools in Abuja:

- :: African American Islamic Institute Abuja
- :: Al-Cimfa International Academy, Gwagwa Abuja
- :: Al Kawthar Academy, Lugbe Abuja
- :: Al Nur (Light) Nursery and Primary School, Kubwa Abuja
- :: Al Qalam International Academy Abuja
- :: Al Wajud Nursery and Primary School, Kubwa Abuja
- :: Al-Habibiyya Academy Abuja
- :: Al-Ikhlās International Academy Dutse Tipper Garage Abuja
- :: Al-Ilmu International Nursery and Primary School, Kubwa Abuja
- :: Al-Manar Basic Education School Life Camp
- :: Al-Mustaqeem Academy Gwarinpa Abuja
- :: Amirah Memorial International School Nyanya Abuja
- :: Annoor Islamic Centre Gwarinpa Abuja
- :: Ar-Rahman International School Asokoro Abuja
- :: Centre for Arabic and Islamic Studies Zone 4 Abuja
- :: Duin International Academy Kubwa Abuja
- :: Esteem Learning Centre Zone 4 Abuja
- :: Faithful Attack for Poverty (Literacy Centre) Nursery, Primary, Islamiyya and
- :: Adult Education, Dei-Dei Abuja

- :: FOMWAN Model Nursery/Primary School, Garki Abuja
- :: Fou'ad Lababidi Islamic Academy Secondary School Wuse Abuja
- :: Goldilocks Pre-School Kubwa Abuja
- :: Great Heights Academy Nursery/Primary and Girls Secondary School Kado Abuja
- :: Hayatul Islam Nursery\Primary School, Karu Abuja
- :: Ibn Mas'ud Islamic Centre Bilingual Nursery and Primary School Kuje Abuja
- :: ICICE Al-Noor Academy, Wuse 2, Abuja
- :: Intelligence Quotient Academy Pre-Nursery Nursery and Primary School Garki Abuja
- :: Iqra'a Nursery and Primary School, Lugbe Abuja.
- :: ISBON Nursery and Primary School Karu Abuja
- :: I-Scholar's International School Gwarinpa Abuja
- :: Islamic Trust Fund Nursery/Primary School Garki Abuja
- :: Islamic Youth Nursery/Primary School Garki Abuja
- :: Ithbath Nursery and Primary School Abuja
- :: Iyanda Progeny Private School Day Care, Playgroup, Nursery and Primary School Gwarinpa Abuja
- :: Jama'atul Ibadur-Rahman of Nigeria Kuje Abuja
- :: Kubwa School of Islamic Studies, Masjid Jabalin-Nur Kubwa Abuja
- :: Madrasatu Diya-ul Islam Garki Abuja
- :: Ma-Yashau Nursery and Primary School Lugbe Abuja
- :: Model Islamic Nursery and Primary School Kubwa Abuja
- :: National Mosque Academy, Abuja
- :: Nurul Bayan International Academy zone5 Abuja
- :: Nurul Islam Nursery and Primary Kubwa Abuja
- :: Nurul Yaqeen Nursery and Primary School Karu Abuja
- :: Play House Nursery School Abuja
- :: Ray'an International Academy, Kubwa Abuja
- :: Shehu Shagari Model Islamic Centre Nursery\Primary School, Garki Abuja
- :: Sheikh Abubakar Mahmud Gummi Nursery School Karu Abuja
- :: Sheikh Hamdan Model Senior Secondary School, Gwagwalada Abuja
- :: Sunrise International School Garki Abuja
- :: The Foliage Academy, Lugbe Abuja

- :: The Merciful Academy, Dutse Abuja
- :: The Sultana School for Arabic and Islamiyya Gwarinpa Abuja
- :: Zaytuna Oakland Nursery and Primary School Abuja (Abubakar, 2018:36-38).

A very glaring difference between the system of Government Secular Schools and that of Islamic Model Schools in Abuja is in the unification of curriculum, its standardization and implementation of the standardized curriculum (Bakare, interviewed). Unlike the secular schools where the same curriculum and syllabus are applied for the same level or class in all primary and secondary schools in the city, every Islamic Model school contrarily chooses what to teach and what not to teach, that in some cases, it does not appear that all the Model schools were established for the same purpose as analysed earlier on.

It is therefore important to examine the uniformity or otherwise of the curricula that bring the above schools together under the same title of Islamic Schools or Islamic Model Schools. The experts and experienced school administrators indicate that the Primary stages should be separated from the Secondary stages if curricula of Islamic schools in Abuja are to be examined. According to Yusuf, an Abuja based seasoned consultant on Islamic education; the curriculum in many Islamic Model Schools in Abuja at primary stages is worthy and well equipped than at the secondary stages (Adeyemo, interviewed).

Considering the primary section of Abuja based Islamic Model Schools, it was discovered that about seven subjects were introduced in addition to the secular subjects of the conventional schools. The subjects are Qur'an, Arabic, Hadith, *Adhkar*, *Fiqh*, *Tawheed* and *Tajweed*. It was noticed that while some schools enforce implementation of the seven subjects, some choose only six, five or less than that. Where a school concentrates exclusively on memorization of the Qur'an, other subjects are compromised and forfeited (Awwal, interviewed).

The difference in the number of selected subjects is not the only inconsistency in the syllabus of the primary section of the Islamic schools but also the contents in each of the subjects. What a particular school schedules as scheme of work for a term is the same as what another school earmarks for a session. Therefore, the syllabus covered by school A within a session is equivalent to the one that school B struggles to cover in two years. This is what an expert remarks in

summary that “there is similarity only in the subjects offered; there is no uniformity in contents” (Adeyemo, interviewed).

The disparity in contents of the syllabus becomes more worrisome when different schools use different books for the same subject. This happens in some cases, due to unavailability of the preferred book; in some cases, due to the expensive nature of the preferred book and in some other circumstances the books with low quality are selected due to personal interest of a teacher or his employer (Zun-Nurain, interviewed).

Different Islamic primary schools achieve at different rates and degrees, not only due to the above inequalities but also due to the type of training their teachers have acquired and capability of the teachers. In conventional schools, no one is certified to teach a subject except someone who had chosen the subject as a discipline; such individual must also have gone through education courses either through National Certificate in Education (NCE), Bachelor of Education (BE) or Postgraduate Degree in Education (PGDE). However, it is possible in some Islamic Model Schools to engage an individual who excels only in memorization of the Qur’an to teach Hadith and *Fiqh* which ought to be explained in English Language. It also happens in some schools that anybody that recites the Qur’an is asked to teach the Qur’an regardless of his low level of proficiency. (Dosunmu, interviewed) Meanwhile, no one can give what he does not possess.

In the secondary section of the Abuja based Islamic Model Schools, none of the above seven subjects, except the Qur’an, is popular. The schools concentrate extraordinarily on secular subjects; for they are believed to be more cumbersome and demanding of efforts and time from the students, than in the primary section. Some schools dropped the subjects with the claim that the students had acquired all the basics of Islam through the subjects, during their studies as pupils in the primary sections. The excuse of some schools, among other reasons put forward, is that the students are in tougher situation and they deserve to be released and reserved exclusively for their academic challenges particularly, external examinations. (Adeyemo, interviewed)

However, it should be understood that, for similar reasons, the curriculum in secular arrangement replaces certain subjects of primary sections with others in the secondary. This is also applied between junior and senior secondary schools’ curricula. It is therefore expectant of Islamic schools to replace the dropped subjects appropriately with at

least, one that is advanced to commensurate with the students' current exposure and societal challenges. This may include the reasons why Great Heights Academy, Abuja introduced in the Secondary section of the Academy the subject tagged Islamic Perspectives.

Great Heights Academy Abuja and Introduction of Islamic Perspectives

The introduction of a subject that would later be known as Islamic Perspectives to the School curriculum came in the year 2009. The decision was reached after a long-time contemplation on the hazards of limiting the knowledge to be acquired by the students to the contents of Islamic Studies in the syllabus provided for Nigerian Secondary Schools. (Dauda, interviewed) Another important factor considered by the School was its determination to change the future generation of Muslim women, to counter balance negative social and environmental influences and to produce spiritually guided individuals who can compete intellectually anywhere in the world. (GHA, nd: 1)

In earnest, GHA adopted the name "Islamic Perspective" and made a restructuring in the School programme to comfortably accommodate the new subject. This was by separating Islamic Studies from the Department of Arabic and thereby creating the "Department of Islamic Studies and Perspectives". Effective curriculum was developed and relevant books were obtained for each class, from JSS 1 to SS 2 with exception of SS 3 where students are exclusive for final year examinations.

The focus of Islamic Perspectives syllabus in each class and the books that each class has used for the subject in the last ten years are stated below:

- JSS 1: The syllabus focuses on introduction of Islam and moral responsibilities of a Muslim to the students in an interesting way. The target is to boost Islamic faith and love for high moral standards in the young Muslims. The books used so far are *24 Hours in the life of a Muslim* by Harun Yahya and *have you discovered its real beauty?* By Dr. Naji Ibrahim Arfaj.
- JSS 2: The focus of the syllabus is to introduce Islamic perspectives on natural sciences to the students. The target is to widen the understanding of young Muslims on amazing wonders of

Allah in His creation and improve on the students' ability to discuss this reality in any forum possible. The books that have served this purpose so far are *Wonders in Allah's Creation*, by Harun Yahya, *The Miracles of Human Creation* by Harun Yahya and *Seek the Signs of Allah*, by Dr. Nasiroh Omar.

- JSS 3: The focus of the syllabus in this class is to improve the moral standards of the students. Morality is targeted because it is believed that the students in this class are just entering into teenage stage in life and they deserve the topic more than anything else. The books that have been used so far are *Islamic Moral Lessons* by Islamic Trust, Minna, *Forty Hadith on Good Moral Values* by Capt. Yahya M.A. Ondigo and *30 Ways to Attain Happiness* by Muhammad Bin Abdillah Ash-Shaayi.
- SS 1: The focus of the syllabus here is directed at the brilliance and intellectual capability of the students. The target is to produce students who can discuss the Islamic perspectives on scientific theories and hypothesis. The students should be able to establish, not only the fact that the Qur'an and natural science are compatible but also, that the scientific analysis in the Qur'an which preceded the modern discoveries have always been found accurate. The books that have been employed so far are *Signs of Allah for Men of Understanding* by Harun Yahya and *The Qur'an and Modern Science Compatible or Incompatible* by Zakir Naik
- SS 2: This is the highest level in the offering of the Subject. The syllabus focuses on strengthening the students' faith concerning some important concepts in Islam. It is targeted at producing from the students, ambassadors and defenders of Islam. The students are also anticipated to become propagators of Islamic teachings even at the point of impromptu discussion. The books that have been in use for this purpose are *Islam the Natural Way* by AbdulWahid Hamid and *50 Candles to Light Your Path* by Dr Abdulkarim Bakkar

The Role of Islamic Perspective in the Progress of Great Heights Academy

'Islamic Perspectives' as a subject born out of resourcefulness has played significant roles by making the School initiate certain programmes which were hitherto not in existence. The most prominent

in this regard is the Annual *Da'wah* Competition. This is a programme that aims to present to the public the excellent performance of the students during the classes of Islamic Perspective which is always interactive and student centred. This annual occasion exhibits oratory, intellect, confidence and preaching talents of the participating students. The candidates are drawn from across classes after several preliminary stages that must have taken place in each class during the subject. The topics of presentation are at the discretion of the candidate or her class, though the topics are to be closely related to issues discussed in the books used for the Islamic Perspectives. During the occasion of the annual competition, panel of judges are constituted with experts from outside the School, parents of participating students are invited to witness the event. At the end, participants are generally rewarded with impressive consolation prizes, the first three winners are presented with overwhelming prizes while the overall best will be given a free seat to Saudi Arabia for lesser pilgrimage.

As a result of these curriculum related resourcefulness and the attendant activities, the School has carved a niche of popularity, admiration and public acceptance for itself. The fact that every student looks forward to the time when the weekly presentation of the customised subject would come to her turn, she is always prepared to be as eloquent, vocal and brave as possible. Students compete rigorously in their various classes to come out being the ones to represent the class in the annual competition.

The Saudi Arabia trip exposes the overall winner to the practical knowledge of the pilgrimage taught in Islamic Studies classes. The students consequently apply the moral lessons contained in the valuable topics of the Islamic Perspectives; this improves drastically the students' attitude within the School and in their respective homes. Finally, the knowledge acquired from the Subject reflects in the students' intellectual approach to issues concerning their social interactions with others.

Recommendation

Great Heights Academy is urged to open her doors widely to delegates from other Islamic Model Schools to visit the School during the weekly interactive classes of Islamic Perspective since the classes spread across different days of the week. It is also recommended that GHA publicises

the annual *Da'wah* programme to the public and ensure a wider venue is used, rather than the School hall, to make it accessible to the larger part of the Muslim community. The relevant stakeholders in Islamic education should be made to witness the beauty of the in-house curriculum and its attendant annual occasion; possibly to adopt as model appropriately. The School is obliged to ensure continuity and improvement as there is always room for improvement.

The Islamic Model Schools in Abuja and possibly elsewhere, need to visit Great Heights Academy and observe the activities of Islamic Perspective. The connectivity among the Muslim Schools should be strong and adoption of Islamic Perspective as a Subject in the secondary section be unanimously embraced. The schools should present the Subject to the students in an interesting way to achieve its purpose. Every school may initiate other relevant programmes for resourcefulness; this may possibly be weekly, termly or annual, to augment the existing general curriculum. It is important and beneficial to the Ummah that Islamic Model Schools in Abuja work together for unity, cooperation and taking valuable lessons from one another. Above all, the resourcefulness must be within the premise approved by the Government moderating agencies such as Education Resource Centre, Abuja

Conclusion

The conceptual framework of this paper centres on curriculum in Nigerian education system with focus on what is obtainable in Islamic Model Schools. The scope of this work is narrowed to Islamic schools that exist in Abuja, the Nigerian Capital Territory. Great Heights Academy is one of the schools in Abuja and it is a School found with an updated curriculum tailored in accordance with the needs of the Muslim community in the education of their children or wards. Islamic Perspectives is the title of the interactive subject introduced by the School across all the secondary section's classes with exception of SS3. The methodology used for the weekly classes and the annual programmes attached to the Subject has helped to impact greatly in the moral and academic excellence of the students of Great Heights Academy.

This paper observed the need for GHA to sustain and improve on the activities of Islamic Perspective. The work brought to the fore the

need for all Islamic Model Schools in Abuja, and possibly elsewhere, to take GHA as model in resourcefulness such as in ‘Islamic Perspectives’ to achieve maximally the goals of Islamic education. Recommendations are offered to the Academy on how to improve on the activities of “Islamic Perspectives” so that it yields better results and so that the Academy serves as perfect template for other schools that may later follow suit. Islamic Model Schools in Abuja are presented with recommendations to embrace the Islamic Perspectives for optimum production of students with moral and academic excellence.

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CURBING SCHOOL ATTRITION AS A PRECURSOR FOR ACHIEVING SUSTAINABLE DEVELOPMENT GOALS (SDGS) IN NIGERIA

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Abstract

The United Nations has designed the Sustainable Development Goals (SDGs) to transform the livelihood of the people around the world. It aims at achieving inclusive, equitable and quality education opportunities for all. However, the number of out of school children in Nigeria calls for serious concern. A survey by the United Nations Children Fund (UNICEF, 2017) has shown that the population of out of school children in Nigeria has risen from 10.5 million to 13.2 million beside that, the gap between the rich and the poor are on the increase. This study, therefore, examines the increasing rate of attrition in basic schools, the factor responsible for this menace and measures that can curb the increasing rate as a means of archiving Sustainable Development Goals (SDGs). Precise social adjustment programmes which policy planners can adopt to curb children's attritions in basic in the schools were recommended.

Keyword: *Attritions, Precursor, SDGs*

Introduction

The United Nations has designed the Sustainable Development Goals (SDGs) to transform the livelihood of the people around the world. The 2030 agenda is committed to 17 goals and 169 targets in tackling sustainable development challenges; it is a plan of action for people, planet and prosperity. It is addressing the biggest challenges in the world such as climate change, poverty, diseases, energy crisis, food insecurity and water scarcity. All these challenges are the main problems that are common in Africa.

The sustainable development goals are holistic global approach that is capable of addressing issues and challenges of developing nations. In Nigeria for instance poverty, poor accesses to health care, low standard of living, illiteracy, insecurity among others are most challenges. However, to achieve SDGs, all preceding issues and factors that had mitigated other development agenda such as MDGs should be addressed. For instance goal four (4) aims at achieving inclusive an equitable quality education and promote lifelong learning opportunities

for all. Education is a key to national development and government of advanced nations laid emphasis on this hypothesis. According to the National Policy of Education (NPE), 2014 education is the greatest force that can be used to achieve the national objectives; it is the greatest investment that the nation can make for the quick development of its economic, political, sociological and human resources. No nation can achieve economic prosperity without a sound, inclusive and functional education system. The security and stability of a country, to a large extent, depends on its ability to provide functional education to her citizens. The Universal Declaration of Human Rights, Article 26, for instance, states categorically that everyone has the right to education (UNESCO, 1998).

In Nigeria, the priority given to education is encapsulated in the National Policy on Education which states that education is an instrument par excellence for effecting national development, It added further that education shall continue to be highly rated in the national development plans because education is the most important instrument of change and that any fundamental change in the intellectual and social outlook of any society has to be proceeded by educational revelation (FRN, 2004).

Education is also one of the fundamental rights of individuals. Article 26 of the Universal Declaration of Human Rights, which was adopted by the United Nations General Assembly in December, 1949 stipulated that:

- i. Everyone has the right to education. This shall be free at least in the elementary and primary stages.
- ii. Elementary education shall be compulsory while technical and professional education shall be made generally available.
- iii. Higher education shall be equally accessible to all based on merit.

In realization of this fact, the Nigerian federal government has pursued the policy of universal education to encourage her citizens especially the rural children to have the basic requirement of education. To achieve this, most government has initiated special intervention programmes most especially in the rural areas to reduce the number of out of school children. Such programmes include the Girl-Child Education, Back-to-School and Almajari Education. Another initiative by the government during this period was the introduction of a free and compulsory nine-year schooling program in 1992. It covered primary

education and junior secondary education. The main objective of the program was to ensure that there was a smooth transition from primary education to junior secondary school. It also aimed at ensuring that learners remain in school long enough to acquire basic and life skills

According to the Nigerian Education Data Survey in 2014, 60% of urban children attended school and surpassed that of the rural areas with 36%. Furthermore, the National Literacy Survey in 2015 illustrated that an estimate of 84% Nigerians has either attended a formal or non-formal school with the urban Nigerians having 91.4% as contrary to the rural population of 80.7%. In terms, of sex variation, the survey indicated that the male attendance (88.1%) outshines that of female attendance (80.2%) (NBS, 2010)

Despite the tremendous progress by Nigerian democratic governments since 2000 to provide universal basic education to her citizens, the journey in meeting basic universal education is still a mirage. A survey conducted by the United Nations Children's Fund (UNICEF) (2018) indicates that the population of out of school children in Nigeria has risen from 10.5 million in 2010 to 13.2 million in 2018, now the highest in the world. UNICEF (2018) asserts that one in every five of the world's out-of-school children is in Nigeria. Even though primary education is presumed to be free and compulsory, only 61 per cent of 6-11 year-olds regularly attend primary school and only 35.6 percent of children aged 36-59 months receive early childhood education. The benefits of education can only be fully realized if the learners enrolled in the schooling system can progress, complete and transit to the subsequent levels.

The most worrisome is the rate of students' attrition in both basic and secondary schools. Ballantine (2003) referred to children dropping out of school as the "at-risk" students that are at the mercy of an underclass culture, which offers little promise for success in life.

While Andersen and Taylor (2005) described them as 'underclass' consisting of those people who have been left behind by contemporary economic developments and are likely to be without much means of economic support. According to The National Bureau of Statistics (2015) in 2016, total public Senior Secondary School Enrolment stands at 3,563,748 students with male accounting for 1,950,093 and female 1,613,655 while the total number of students that completed Public Secondary School in 2016 totaled 1,018,835 with male students

accounting for 563,539 and female students 455,296. In 2017 a total of 3,424,175 students enrolled in public senior secondary school with male students accounting for 1,858,560 and female students 1,565,615. While in 2017 total were 967,847 with male students accounting for 538,345 and female students 429,502. This indicates a decline of -3.91% years on year.

In 2016, total private Senior Secondary School Enrolment stands at 911,561 students with male accounting for 467,099 and female 444,462 while, the total number of students that completed Private Secondary School in 2016 totalled 286,341 with male students accounting for 146,933 and female students 139,408 in 2017 a total of 899,172 students enrolled in private senior secondary school with male students accounting for 443,969 and female students 455,203. This indicates a decline of -1.36% years on year.

Also according to the national bureau of statistics (2014) the net attendance for a primary school in 2014, stood at 68.7% compared with 2012, which was 71%. Similarly, Secondary school net attendance rate was 54.80% and 57.40% in 2012 and 2014 respectively. The primary six completion rate was 87.70% in 2012 and by 2014 had declined to 74%.

In this respect, Adeyemi (2019) noted that “pupils’ enrolment could be investigated based on entry rates, enrolment ratios, sex ratio, pupil-teacher ratio or progression or grade ratio”. Entry rate, according to the author, for instance, is the flow of children of school age into each level of the educational system from successful leavers at the preceding level whereas enrolment ratio the author defined as the ratio of the number of pupils of a given age enrolled in school to the size of the population in that age-group”. Section 4; sub-section 1 of the Universal Basic Education Act states that every parent shall ensure that his child receives full-time education suitable to his age, ability and aptitude by regular attendance at school.

Main causes of Attrition in Nigeria Schools are:

Family Poverty

Family poverty is one of the major factors causing school attrition in Nigeria. Poverty is associated with several adverse conditions — high mobility and homelessness, hunger and food insecurity, domestic violence; drug abuse and other problems. According to Paula &

Gruskin, (2003) poverty, may give rise to students illness, malnutrition and absenteeism; high inappropriate curricula and examinations; badly trained teachers; lack of textbooks and materials for schooling; overcrowded schools. The issue of poverty continues to increase in Nigeria despite the government effort in reducing it. The democratic governance that was installed in Nigeria in 1999 opened a new chapter in the government drive in curtailng the increase in poverty.

However, despite all the impressive programmes, poverty continues to increase significantly in Nigeria. For instance, the official release of a Nigerian poverty profile in 2015 illustrated that 112 million Nigerians live in poverty.

Poverty is prevalent in the rural areas when compared to the urban centres, the poverty profile indicates that 48.3% rural dwellers live in food poor, 66.1% in absolute poverty, 73.2% in relative poverty and 66.3% in one dollar per day. The rate at which poverty is increasing in Nigeria has made the African development Bank to admit that Nigeria cannot meet the target of the MGDs because of the increasing level of poverty in the rural and urban areas.

What would be special in SDGs? Although, primary education is presumed to free in Nigeria, parents still have to buy textbooks and provide food for their wards. When the parents fail to make adequate provision, the children are more likely to dropout from school. Most parents will prefer their boys withdraw from school to go into buying and selling while the girls migrate into urban centres in search of daily bread, Nwadiani (1998).

Social Disparity

Nigeria is beset by high levels of disparity in terms of access to social services and income distribution. Disparities in socio-economic sometimes determine the level of children's well-being. Parental neglect does occur when parents have limited income and resource, causing their children to leave school early and can be responsible for the child's eventual dropout from school. Every child has the right to survival, growth, development and participation. Protecting and fulfilling these rights requires laws and social policies that promote equity

Cost of Schooling

Direct and indirect schooling costs are important factors for the

education of children. Schooling costs especially school fees, cost of stationaries are a central reason for early dropout from schools for some children in Nigeria.

Issues of school Security

BokoHaram insurgency in the north, kidnapping in the south, herdsmen etc this has resulted to upscale of social discord, killings and bombings in the northern part of Nigeria and had reversed the gains of so many years of investments in education especially in rural communities. There are several hundreds of thousands of internally displaced persons who are currently unable to attend schools. According to internally-displaced monitoring (2016), the figure was estimated to be 1,538,982 as of April 2015 and these people live on charity, have limited access to healthcare services, their health and emotional conditions are far from ideal. These people are also denied access to quality care, even when they could afford it. Fear of attacks has led to mass exodus of teachers and the closure of school facilities.

Measures to Curb School Attrition

1. Implementation of Free Basic Education

The notion behind free education presupposed that education is fully funded through government spending or charitable organizations rather than tuition funding. Many models of free education have been proposed in Nigeria. the Universal Basic Education (UBE) Programme was introduced in 1999 by the Federal Government of Nigeria as a reform programme aimed at providing greater access to and ensuring the quality of basic education throughout Nigeria. However poor infrastructure, inadequate supervision and monitoring, shortage of teachers, inadequate funding among others are impeding its implementation hence most school children still struggling to pay school fees

2. School Feeding Programme

In several parts of the world, school meals and school feeding have been used as an effective mechanism for addressing child nutrition, educational enrolment and retention. School feeding is simply the provision of food to children through schools. School feeding programmes constitute critical interventions that have been

introduced in many developed and developing countries of the world. This can address the issue of poverty, stimulate school enrolment and enhance pupils' retention in school.

3. **Food-for-Education**

Food for education is different from the school feeding programme. The concept of *Food-for-Education Program* had its origins in food security policy In Bangladesh in the late 1980s and early 1990s. The idea is paying families in food in exchange for having their children attend school. Food-for-education (FFE) programs, which include meals served to children in school, as well as take-home rations conditional on a child's school attendance, are a popular means of improving school participation while fostering learning and supplementing the inadequate diets of school-age children. It could increase primary school enrolment, promote attendance, reduce dropout rates, and enhance the quality of education. In Bangladesh, the research carried out by The International Food Policy Research Institute (2012) on the effects of school feeding programme found that the programme raised school enrolment rates by 14.2%, reduced the probability of dropping out of school by 7.5% and increased school attendance by 1.3 days a month.

4. **Improved School Facilities**

Educational facilities are a major factor in enhancing enrolments and retention of school children. It portrays the quality of the school and the students, safety and relevance. Many students in Nigeria attend schools that are old, outdated, and uncomfortable and even unsafe (Awe. 2013). According to Lewis, Neill and David (2003), the satisfaction with school environmental conditions, including lighting, heating, ventilation, indoor air quality, acoustics or noise control and physical security of buildings enhance students' morale in learning. While Kennedy and Agron (2004), Argued that effective school facilities positively affect educational environments and enhances teaching and learning, providing safe, healthy, and comfortable schools. Therefore, improved school facilities will reduce school attrition.

Conclusion

The sustainable development goals are holistic global approach that is capable of addressing issues and challenges of developing nations such as poverty, poor access to health care etc however for these goals to come to fusion, Education must be giving top priority, the rate of students' attrition in both basic and secondary schools must be curbed . Those pupils who had been left behind must be brought back to school. This could be done through, effective implementation of free education, improved school facilities and reinvestments of food for education policy.

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**SOCIAL MEDIA USAGE IN PROMOTION OF LEARNING
ACTIVITIES AMONG NCE PART-TIME STUDENTS OF
FEDERAL COLLEGE OF EDUCATION KANO**

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Abstract

This study investigated social media usage in promotion of learning activities among part time Nigerian Certificate in Education students of Federal College of Education Kano. The aim was to examine various social networking platforms used by the students for promotion of learning activities and challenges faced in the process of its usage. The study adopted descriptive survey research design. The total population for the study was 2,347 out of which sample of 331 was selected using proportionate stratified sampling technique based on Research Advisor guidelines of sample selection. The instrument used for the data collection was social media and promotion of learning questionnaire, which was validated by three scholars in the field of Educational Technology of Bayero University Kano. The reliability index yielded 0.87 using Cronbach alpha test of reliability. The data collected was analyzed using frequency count, percentage, mean, standard deviation and chi-square statistics. The results showed that the students used WhatsApp, Facebook, Twitter, YouTube, Blackberry Messenger, 2go Messenger, Eskimo Messenger and LinkedIn Messenger social media platforms. In addition to this, participants in this study made use of social media for academic/learning purposes and faced some challenges, such as irregular power supply, poor communication network and so on in the process of using mobile application. Furthermore, the study revealed that significant influence exists statistically on social media usage and students' age groups. Finally, it was also established that students' gender is dependent on the social media usage. The study recommends that the school authority should provide alternative power supply source and quality internet service across campus to enable students overcome the challenges encountered.

Keywords: Social Media, Mobile Application and Learning

Introduction

Information and Communication Technology (ICT) has revolutionized all spheres of human endeavours, education sector is inclusive. It paved ways for the use of social networking sites (SNS). In the words of Junco, Heiberger and Loken (2010), SNS or social media are a collection of internet websites, services and practices that support collaboration, community building, participation and sharing. There is no gainsaying that the growing dimension of the social media usage among the youths today cannot be underestimated. There are many social media platforms available today and ever increasing in number daily. Among the notable ones are Facebook, WhatsApp, YouTube, LinkedIn, and 2go, Eskimo, Blackberry, amongst others.

Nowadays, just like radio or television stations, social media sites usage spread everywhere globally, Nigeria inclusive and are bound to be sprouting as new technologies evolve. However, the problem lies in the fact that the purposes for which the users apply the new media are still obscured. No wonder Folorunso, Vincent, Adekoya and Adewale (2010) argued generally that, in Africa, social media networking site is becoming widely spread than it has ever been before and it tends to be majorly accepted by youths. Yet, the purpose of widespread adopting by users of these sites is not clear, as it appears that people's perception of this technology differs. In essence, social media sites can be used both positively and negatively.

Commenting on positive side of SNS, Kaplan and Haenlein (2010) identified a number of positive impacts of the social media networking as follows; increases students quality of collaboration, teaches students skills that will be needed to survive in the business world, assists students academically by gaining access to course materials, helps students to develop more familiarities with the computer and other electronic devices, with increased focus on technology in education and the world of work. However, looking at negative implications of SNS, Kaplan and Haenlein (2010), Schmidt (2013) and Thelwall (2014) noted that; many students rely on the accessibility of information on the media, thus reducing their focus on learning and retaining of information, affects students' concentration on multiple tasks, due to distraction by YouTube for instance.

Furthermore, globally, social media platforms are fast becoming

very popular means of both interpersonal and public communication in Nigeria and the world at large. Therefore, it is modern interactive communication channel through which people connect to one another, share idea, experiences, pictures, messages and information of common interest. In essence, what distinguishes the social media from the conventional means of communication is their interactive nature which allows the audience to participate in its usage from any part of the world they reside (Quan-Haase & Young, 2010).

Objectives of the Study

This study aimed to achieve the following objectives;

1. To identify various social media platforms used for promotion of learning among Nigerian Certificate in Education Part-time students of Federal College of Education Kano.
2. To examine the social media platforms usage for promotion of learning among Nigerian Certificate in Education Part-time students of Federal College of Education Kano.
3. To find out the challenges of using social media platforms in promotion of learning among Nigerian Certificate in Education part time students of Federal College of Education, Kano.

Research Questions

This study answered the following questions:

1. What are the various social media platforms used for promotion of learning among Nigerian Certificate in Education Part-time students of Federal College of Education Kano?
2. How do Nigerian Certificate in Education Part-time students of Federal College of Education Kano make use of social media platforms for purpose of promotion of learning activities?
3. What are the challenges faced in using social media in promoting learning by Nigerian Certificate in Education Part-time students of Federal College of education, Kano?

Hypotheses

Two null hypotheses were formulated to guide the study as follows:

- H₀₁: Student's age group has no significant influence on the usage of social media platforms for promotion of learning activities among Nigerian Certificate in Education Part-time students of Federal

College of Education Kano.

H₀₂: The usage of social media platforms for promotion of learning activities among Nigerian Certificate in Education Part-time students of Federal College of Education Kano is independent of student's gender.

Methodology

For the purpose of this study, the descriptive survey research design was adopted, which involves a study of a representation of the entire population. The population of the study consisted of entire 2014/2015 admitted (100 and 200 levels) students, totally 2, 347 as obtained from registration office of coordinator/director sandwich programme, Federal College of Education, Kano. Out of this population, proportionate stratified sampling technique was adopted to pool samples for the study. Based on Research Advisor (2006)'s sample table, a population of 2, 500 has a sample size of 333, thus, the sample for this study was 331 out of 2, 347 registered students. The instrument for data collection was questionnaire which was validated by three lecturers from the Faculty of Education, Bayero University, Kano. All their comments and observations were incorporated in the questionnaire tool before it was distributed for data collection. The questionnaire comprised of two sections. Section A composed of respondents' information on age, sex, faculty and level, while section two consisted of three segments. First segment dealt with various social media platforms, segment two described usage of social media for promotion of learning activities and segment talked on challenges of social media usage. The instrument made of 3-point scale of 3 – Agree, 2 – Undecided and 1 – Disagree. However, the instrument was pilot tested with 100 level students of Saadatu Rimi College of Education, Kano and the result of reliability index yielded 0.87 using Cronbach alpha test of reliability. For data analysis, descriptive statistics (tables, frequency counts, simple percentage, mean and standard deviation) as well as chi-square statistic were used. The criteria for the agreement on an item statement was based on computed mean value. That is for the 3-point scale, mean is computed as $(3+2+1)/3 = 6/3 = 2$. This implies that for an item statement to be agreed on, the calculated mean value must be greater than or equal to 2.

Results

Demographic Data of Respondents

This segment of the research shows the arrived number of respondents in each variable using proportionate stratified sampling technique.

Table 1: *Demographic Data of Respondents*

SN	Variables	Options	Frequency	Percentage (%)
1	Gender	Male	212	64.0
		Female	119	36.0
		Total	331	100.0
2	Age	18-25	253	76.4
		25 and above	78	23.6
		Total	331	100.0
3	Level	100	135	40.8
		200	196	59.2
		Total	331	100.0
4	Schools	School of Arts and Sciences (SASS)	58	17.5
		School of Educational Curriculum Planning and Evaluation (SOECPE)	25	7.6
		School of Languages (SOL)	136	41.1
		School of Sciences (SOS)	75	22.7
		School of Vocational and Technical Education (SOVTE)	37	11.2
		Total	331	100.0

Source: Researcher's field work (2017)

Table 1 showed the sample size of NCE part-time students that took part in responding to the questionnaire administered by the researchers. It revealed that in term of gender, there were 212 (64.0%) males and 119 (36.0%) females. However, the age group between 18-25 years were 253 (76.4%) and 25 years and above were 78 (23.6%). In the level of education, the total numbers of 100 level students were 135 (40.8%) which was less than 200 level students with total numbers of 196

(59.2%). On the programmes of the study, School of Art and Social Sciences pooled 58 students equivalent to 17.5%. School of Early Childhood and Primary Education were 25 (7.6%), School of Languages 136 (41.1%), School of Sciences 75 (22.7%) while school of vocational and technical education were 37 (11.2%).

Research Questions One: What are the various social media platforms used for promotion of learning among Nigerian Certificate in Education Part-time students of Federal College of Education Kano?

Table 2: Various social media platforms used by part – time NCE students of Federal College of Education, Kano

S/N	Statements	Responses	Frequency	Percentage (%)
1.	I use WhatsApp social networking platform.	Agree	283	85.5
		Undecided	7	2.1
		Disagree	41	12.4
		Total	331	100.0
2.	I use Facebook social networking platform.	Agree	284	85.8
		Undecided	7	2.1
		Disagree	40	12.1
		Total	331	100.0
3.	I use Twitter social networking platform.	Agree	278	84.0
		Undecided	7	2.1
		Disagree	46	13.9
		Total	331	100.0
4.	I use YouTube social networking platform.	Agree	254	76.7
		Undecided	7	2.1
		Disagree	70	21.2
		Total	331	100.0
5.	I use Blackberry messenger social networking platform.	Agree	241	72.8
		Undecided	61	18.4
		Disagree	29	8.8
		Total	331	100.0
6	I use 2go messenger social networking	Agree	30	9.1
		Undecided	48	14.5

	platform	Disagree	253	76.4
		Total	331	100
7	I use Eskimo messenger social networking platform.	Agree	47	14.2
		Undecided	97	29.3
		Disagree	187	56.5
		Total	331	100.0
8.	I use LinkedIn messenger social networking platform.	Agree	212	64.0
		Undecided	24	7.3
		Disagree	95	28.7
		Total	331	100.0

Source: Researcher's field work (2017)

Information in Table 2 revealed that 283(85.5%) of respondents stated they used WhatsApp, while 7(2.1%) and 41(12.4%) showed there are undecided and disagreed respectively. Equally, 284 of respondents' equivalent to 85.8% preferred using Facebook, 7(2.1%) undecided and 40(12.1%) disagreed to usage of Facebook. Similarly, 278(84.0%) of respondents stated that they preferred using Twitter, while 7(2.1%) and 46(13.9%) showed there were undecided and disagreed respectively. In the same vain, 254(76.7%) of respondents preferred using YouTube, 7(2.1%) were undecided and 70(21.2%) disagreed to prefer YouTube. In terms of Blackberry, 241(72.8%) of respondents preferred Blackberry messenger, 61(18.4%) were undecided and 29(8.8%) disagreed to prefer blackberry messenger. Besides, 30(9.1%) of respondents preferred using 2go messenger, 48(14.5%) were undecided and 253(76.4%) disagreed to prefer 2go messenger. Also, 47(14.2%) of respondents preferred using Eskimo messenger, 97(29.3%) were undecided and 187(56.5%) disagreed to prefer Eskimo messenger. Finally, 212(64.0%) of respondents preferred using LinkedIn messenger, 24(7.3%) were undecided and 95(28.7%) disagreed to prefer LinkedIn messenger. Based on this analysis above, it is established that Facebook, WhatsApp, Twitter, YouTube, Blackberry messenger, 2go messenger, Eskimo messenger and LinkedIn messenger social media were used by part time Nigerian Certificate in Education students of Federal College of Education Kano.

Research Questions Two

How do Nigerian Certificate in Education Part-time students of Federal College of Education Kano make use of social media platforms for purpose of promotion of learning?

Table 3: *Usage of social media platforms among Nigerian Certificate in Education students of Federal College of Education, Kano for promotion of learning activities*

S/N	Item Statement N = 331	Mean	SD	Remark
1.	Social networking platform allows me to always stay in contact with family members while I am in the school.	2.67	0.72	Agreed
2.	Social networking platform makes it easy on how to organize group discussion in college.	2.82	0.56	Agreed
3.	My college is on social networking platform which has great impact on my studentship.	2.70	0.70	Agreed
4.	Using social networking platforms make me feels confident and contributive in the class.	2.29	0.95	Agreed
5.	My social networking platform interactions have had a positive influence in my personal attitudes.	2.57	0.80	Agreed
6.	The use of social media can provide a lot of opportunities for education that can be accessed by everyone around the globe.	2.70	0.70	Agreed
7.	Social networking platform assists students and equally facilitate effective communication between administrators and teachers.	2.90	0.44	Agreed
8.	Social networking platforms provide more than just social exploitation, it also offers wide opportunities and give support to what the educators	2.71	0.70	Agreed

	learn from the website			
9.	Social media platforms have a great impact for educational growth for students in higher schools.	2.89	0.47	Agreed
10.	Social media platforms can increase the engagement of learning creativity and open for diverse opinion and views which are important.	2.70	0.70	Agreed
11.	Social media increases my access to resources, exchanging of information and lesson plans.	2.95	0.33	Agreed
12.	Social media helps students for successful employment through the constant use of networking websites	2.67	0.70	Agreed
13.	Social media can allow students share their creative works like films, poetries and also carry out the responsible use of information as well as technology.	2.41	0.90	Agreed

KEY: N=Number of respondents, SD = Standard Deviation.

Source: Researcher's field work (2017)

Information in Table 3 depicted usage of social media platforms or promotion of learning activities amidst Nigerian Certificate in Education students of Federal College of Education, Kano makes use of. It was uncovered that all 13 item statements sought to address the usage of social media platforms by students were unanimously agreed upon. This was true as result of computed mean value of each item statement which was greater than cut off point (2.00) of 3-point scale used for the study. Out of these item statements, 'social media platforms increase my access to resources, exchanging of information and lesson plans' ranked first with mean value 2.95,

While 'using social networking platforms make me feel confident and contributed in the classes ranked last with mean value 2.29. Looking at the computed standard deviation of each item statement shows it less than 1.00, meaning that there was no wide gap in the respondents' responses when data were collected from field.

Research Questions Three

What are the challenges faced in using social media in promoting learning by Nigerian Certificate in Education Part-time students of Federal College of education, Kano?

Table 4: *Challenges faced in using social media platforms by part-time NCE students of Federal College of Education, Kano*

S/N	Item Statements	Responses	Frequency	Percentage (%)
1.	Inadequate power supply is a major problem to use of my phone for social media.	Agree Undecided Disagree Total	318 0 13 331	96.1 0.0 3.9 100.0
2.	I spend a lot of money for subscription in order to access the social media, which in turn affects my pocket money.	Agree Undecided Disagree Total	278 7 46 331	84.0 2.1 13.9 100.0
3.	I find it difficult to manage my time on social media.	Agree Undecided Disagree Total	314 04 13 331	94.9 1.2 3.9 100.0
4.	Sometimes I find it difficult to know which of the social media to use as they are many.	Agree Undecided Disagree Total	210 7 114 331	63.5 2.1 34.4 100.0
5.	I'm finding it difficult to do without social media, as am becoming addicted to it.	Agree Undecided Disagree Total	278 7 46 331	84.0 2.1 13.9 100.0
6.	The network service sometime can be frustrating in the use of social media.	Agree Undecided Disagree Total	278 7 46 331	84.0 2.1 13.9 100.0
7.	Over reliance on social media for source of information has led to poor reading habit.	Agree Undecided Disagree Total	306 0 25 331	92.4 0.0 7.6 100.0

Source: Researcher's field work (2017)

Information in Table 4 uncovered that 318 (96.1%) agreed that inadequate power supply as a major problem to use of their phones for social media, while 0(0.0%) were undecided and 13(3.9%) disagreed on the statement. Also, 278(84.0%) stated that they spent a lot of money for subscription, while 7(2.1%) and 46(13.9%) were undecided and disagreed on the statement respectively. Besides, 314(94.9%) respondents found it difficult to manage their time, 4(1.2%) were undecided and 13(3.9%) disagreed to find it difficult to manage their time on social media. In addition to that, 210(63.5%) respondents found it difficult to know which of the social media to use, 7(2.1%) were undecided and 114(34.4%) disagreed to inability to know which of the social media to use. Similarly, 278(84.0%) respondents stated that they found it difficult to do without social media, 7(2.1%) were undecided and 46 (13.9%) disagreed on the statement. More so, 278(84.0%) respondents agreed that network service sometimes can be frustrating, while 7(2.1%) and 46 (13.9%) were undecided and disagreed respectively on the statement. Equally, 306(92.4%) respondents stated that over reliance on social media for information lead to poor reading habits, 0(0.0%) were undecided and 25(7.6%) disagreed to over reliance on social media for information leads to poor reading habit.

Based on this analysis, it is established that part-time Nigerian Certificate in Education students of Federal College of Education Kano faced the following challenges: inadequate power supply, spending a lot of money on subscription, difficulty in time management, difficulty to know which of the social media to use, addiction to social media, unstable network service and over reliance on social media for source of information.

Testing of Hypotheses

Two null hypotheses formulated to guide the study were tested as follows:

Hypothesis One

Ho₁: Student's age group has no significant influence on the usage of social media platforms for promotion of learning activities among Nigerian Certificate in Education Part-time students of Federal College of Education Kano.

Table 5: Chi-square analysis of influence of students' age group on the usage of social media platforms for promotion of learning activities

Gender	Respondents' Responses			Total	p_value	α	Remark
	Agreed	Undecided	Disagreed				
18-25	210 (63.4)	20 (6.0)	23 (6.9)	253 (76.4)	0.01	0.05	Ho ₁ rejected
26 & above	34 (10.3)	17 (5.1)	27 (8.2)	78 (23.6)			
Total	244 (73.7)	37 (11.1)	50 (15.1)	331 (100.0)			

Key: p_value = probability value, α = level of significance, values in parenthesis are in percentage.

Table 5 revealed chi-square statistics analysis of students' age group influence on the usage of social media platform for learning activities among NCE part-time students of Federal College of Education, Kano. It is evident that calculated chi-square probability value ($0.000 \approx 0.01$) was less than 0.05 significance value, meaning that null hypothesis one which stated students' age group has no significant influence on the usage of social media platforms for promotion of learning activities among Nigerian Certificate in Education Part-time students of Federal College of Education Kano was rejected. This implies students' age group has significant influence on their social media platform usage among the students.

Hypothesis Two

Ho₂: The usage of social media platforms for promotion of learning activities among Nigerian Certificate in Education Part-time students of Federal College of Education Kano is independent on student's gender.

Table 6: *Chi-square analysis of gender influence on the usage of social media platforms for promotion of learning activities*

Gender	Respondents' Responses			Total	p_value	α	Remark
	Agreed						
Male	183 (55.3)	4 (1.2)	25 (7.6)	212 (64.1)	0.01	0.05	Ho ₂ rejected
Female	89 (26.9)	9 (2.7)	21 (6.3)	119 (35.9)			
Total	272 (82.2)	13 (3.9)	46 (13.9)	331 (100.0)			

Key: p_value = probability value, α = level of significance, values in parenthesis are in percentage.

Table 6 revealed chi-square statistics analysis of gender influence on the usage of social media platform for learning activities among NCE part-time students of Federal College of Education, Kano. It is uncovered that calculated chi-square probability value ($0.000 \simeq 0.01$) was less than 0.05 significance value, meaning that null hypothesis two which stated that usage of social media platforms for promotion of learning activities among Nigerian Certificate in Education Part-time students Federal College of Education Kano is independent of student's gender was not accepted. Thus, gender depends on the social media platform usage among the students and this is in favour of male students as their frequency count and percentage in table 6 are 183 and 55.3% respectively, which are greater than that of female counterparts 89(26.9%).

Summary of Findings

1. It is established that Facebook, WhatsApp, Twitter, YouTube, Blackberry messenger, 2go messenger, Eskimo messenger and LinkedIn messenger social media were used by part time Nigerian Certificate in Education students of Federal College of Education Kano.
2. Part time Nigerian Certificate in Education students of Federal College of Education Kano used social media for purposes such as to stay in contact with family members while in the school, to organize group discussion, to feel confident and contributive in the

class, for education that can be accessed globally, for effective communication between administrators and teachers, for social exploitation, a source to widen their knowledge, for learning creativity and diverse opinion, for exchanging information and the lesson plan, for successful employment and to share creative works.

3. Part time Nigerian Certificate in Education students of Federal College of Education Kano identified the following as challenges faced while using social media platforms: spending a lot of money on subscription, difficulty in time management, difficulty to know which of the social media to use, addiction to social media, unstable network service and over reliance on social media for source of information.
4. Students' age group has significant influence on their social media platform usage among the students.
5. Students' gender depends on the social media platform usage among the students and this was in favour of male students as their frequency count (183) and percentage (55.3%) were greater than that of female counterparts 89(26.9%).

Discussion of Findings

This study revealed that part time Nigerian Certificate in Education students of Federal College of Education Kano use Facebook, WhatsApp, Twitter, YouTube, Blackberry messenger, 2go messenger, Eskimo messenger and LinkedIn messenger social media platforms. The finding is in line with the research findings of Davis (2012), which stated that Social Media Technology (SMT) are “web based and mobile applications that allow individuals and organizations to create, engage and share new user generated or existing contents in digital environments through multi-way communication” and such social media platforms on mobile and web applications include Facebook, Twitter, YouTube, WhatsApp and others as indicated in the study.

Part – time Nigerian Certificate in Education students of Federal College of Education Kano used social media platforms to promote and increase their learning activities through student's interactions and collaborative. The finding is in disagreement with study of Laughlin (2008) which stated that social media is negatively associated with academic activities of students. Laughlin (2008) observed poor effect

and influence when the media is overused in such a way that does not promote academic positively and as well as to improve learning or its process. Besides, this finding is in consonance with the findings of Tiene (2000), which established that “written communication on cyber space enables students to take part in discussion at their convenient time and allow them to articulate their ideas in more carefully thought and structured ways”. Also, Salvation and Adzharuddin (2014) concluded that, students are able to formulate group discussion to exchange ideas and communicate with their teachers as well as appeal to their friends on social media platforms. However, the findings contradicted the statement credited to Arnold (2010) which stated that, even when social media is used for educational purposes, students incorporate the technology into their lives in a way that may differ from the intentions of the course instructor.

Findings in this work revealed that Part time Nigerian Certificate in Education students of Federal College of Education Kano identified challenges faced while using social media as inadequate power supply, spending a lot of money on subscription, difficulty in time management, difficulty to know which of the social media to use, addiction to social media, unstable network service and over reliance on social media for source of information. The finding is in consonance with the findings of Oye, Mahamat and Rahim (2012), which stated that in Malaysia, most students unconsciously get addicted to the use of social media networks. The participant indicated that they always intended to spend few minutes but always end up spending hours surfing and updating profiles as well as viewing photos. Also, this finding contradicted with the statement revealed by Christian (2009) that social media platform is time consuming and at the same time could be regarded as data abuse or lack of data protection, lack of privacy, privacy control and loss of personal contacts. All these happen in the event if users do not use it properly.

This research established that students’ age group has significant influence on their social media platform usage. This finding is in line with the findings of Hruska and Maresova (2020) which concluded that as age increases, social media use decreases. In addition to this, this finding is in line with the findings from the work of deBruin, Parker and Strough (2020) which stated that older age is associated with less use of social media platforms. Besides, Wrzus, Hanel, Wagner and Neyer (2013)

established that the use of social networks decreases with increasing adult age.

Finally, this study found that gender is dependent on their social media platform usage among the students and this is in favour of male students. This is in agreement with the finding of Kasahara, Houlihan and Estrada (2019) which established that Instagram and snapchat both had significant relationship between students' gender and this is in favour of female (16%) students who are likely post more materials on social media platforms than the males (5%). This finding also in line with Mazman and Usluel (2011) which concluded that females use Facebook for maintaining existing relationships, academic purposes and following agenda higher than males use it for making new relationships at a rate higher than females.

Recommendations

The study recommended that;

1. The school authority should provide alternative power supply source and quality internet service across campus to enable students overcome the challenges encountered.
2. The school authority should make internet accessibility easy for students by incorporating internet access fee into school fees.
3. The students should be cautioned so as not to be carried away by the distractions encountered through social media at the detriment of their studies, thus certain amount of time should be set aside for internet usage.

Conclusion

This paper investigated social media usage in promotion of learning activities among Nigerian Certificate in Education part-time students of Federal College of Education Kano. The study adopted survey research design and questionnaire was used as an instrument for data collection. Based on the findings of this study, it reflected that the part time Nigerian Certificate in Education students of FCE Kano, have access to social media platforms and were equally using them. The findings also indicated that the students engage in the use of Facebook, WhatsApp, YouTube and Twitter. In essence, the major tools used in operating this mobile application were android, blackberry and computer devices. The

use of social media platforms for educational purposes is beneficial to student learning in multiple ways as students confirmed these in the study. Finally, both gender and age of the students have significant influence in the use of social media in the promotion of learning activities.

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**COMPARATIVE ANALYSIS OF FACILITIES MANAGEMENT
IN PUBLIC AND PRIVATE SECONDARY SCHOOLS IN
ILORIN WEST LOCAL GOVERNMENT, KWARA STATE**

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Abstract

This study assessed comparative analysis of facilities management in public and private secondary schools in Ilorin West Local Government, Kwara State. Descriptive research design of survey type was adopted. The population consisted of 2,882 and 2,423 teachers 33 public and 45 private secondary schools respectively in the LG. Random sampling technique was used to select 11(33.3%) public secondary schools out of the 33 and 15(33.3%) private secondary schools out the 45. Ten teachers from each of the sampled schools were also randomly selected to make a total of 260 respondents. The instrument entitled Comparative Analysis of School Facilities Management was used to collect data. The instrument was validated and the data gathered for its reliability test was analysed with the use of Cronbach's Alpha. Reliability coefficient of 0.72 was realised. Three hypotheses were formulated, while t-test was used to test the hypotheses at 0.05 level of significance. The findings of the study showed that there was a significant difference between facilities provision, utilisation and maintenance in public and private secondary schools in Ilorin West Local Government, Kwara State.

It was recommended that Kwara State Government should intensify its efforts in the provision of facilities for the public secondary schools to match and surpass private schools, while private school proprietors should sustain and also continue to heighten provision of facilities for their schools in order to effectively achieve the stated goals.

Keywords: School facilities, Utilisation, Provision and Maintenance

Introduction

Secondary schools, like other levels of education, either private or public cannot be effectively operated without adequate facilities, no matter the availability of skilled teachers and motivation provided for them. The facilities make curriculum implementation easy for teachers, support students' learning and consequently facilitate goal attainment of the schools. Facilities in education could be categorised into physical (laboratories, classrooms, libraries, toilet and hostels, offices and sick bays), infrastructural (water, electricity, fan, school bus and fire extinguisher), sporting (football field, basketball and volley ball courts, balls, javelin and table tennis), and teaching and learning (textbooks, projectors, teaching aids, white boards and computers). They are very essential and without them, actualising school goals would be a dream that cannot come true. According to Asemah (2010), school facilities include but not limited to workshops, assembly halls, laboratories, libraries, classrooms, libraries, teaching aids and gadgets such as modern educational hardware and software. They are really the substantial things that enhance teaching and learning in the educational institutions. In both public and public schools, facilities are a great prerequisite and as such, they need to be well provided, utilised and maintained. Management of the facilities in education involves provision, utilisation and maintenance. It is very essential in schools, either private or public to aid effective teaching and learning which would consequently assist students to perform well in their academics.

Facilities provision in education means the process of supplying all the non-human resources needed by schools, for the purpose of supporting effective teaching and learning; and eventually enhancing students' academic performance. Manasseh (2019) believed that school facilities remain not only a drive for effective teaching and learning but also a provider of abundant pleasures for educators and learners. Poor

provision of facilities would not make school members derive maximum gains from education and could hinder academic performance of students. Asiyai (2012) maintained that the facilities provided in educational institutions directly or indirectly influence effectiveness of teaching and learning. Akpakwu (2012) stressed that no matter how curriculum is well designed, if facilities are not adequately provided, the purpose for which schools are established might not be smoothly derived. Proprietors need to be highly committed to sufficient supply of school facilities, to support the school success. Ikoya and Oneyase (2008) posited that many school managers, scholars, researchers, planners of education believe that facilities in public secondary schools in Nigeria are insufficient; and some available ones are being over used, because of rapid upsurge in the school enrolment. Adeogu (2008) maintained that the insufficiency of facilities in schools is one of the obstacles challenging the development of education system in Nigeria. After the provision of school facilities, another key aspect which needs to be focused upon is effective utilisation, if actualisation of the purpose for which they are provided is a priority.

To effectively utilise school facilities, teaching and non-teaching staff and students need to be well educated by the school managers or any assigned members of the staff on how to rightly make use of them. Without adequate knowledge and skills of the school managers on proper usage of facilities, under-utilisation, over-utilisation, lack of utilisation or injudicious utilisation could occur and consequently hinder actualisation of the established goals. Nweneka (2016) asserted that in Nigeria, enrolment in public secondary schools has been continually rising without a corresponding match in facilities provision. As a result of this, the available facilities are over-burdened and it results in ineffective utilisation. Udosen (2012) opined that for facilities to continue to stand active for the reasons they are supplied, proper utilisation is required.

Philius and Wanjobi (2011) maintained that adequacy of the provided facilities is a yardstick for determining effectiveness of a school. However, ensuring judicious and effective utilisation of the facilities is equally another yardstick. The more the facilities are properly utilised by students and teachers, the better the students' academic performance could be. In other words, facilities provision is very imperative in education system. Teaching and learning is the most

important business in schools and for it to take place in the best form, facilities have to be adequately provided. Maintenance of facilities in education is defined as a planned action or actions carried out to ensure that the existing school facilities unfailingly provide the services for which they are provided. The manner in which maintenance of facilities is conducted in a school could determine its effectiveness, especially in the aspect of students' academic performance. Amanchukwu and Ololube (2015) believed that that maintenance of facilities refers to activities carried out with the aim of maintaining initial use value of the school facilities. Nweneka (2016) stressed that facilities maintenance in education refers to any action or group of actions aimed at retaining facilities in good usable condition for so long, without failure to put it back to its operational state after a failure incidence. Poor facilities maintenance is one of the challenges faced by education system in Nigeria. Amanchukwu and Ololube (2015) asserted that poor facilities maintenance in public school in Nigeria has become a frequent issue and the earlier it is addressed the better for the goals achieved at this level of education. Considering this view, it is very imperative for the school managers to regularly maintain facilities, to consistently make them serve the purpose for which they are provided, in order to enhance students' academic performance. According to the Federal Republic of Nigeria (2014), there should be adequacy of facilities in all educational institutions either private or public as established in the rule and regulations of the Ministry of Education for setting up new schools. However, as adequate provision of school facilities is of priority, so also the maintenance is necessary, before the established goals could be attained effectively. It is based on the above views that this study comparatively examined facilities management in public and private secondary schools in Ilorin West Local Government, Kwara State.

Statement of the Problem

Facilities are very important in the school system. However, the situation of facilities in some public secondary schools in Ilorin West Local Government, Kwara State Nigeria seems worrisome. Some schools in the LG are short of physical, infrastructural, games and sports, teaching and learning facilities, while the existing ones in some schools are poorly utilised and maintained; the incidence, which might cause ineffective realisation of the established goals.

To support this, Manasseh (2019) asserted that in Nigeria, it seems government does not properly prioritise provision, utilisation and maintenance of facilities in public secondary schools and this could be one of the factors responsible for poor students' academic performance. In addition, Nwankwo (2014) argued that in Nigeria, facilities provided in private secondary schools outshine those available in public schools. Private schools are business ventures and as such, their proprietors don't take provision of facilities with levity. Not only that, the proprietors also properly key into judicious utilisation and maintenance of those facilities to ensure their long lifespan and support the school success.

However, based on the above views, the researchers' personal observation and public outcry on the current situation of some facilities in the public secondary schools in Ilorin West Local Government, Kwara State, and this study set out to assess facilities management in public and private secondary schools in the area. The purpose of the study was to determine:

- i. the difference between provision of facilities in public and private secondary schools;
- ii. the difference between utilisation of facilities in public and private secondary schools; and
- iii. The difference between maintenance of facilities in public and private secondary schools.

The following hypotheses were formulated:

H₀₁: There is no significant difference between provision of facilities in public and private secondary schools.

H₀₂: There is no significant difference between utilisation of facilities in public and private secondary schools.

H₀₃: There is no significant difference between maintenance of facilities in public and private secondary schools.

Methodology

The study focused on comparative analysis of facilities management in public and private secondary schools in Ilorin West Local Government, Kwara State. The study adopted descriptive survey. The population for the study comprised the teachers in 33 public and 45 private secondary schools in the LG. Random sampling technique was used to select

11(33.3%) public secondary schools out of the 33 and 15(33.3%) public secondary schools out the 45 in the Local Government area. Ten teachers from each of the sampled schools were also randomly selected to make a total of 260 respondents. The instrument entitled Comparative Analysis of School Facilities Management was used to collect data for the study. The instrument was divided into five sections (physical, infrastructural, sporting, teaching and learning) with five items each. Likert rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) was used for rating. The instrument was validated by four experts in the Faculty of Education, University of Ilorin. Reliability was done by administering 20 copies of the instrument to some teachers in public and private secondary schools in Ilorin South Local Government. Cronbach's Alpha was used to analyse the data and reliability coefficient realised was 0.72. This justified that the instrument was reliable to be used for the study. Three research assistants helped the researcher in distributing and receiving the questionnaire from the respondents after filling.

Results and Discussions

To test the hypotheses, inferential statistics of t-test was used at 0.05 level of significance. Out of the 260 copies of questionnaire distributed, only 241 were retrieved and used for analysis.

H₀₁: There is no significant difference between provision of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State

Table 1: *Difference between Provision of Facilities in Public and Private Secondary Schools*

School type	N	\bar{X}	SD	Cal. t-value	p-value	Decision
Public	106	3.11	1.26	2.64	0.027	H ₀₃ Not Accepted
Private	135	3.95	1.60			

Significant @p <0.05

Table 1 shows mean scores of 3.11 and 3.95 for public and private secondary schools respectively, a calculated t-value (2.64) while the p-value (0.027) is less than the level of significance (0.05). Hence, the null hypothesis one (H_{01}) was not accepted. This signifies that there was a significant difference between provision of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State.

H₀₂: There is no significant difference between utilisation of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State

Table 2: *Difference between Utilisation of Facilities in Public and Private Secondary Schools*

School type	N	\bar{X}	SD	Cal. t-value	p-value	Decision
Public	106	3.46	1.33	2.57	0.016	H ₀₃ Not Accepted
Private	135	4.29	1.85			

Significant @ $p < 0.05$

Table 2 shows mean scores of 3.46 and 4.29 for public and private secondary schools respectively, a calculated t-value (2.57) while the p-value (0.016) is less than the level of significance (0.05). Hence, the null hypothesis two (H_{02}) was not accepted. This signifies that there was a significant difference between utilisation of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State.

H₀₃: There is no significant difference between maintenance of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State

Table 3: *Difference between Maintenance of Facilities in Public and Private Secondary Schools*

School type	N	\bar{X}	SD	Cal. t-value	p-value	Decision
Public	106	3.09	1.26	2.82	0.013	Ho ₃ Not Accepted
Private	135	4.14	1.77			

Significant @ $p < 0.05$

Table 3 shows mean scores of 3.09 and 4.14 for public and private secondary schools respectively, a calculated t-value (2.82) while the p-value (0.13) is less than the level of significance (0.05). Hence, the null hypothesis three (Ho₃) was not accepted. This connotes that there was a significant difference between maintenance of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State.

Discussions

The finding of the tested hypothesis one showed that there was a significant difference between provision of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State ($p < 0.05$). The mean score of provision of facilities in private schools which is 3.95 is significantly greater than that of public schools which is 3.11. This depicts that provision of facilities in the private secondary schools in the LG was better than that of public secondary schools. This might be because private secondary schools are business-oriented and their proprietors understand that the more their schools are adequately provided with facilities, the more the patronage and profits could be. Contrarily, public secondary schools are not established for business purpose, rather provision of essential services to the children. This might be the reason government did not prioritise provision of facilities the way it was done in private schools. This finding disagreed with the finding of Manasseh (2019) that there is a significant difference between provision of facilities in the public and private secondary schools in the North-central Nigeria. The finding indicated that facilities

were more provided in the public secondary schools than private schools in the North-central Nigeria.

The finding of the tested hypothesis two revealed that there was a significant difference between utilisation of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State ($p < 0.05$). The mean score of utilisation of facilities in private schools which is 4.14 is significantly greater than that of public schools which is 3.09. This shows that facilities utilisation in private secondary schools in the LG was better than that of public secondary schools. This could be due to the fact that, private secondary school principals might be blamed, punished or sacked by the school proprietors for ineffective facilities utilisation by the students and teachers; but the situation is different in public secondary schools where some principals fail to consistently enforce judicious utilisation of facilities on students and teachers. This finding agrees with the finding of Samson (2018) that facilities utilisation was better in private secondary schools than public schools in Kogi State, Nigeria.

The finding of the tested hypothesis three revealed that there was a significant difference between maintenance of facilities in public and private secondary schools in Ilorin West Local Government, Kwara State ($p < 0.05$).

The mean score of maintenance of facilities in private schools which is 4.29 is significantly greater than that of public schools which is 3.26. This depicts that maintenance of facilities in private secondary schools in the LG was better than that of public secondary schools. Better maintenance of facilities which was discovered in private schools might be because the proprietors are aware of the expenses which the total breakdown of facilities would cause them and the great disservice which the situation could do to the image of their schools. Contrarily, nonchalant attitude of government and some school principals to the maintenance of facilities could be a factor responsible for the moribund or poor state of some facilities in public secondary schools in the LG. This finding is in tandem with the finding of Samson (2018) that facilities maintenance in private secondary schools was better than public secondary schools in Kogi State, Nigeria. Based on the findings, the following recommendations were made:

- i. Kwara State Government should intensify its efforts in the provision of facilities for the public secondary schools to match

and surpass private schools, while private school proprietors should sustain and also continue to heighten provision of facilities for their schools in order to effectively achieve the stated goals;

- ii. public school principals should be more committed to ensuring judicious utilisation of facilities by teachers and students, while private school principals should not rest on their oars in the utilisation of facilities in their schools to enhance effective teaching and learning;
- iii. Improvement in the maintenance of facilities in public secondary schools should be more prioritised by the government and school principals, while private school proprietors and principals should not relent in the maintenance of facilities in their schools to facilitate effective operation which would enhance academic performance of students.

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SCHOOL VIOLENCE AND VIOLENT BEHAVIOUR: A LOOK AT ITS CLASSIFICATIONS, CAUSES, EFFECTS AND PSYCHOTHERAPEUTIC TECHNIQUES

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Abstract

The paper starts with a clarification of the key concepts, Violent and violent behaviour followed by discussions on classifications of violent behaviour in schools. The causes and effects of students' school violence on peer-students and the student who perpetrated the violence, effects on school infrastructure, host community, teachers and parents, and followed by different management or methods of handling violence and violent behaviours (psychotherapeutic techniques) that may be employed by the parents, teachers, school psychologists and school counsellors and or the school students welfare committee. Such psychotherapeutic techniques involves inculcating positive interpersonal relationship skills in students, the use of premack principle, use of behavioural contracting, use of rewards and punishment with combination with modelling. The paper finally recommended that the parents and school teachers need to be proactive in identifying students violent behaviour traits and should immediately followed the traits with corresponding positive non-violent behaviour traits or methods to counteract the negative violent behaviour traits, use of systematic training style of parenting, exposing and encouraging students to violent free environments and activities originating from peers, adults and mass media, encourage students to acceptable social behaviours, teachers, school administrators and curriculum planners should be selective and analytical in their choice of concepts, skills, traits and instructional materials or teaching and learning activities and processes; textbooks, films, charts, education trips/ field trips or excursions, education attachments and location of schools.

Introduction

English and English (2011) defined violent as "behaviour that is intended to hurt or kill". Violent behaviour is viewed as an acts involving or caused by physical force that is intended to hurt or kill. Violent behaviour. In other word, violent behaviour is any behaviour by an individual that threatens or actually harms or injures the individual or

others or destroys property which occasionally begins with verbal threats but over time escalates to involve physical harm (Healthwise Staff, 2019). School students' violent behaviours can be said to involve anger and conflict emanating from multiple sources such as stress from home, school, learning tasks and processes.

Olawale (2018) believed that students' school violent behaviour involves contempt that is a powerful dislike toward someone, object or event considered to be worthless, inferior and undeserving of respect or recognition. For example, Jacquin (2005) opined that violence is an act of physical force that causes or is intended to cause harm. Outcome of inflicted violence range from psychological, physical and can also be both physical and psychological. However, school students' aggression and aggressive behaviour is different from violence behaviour; students' aggressive behaviours are generally hostile behaviour that can be verbal, physical, or passive in nature.

School students' violence behaviours can be seen as a relatively common type of college behaviour and contemporary problem across continents; as student of any age may be violent. Although, school counsellors and psychologists believed generally believed that students of older age or young adults are most likely to engage and involves in violent behaviour than the younger peers. Also, early maturing adolescents with overwhelming physical appearance may be more involve in violent behaviour than late and non-overwhelming physical structure. Violence and violent behaviours has many negative effects on the perpetrators and the victims; including school plants and those that witness the acts (Jacquin, 2005). Teachers and parents are to be proactive to identify and detect associated behaviours to school violence, may be helping in controlling and preventing escalated violent behaviour among secondary school students.

Forms of Violent Behaviours among Secondary School Students

There are no much distinction between Secondary school students' violence / violent behaviours from the general forms of violence and violent behaviours. However, difference may be with the age, place, regulations and society views on the perpetrator and victims of violence.

Classification of violence and violent behaviours based on nature of behaviour:

- Homicide secondary school students' violence, the killing of one student by another student.
- Assault school violence, one student physically attacking another student with the intent to cause harm.
- Robbery secondary school students' violence, one student or group of students forcibly taking something from another student or group of students.
- Rape secondary school students' violence, forcible sexual intercourse with another student.

Classification of violence and violent behaviours based on motivation or motive behind a behaviour:

- Reactive secondary school students' violence, involves the student expression of anger that is, the desire to hurt another student which may be a response to a perceived provocation.
- Proactive secondary school students' violence, in this form of violence the student who is committing the violence is more calculated and usually carried out in anticipation of some expected reward. Example, secondary school students using secret cult membership to carry out violence in expectation to be the leader of the cult.

Classification of violence and violent behaviours based on motivation or motive behind a behaviour:

Violence and violent behaviours are further classified into:

- Predatory secondary school students violence and violent behaviours involves planned acts of hostile force, while,
- Affective secondary school students' violence and violent behaviours involves unplanned and impulsive acts of hostile force. Beside the predatory and affective violence and violent behaviours there are irritable violence (usually trigger by frustration such as academic failure or inability to compete favourable and cope with teaching and learning expectations) and territorial violence (usually trigger by intrusion into one's perceived territory or space such as

student fighting over friend; junior students playing where it is assumed to be for senior students).

Causes of Violence and Violent Behaviours among Senior Secondary School Students

Success or failure of any psychotherapeutic techniques for managing violence and violent behaviours among senior secondary school students depend on the extent to which it adequately identify and deals with its causes. Based on this assertion, it is however necessary to identify and discuss some of the causes of this behaviour among school students. School psychologists and counsellors agreed that no single known factor is responsible for secondary school students' violence and violent behaviours. However, causes of school students violence like any other forms or classifications of violence may be explained under the following influences:

- **Theoretical perspectives.** To the psychoanalytic theorists, students' school violence / violent behaviours stemmed from an innate conflict with self-directed death wish, which could be relieved by directing toward others. It is believed that instinctive drive views violent behaviours has been derived from an innate fighting instinct, which is common to all humans but varies on the degree of expression. However, this view is contrary to instrumental conditioning and social modelling theorists whom strongly believed that the acquisition of responses of hostile (violence) is as a result of conditioning social imitation.

To the Frustration Aggression Hypothesis theorists views violence and violent behaviours as primarily from an externally elicited 'drive' to harm others. Frustration elicits a persistent 'drive' toward violence. Following frustration Aggression Hypothesis explanations there will be clear picture or acts of some of the early warning of violence behaviour causes, the warning may include, social withdrawal, extensive feeling of isolation and being alone, excessive feeling of rejection, being a victim of violence, low school interest and poor academic performance and or achievement, expression of violence in writings and drawing, and uncontrolled anger, unauthorized possession of and or use of firearms and other weapons, self-injuries behaviour or threat of suicide (Bawagna, 2008 and Bandura cited in Lawrence, 2006).

- Another explanation to the causes of violence and violent behaviours are peer interaction, or peer influence, or peer pressure, dysfunctional family such as the one caused by divorce and or separation, excessive school or home punishment, exposure to media violence, school leadership or management style, child rearing practices such as unlimited influence on students emotion, feeling or attitudes toward learning activities, environment or teacher's personality traits (Haggai, 2003; Anderson, 2000 and Moller, 2001).
- Secondary school students family variables are among other causes of violence and violent behaviour among senior secondary school students (Ephias, Gudyyanga and Nomsa, 2015), family stress, nature of parenting; as aggressive parents may tend to have violent children. There is a significant association between family background and students' behaviours. Such differences can be seen in students from broken and intact homes, monogamous and polygamous home (Aminu, 2018). Family variables has a great influence on students' behaviour and the student's likelihood of forms of behaviour (violence or non-violence).
- Students' inherent problems such as inconsistent reinforcements, exposure to violent environment such as, violent movies, marginalization, child abuse and isolation, drug abuse and alcoholic consumption, school location (Basch, 2011; Harris, 2013 and Paterson, 2012).

Effects of Students' School Violence

Effects of violence on student self and peer-students' usually include misery, human suffering, damage and or on many occasions, destructions of school buildings and public infrastructure with waste of human lives (SACE, 2011; Shoko, 2012). For example, violent behaviours of secondary school students' are usually exhibited during adult stage inform of sexual harassment, wife battering or husband battering although, husband battering not very common, gang attacks, gang robbery, child and elder abuse with no regards to societal values and constituted authorities such as abuse of police and other law enforcement agencies. The National Institute of Health, United State of America (2003) reported that students who bullies their victims were

more likely than youths who had never been involved in bullying to engage in violence behaviours in later life.

Literatures have shown that students who experience violence are more likely to suffer from depression and low self-esteem, as adults while students' who committed violence acts are more likely to engage in criminal behaviours later in life. School violence had led to loss of student life such as the case of a student that died in one of the schools in Jos, Plateau State of Nigeria in May, 1999 and other non-reported cases. School violence acts makes the teaching and learning environment less students and teachers friendly thereby, making the primary purpose of school, teaching and learning less impactful, effective and efficient. School violence and students' violent behaviours involves destruction of school academic calendar as in most times, schools that experienced school violence are closed and suspended from academic activities, destruction of school building, infrastructures; laboratory equipment, books, electronic equipment like audio-visual equipment and many cases attacks on teachers and other school officials (Saka, 2008, Adeloje, 2008 and Aminu and Abdullah, 2013).

Effect of school violence on the students' parent and the host community shows that there is dissatisfaction with the school, teachers and learning. The host community and many of the parents feels the school authorities are responsible for most of the students' violence acts and that the school authorities need to have done more to prevent the occurrence of violence before escalating to the level of destruction or loss of life. As parent who lost their love ones and or with properties whenever school violence occurs, will never be happy with the school while, on the parts of the teachers and school management team who holds the view that parents are responsible for students' moral upbringing with training that home-based responsibilities.

The fear of school violence sometimes create in the mind of parents' and the host community; especially communities that are prone to secondary school students' violence the doubt and this makes them suspects the goal of students' going to school, remaining in the school and talk less of benefiting from school work. Some stakeholders (Saka, 2008; Aminu and Abdullah, 2013 and SACE, 2011), views school violence and violent behaviours as anti-social behaviour that has become a source of concern to the school psychologists, counsellors, teachers, parents, school host community, school authorities in many parts of

Nigeria due to the significant negative effects on students' personality and academic growth and development, and, the attainment of educational goals.

Psychotherapeutic Techniques for Handling Secondary School Students Violent Behaviours

Many psychotherapeutic techniques are relevant in handling students' violent behaviours (Aminu and Abdullah, 2012). There are quite ranges of psychotherapeutic techniques which this paper found useful and thought of sharing and they include:

- Training of secondary school students' on "Positive Interpersonal Relationship Skill". The process of developing positive interpersonal relationship skills was founded on the basis that secondary school students who engage in school violence acts lacks positive relationship techniques and miss-understanding of human relationship that may be interaction based issues (Pepler and Craig, 2000 and Idowu and Yahaya, 2006). For training / clinical use, Positive Interpersonal Relationship Skill is called "Systematic Approach therapy developed by Pepler and Craig, 2000 cited in Yahaya and Idowu, 2006. The approach is an interaction strategy that requires the participation and active involvement of school host community, the concern school, parents, peer group, student or students with violent behaviour, victim of violence, the school psychologist or counsellor in behaviour modification.

In systematic approach therapy, the community will be required to provide conducive atmosphere to students to students to acquire useful skills necessary for effective living; the school will be required to develop and review school policy such as rewards and punishment methods toward addressing students' violence and violent behaviour, and consistently enforce this policy, promote communication and provide extra-curricular services and activities focus on reduce negative competitions to the one that promotes healthy competitions among students.

Parent, during the systematic approach therapy training will be required to provide appropriate environment for the personality

development of their children, and also encourage to serve as good model by monitoring all the exposure of their children in area of friends they associate with, the type of audio-visual activities and programmes, what they says and what they hear from adults and even they, the parents; attend Parent-Teachers association meetings, visiting school to find out academic and behaviour growth and development of their children, have open, sincere and friendly communication with their children and listen to the view of their children in violence related issues.

In the systematic approach therapy training also, the peer-group members will be guided on how and modalities for engaging in responsible and non-violence behaviours, how to engage in positive and productive social and educative programmes, participate in conflict mediation and enforcement of school rules and regulations. Students with violence behaviour during the therapy training will be enlighten by the school psychologist or counsellor, the school principal, teachers and personnel on the dangers of students school violence and violent behaviours with the need to change positively to non-violence school students. The victim or victims of school violence will be encourage to freely raise and confirm their concerns, issues or challenges, how to seek support, what type of support to seek and where to seek support, keep records, monitor events, assess the level of support enjoyed, avoid being careless, protect themselves, inform their parents about their concerns and challenges, identify strengths, seek the assistance of school personnel including the school psychologist or school counsellor and learn various ways suggested or recommended in handling violent students or friends or group and the school psychologist or counsellor should be in charge of coordinating the involvement of the entire stages of the systematic approach therapy training or the school students' welfare committee or members.

- **The Premack Principles**

The premack principle is another psychotherapeutic technique for handling school violent behaviour and toward prevention of school violence. In the principle, it requires using secondary school students' response of higher probability to reinforce a response of a lower probability. The principle may be illustrated as follows, the parents,

teachers, school personnel, school psychologists or school counsellor will be observing or identify what a student with violent behaviour or group of students with violent behaviour like most and pairing it with a desired expectation thereby, reducing or eliminating non-wanted response in this sense, violent behaviour.

- **The Appropriate Use of Reward and Punishment**

The appropriate use of rewards and punishments in psychotherapeutic process have gained the confidence of many school psychologists and counsellors because of notable success in influencing unwanted behaviours of school students and adults (Masha, 2005 and Adeloje, 2008), Rewards and punishments have been used in shaping behaviour of students.

This is found to be most effective when used right from childhood and still works at adulthood years. Sometimes, the deterrent produced from the use of punishment has resulted in many positive behaviour change (Moller, 2006 and Masha, 2005), reward and positive reinforcement are used interchangeably but reinforcement is more particular than reward because, it is the pleasant consequences for a specific response. Positive reinforcement increases behaviour by its presence. Result may include, awarding scholarships to a student whose participation in violence is due to financial frustration and poor perception of good societal values due to poor family background or non-recognition, commendation such as, saying good, cheers may encourage student to drop behaving violently, prizes and praises may be used to re-motivate a student victim of violence and also used to encourage violent students for obeying school rules and regulations and for supporting agreed training modalities during systematic approach training. Punishment on the other side, involves applying negative reinforcement to the student for behaving wrongly, as it is a means of forcing positive behaviour to occur and deter other watching students not to copy, emulate or engage in such a behaviour of violence been exhibited. Although, there are criticisms against the use of punishment but evidences (Adeloy, 2008 and Masha, 2005) suggested that whenever punishment is used appropriately and moderately, it become effective and produces expected behaviour outcomes (Masha, 2005).

- **Modelling**

Modelling as a form of psychotherapeutic technique for managing or handling secondary school students' violence and violent behaviour trait is also referred to as observational learning or cognitive learning. It is the general tendency for students to use their parents and teachers, television, movie or media stars as models for their behaviours and to internalize or copy behaviour of models, such, as the model view points, actions and traits. The implication of using models for behaviour change is that some aspects of the significant others' self-image, that is, their views, actions and position in the environment and reaction to issues and events will be copied by students who admires such models or personality. This is so because students are consciously observant about how this significant personalities or models, even peer-group react and actions taken by them to varying issues, people, events or situations so with this, it expected that when there is a good model (good examples of personality to copy) the targeted student or students will behave appropriately; such personalities or models may be invited as guest to the school to discuss with targeted students or group of students through what may be called, personality show, guest speakers and others (Njumogu, 2003).

- **Behavioural Contracting**

The therapeutic use of behavioural contract involves a written and signed agreement between two parties; the secondary school student or students with violent behaviour and the parent, teacher, school authority, school psychologist or the school counsellor to engage in a mutual interchange of privileges and or responsibilities. Each privilege specified in the contract is earned by fulfilling a specific responsibility by the student or group of students.

However, behaviour contract will be enforced only after baseline observations of the specified behaviour have been obtained, thus, it represents the formal outcome of the mutually satisfactory negotiation between two parties who desire behaviour change from each other (Weiekiewicz, 1988; Onuorah, 2003).

Summary / Conclusion

An examination of school violence and violent behaviour in secondary schools in Nigeria: classification, causes, effects and psychotherapeutic techniques, attempt was made to highlight the concepts of school violence and students' school violent behaviours with explanation on categories, possible causes, consequences and some preferred control mechanisms. However, there is still a lot to research on, on the ways to have non-violence school environment where social, learning and teaching will take place without fear of attack from students, teachers, school authority, school infrastructure and the community surrounding or hosting the school location likewise, more empirical research will be needed to identify better and quite intervention for prevention, handling and controlling school violence and changing the attitude that may be implicated in violent behaviours and traits.

Recommendations

Teachers and parents need to play a vital role in the formation of students' character, actions and acts. It is important that nothing should be left to chance. Parents, teachers and influential personalities should be a positive model in term of attitudes toward conflicting societal issues, events and situations. Teachers should avoid being dogmatic in their approaches, if an unusual or unwanted behaviour is noticed in a student, prompt action must be taken to remedy the situation as teachers are not encourage to teach only theory, concept and skill. Curriculum contents must be structured towards the promotion of positive mental and psychological health and needs of students and the society, resource material to be used or selected for teaching and learning like, textbooks; films or filmstrips, video / audio and audio and visual materials, including, audio or video cassettes should be painstakingly selected to ensure that they are free from instigating, supporting or corroborating violence and violent behaviours and also ensures that the materials are capable of enhancing positive cognitive, psychomotive and affective behaviours of students.

These process will prevent cases of boomerang effect. Teachers must be aware of the influence of such attitudes makers like the roles of the students' homes, peer group and the mass media on the students positive and negative behaviours formation. However, this crucial role places the teachers in a dilemma, the teacher should try to secure the

cooperation of the appropriate, if not all these attitude makers with a view to assisting the students change their attitudes towards violence free school environment. Parents especially, need to acquire knowledge on proper child and students' upbringing. Systematic training or interpersonal relationship skill training for effective parenting is therefore recommended.

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PERCEPTION OF TEACHERS ON THE SENIOR SECONDARY EDUCATION CURRICULUM: IMPLICATION FOR CURRICULUM OVERLOADING

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Abstract

This paper examined the structure of the Senior Secondary Education Curriculum (SSEC) to determine if the curriculum is over loaded for students. Descriptive survey research design was adopted for this study. The population comprises of teachers in the Federal Capital Territory (FCT). Multi stage sampling technique was used to select 190 teachers used for this study. Three research questions guided the study. The research instrument constructed and used for this study was adapted from Odiagbe (2018), the Teachers' Questionnaire on the Senior Secondary School Education Curriculum (TQSSSEC). The instrument was validated by experts and reliability coefficient of 0.79 was obtained. The instrument was administered by the researcher and a research assistant in the selected schools. The findings revealed that the content and structure of the senior secondary education curriculum are not overloaded as was being speculated but adequate and relevant to the desired needs. It was therefore recommended that the government should continue with the implementation as contained in the National Policy of Education 2014.

Key words: Over Loading, Over Schooling, Curriculum and Senior Secondary Education Curriculum (SSEC)

Introduction

According to National Council for Curriculum and Assessment (2010), overloading is a mismatch between capacity and load. It has been

explained as the imbalance between our capacities to activate a curriculum. Curriculum overload has been as a result of hierarchy in status of some subjects in the curriculum. The size of the curriculum is considered as the main cause of curriculum overload. Overlap or duplication of content has been identified as a major cause of curriculum overloading. Time has also been considered as inadequate to allow coverage of the targeted content. There are claims that there are too many subjects or too many content and learning materials are considered too difficult for children. Time tabling decisions determine the quantity of time allows to the subjects core subjects such as language and mathematics are the greatest beneficiaries.

While, over-schooling, according to Nkong and Uwah (2013), describes the extent to which an individual possesses a level of education in excess of that which is required for his particular job. Over schooling is serious violation of the provision of National Policy of Education (NPE). It is seen as over burdening, over tasking and over tutoring of the school children. The process of overloading the curriculum leads to over schooling. The phenomenon was first brought to the attention of researchers by Freeman (1976) cited in McGuinness (2006). Freeman concluded from his study that as the excess qualified workforce has to settle for jobs that do not require their qualifications, the returns for education plummet. Schooling is the process of being formally educated in a school. Education is received at school.

A school is an institution designed to provide *learning spaces* and *learning environments* for the teaching of *students*, under the direction of teachers. Most countries have systems of formal *education*, which is commonly *compulsory*. In these systems, students' progress through a series of schools. However, while we have achieved schooling, learning has proved to be elusive. On one hand we have what seem to be esoteric debates on the purpose of learning whether it is for economic growth or holistic development of the child. Whatever be the purpose, one would not deny that as a result of education, our children should not only be adept at reading, writing and do mathematics, but also should be able to reason, analyse, apply, create and, in essence, become thinkers (Sankar, 2015).

A review of current thought and practice autonomy, nationally established accountability mechanisms, and the degree of differentiation of the secondary school system. When discussing the knowledge base on

educational and school effectiveness, we should bear in mind that it depends for a very high percentage on curriculum. Curriculum provides fundamental support for the meaning of the effective school model in content and drive, although cultural contingency is underlined at the same time. Yet, analyses of large scale international data-bases, such as those of PISA and TIMSS, offer very little support for the universal effectiveness of the school factors considered. Policy international comparative assessment studies have created a global competition in educational achievement in core subject matter areas like reading, arithmetic/mathematics and science. This means that in many countries there is increased attention for boosting educational achievement by means of special policy programs, system level levers of educational improvement and financial investments in education. Best practices for making schools more effective involve content and process aspects. Content directly refers to the empirical knowledge base; process relates to dynamic levers for improvement and improvement strategies. Traditionally, we have been good in creating well-meaning intentions in our policies, and yet failed miserably in implementation.

Empowerment of Nigerian youths with requisite skills which will enable them drive the economy is imminent. Then, it can be held that the making good and effective policies that would truly reform the youth for improved learning and better performance outcomes lies in cause and effect approach and replace interventions of educational policies (Imhangbe and Aluende, 2016). It has been said that education is an instrument for national development; to this end, the formulation of ideas, their integration for national development and the interaction of persons and ideas are all aspects of education. Education in the generic and global context has been identified as a strategic instrument for social and economic transformation (NERDC, 2012).

Education is the bedrock within which skills are acquired, basic and relevant knowledge are received for moulding of character. The curriculum remains the blue print in which every expected behavioural change is hidden. Odiagbe (2013) had earlier asserted that the Nigerian educational system has gone through various development and changes viz-a-viz curriculum issues.

Adekoya (1999) claimed that for the Nigerian youth to be empowered economically they should be given the necessary skill acquisition and for this to be done the curriculum should be effectively

planned and implemented. The desired needs of behaviour are a curriculum issues either in an explicit or an implicit manner are inextricably linked to current thinking and action on educational. Experiences of educational reform almost all over the world have shown that curriculum is at the same time a policy and a technical issue, a process and a product, involving a wide range of institutions and actors. Okobia (2009) stated that the word curriculum is a technical term. As such, it has attracted diverse definitions from different scholars, curriculum experts, theorist, and educators. According to her, curriculum is all planned and unplanned activities that are employed for learning (Odiagbe, 2015). But to Olaitan, Alaribe and Okeme (2010) defined curriculum as a structured series of intended learning experience through which educational institutions endeavour realize the hopes of the society.

The Federal Government reform in education was planned in line with the National Economic Empowerment and Development Strategy (NEEDS), which is an off shoot of the eight Millennium Development Goals (MDGs) summarized as: value-reorientation, poverty eradication, job creation, wealth creation and using education to empower the people. In context of this paper, the Nigerian educational system is structured into Basic Education Curriculum (BEC), Senior Secondary Education Curriculum (SSEC) and Tertiary education. These levels of education are made up of lower basic (Primary 1 – 3), middle basic education (Primary 4 – 6), upper basic education (JSS 1 – 3), (SSS 1-3) and tertiary institution. The underlying philosophy of the SSEC was to ensure that every senior secondary school graduate is well prepared for higher education, and has acquired relevant functional trade/entrepreneurship skills needed for poverty eradication, job creation and wealth generation; and in the process strengthen further the foundations for ethical, moral and civic values acquired at the basic education level. The SSEC was essentially to address the ideals for actualizing the needs agenda in the educational context.

The following presents in specific terms the details of the SSEC Structure: Four compulsory cross-cutting subjects, English Language, General Mathematics, Civic Education and Trade/Entrepreneurship subjects. Also the four fields of study are: Science and Mathematics, Humanities, Technology and Business Studies. Boxes 1 – 5 present details of the subject listings for each field of study and the 34

Trade/Entrepreneurship Subjects.

- i. Biology
- ii. Chemistry
- iii. Physics
- iv. Further Mathematics
- v. Agriculture
- vi. Physical Education
- vii. Health Education

Box 1: Science and Mathematics

- i. Accounting
- ii. Store Management
- iii. Office Practice
- iv. Insurance
- v. Commerce

Box 2: Business Studies

- i. Nigerian Languages
- ii. Literature-in-English
- iii. Geography
- iv. Government
- v. Christian Religious Studies
- vi. Islamic Studies
- vii. History
- viii. Visual Arts
- ix. Music
- x. French
- xi. Arabic
- xii. Economics

Box 3: Humanities

- i. Technical Drawing
- ii. General Metal Work
- iii. Basic Electricity
- iv. Electronics
- v. Auto-Mechanics
- vi. Building Construction
- vii. Wood-Work
- viii. Home Management
- ix. Foods & Nutrition
- x. Clothing & Textiles

Box 4: Technology

i. Auto Body Repair and Spray Painting	xix. Auto Electrical Work
ii. Auto Mechanical Work	xx. Auto Parts Merchandising
iii. Air Conditioning Refrigerator	xxi. Welding and Fabrication Engineering Craft Practice
iv. Electrical Installation and Maintenance Work	xxii. Radio, TV and Electrical Work
v. Block Laying, Brick Laying and Concrete Work	xxiii. Painting and Decoration
vi. Plumbing and Pipe Fitting	xxiv. Machine Woodworking
vii. Carpentry and Joinery	xxv. Furniture Making
viii. Upholstery	xxvi. Catering and Craft Practice
ix. Garment Making	xxvii. Textile Trade
x. Dying and Bleaching	xxvii. Printing Craft Practice
xi. Cosmetology	xxix. Leather Goods Manufacturing and Repair
xii. Keyboarding	xxx. Short Hand
xiii. Data Processing	xxxi. Store Keeping
xiv. Book Keeping	xxxii. GSM Maintenance
xv. Photography	xxxii. Tourism
xvi. Mining	xxxiv. Animal Husbandry
xvii. Fisheries	xxxv. Marketing
xviii. Salesmanship	

Box 5: 34 Trade/Entrepreneurship Subjects

For the purpose of meeting the minimum requirements for public examinations such as West Africa Examination Council (WAEC), National Examinational Council (NECO) and National Business and Technical Examination Board (NABTEB), candidates are expected to: take all 4 compulsory cross-cutting subjects, select 3 – 4 subjects from a field of study, depending on their potential, select 1 (one) Trade/Entrepreneurship subject to form part of the 4 compulsory cross-

cutting subjects and candidates may choose 1 (one) elective subject from any other field of study other than that of their potential interest or from the group of Trade Subjects, provided the total of subjects is not less than 8 and do not exceed 9.

Educational system at every level depends heavily on teachers for the execution of its programmes. Teachers are highly essential for successful operation of the educational system and important tools for the educational development. Without teachers educational facilities cannot be expanded. Undoubtedly, the success and quality of any educational system depends on the quantity and quality of teachers' input into the system. Politicians and policy makers at all levels may institute vast new legislated reforms but without the understanding, support, and inputs of teachers, they will end up in the same dead end as such past reforms (Meier, 1992). Since there is no educational system that can improve better than its teachers, the commitment of teachers to the system is a vital issue (FGN, 2014). The teachers interpret the aims and goals of education and educate the students in accordance with the policy.

Ajayi (1996) earlier buttressed the above claim, reported that classroom teacher is one of the chief determinants of educational achievement, whose academic qualifications, relevant professional training, work experience among others are most significant determinants of students' academic performance.

Similarly, teachers at all levels of education play the decisive role in pivoting the growth and the direction of education. It is an acceptable fact that teacher is the most important cog in the educational machine and that teachers are highly instrumental to the success of any educational programme embarked upon by any government. This is because apart from being at the implementation level of any educational policy, the realization of these programmes also depends greatly on teachers' dedication and commitment to their work (Afangideh, 2009).

The implementation of this SSEC started in 2011 in SSI across the Country and the first public examinations took place in 2014 in line with transformation agenda (NERDC, 2012). In this new era of change, is the SSEC adequate and relevant in line with the desired change of this administration? Studies have not been carried out to determine if this SSEC developed in 2011 is adequate or relevant in terms of over schooling and overloading. Odiagbe (2016) carried out a study to

determine the adequacy and relevancy of the SSEC curriculum and reported that the findings revealed among others that the four compulsory cross cutting subjects of senior secondary education curriculum are adequate and relevant to the desired needs of the students except civic education which the teachers believed should no longer be made compulsory at the senior secondary school level. According to Obioma (2012), the teachers' exposition to the curriculum is expected to represent the total experience or views which all learners should acquire with regard to the contents, performance objectives and instructional activities. It is the desire of the researcher to find out from the teachers if similar findings will be observed in the three Area Councils especially in terms of over schooling and overloading of the curriculum. To critically examine the appropriateness of the senior secondary education curriculum to determine if the contents, new topics and structure are overloaded.

Objectives of the study

The main objective of this study is to find out from the teachers of Federal Capital Authority, Abuja, the implication of curriculum in terms of contents and structure as it concerns over schooling and overloading, specifically, to find out if:

1. The four compulsory, cross cutting subjects of SSEC are overloaded?
2. The four fields of studies of SSEC are overloaded?
3. The subjects' selections of SSEC are overloaded?

Research Questions

1. To what extent are the four compulsory cross cutting subjects of SSEC overloaded in the Federal Capital Authority, Abuja?
2. To what extent are the four fields of studies of SSEC over loaded in the Federal Capital Authority, Abuja?
3. To what extent are the subjects' selections of SSEC overloaded in the Federal Capital Authority, Abuja?

Method

Descriptive survey research design was adopted for this study. The population comprises of senior secondary schools' teachers in Federal Capital Territory (FCT), Abuja. Multi- stage sampling technique was used: First, the FCT was taken as a Senatorial District, where three area councils were randomly selected from the six area councils. Secondly, four schools each were randomly selected in each of the area council making it twelve schools that were used for the study.

Thirdly, 17 teachers were also randomly selected in each of the twelve schools across the three senior classes of SSI, SS2 and SS3 making a total of two hundred and four (204) teachers in both public and private schools in FCT. The research instrument that was constructed and used for this study was the Teachers' Questionnaire on the Senior Secondary School Education Curriculum (TQNSSSEC) which was adapted from Odiagbe (2018) on the study determining the adequacy and relevancy of the SSEC toward the desired change. It was made up of four sections: A, B, C and D. Section A asks questions on the personal information about the teachers. Section B asks questions on the adequacy and relevance of four compulsory subjects. Section C asks questions on the four fields of studies, Section D asks questions on the subjects' selection. The items that do not fit into the present study were thrown out and new ones introduced. The instrument was designed in four point's likert – scale: Strongly Agreed (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instrument was validated by experts and to determine the reliability, Cronbach Alpha was used to obtain coefficient of 0.79. The final instrument was administered by the Researcher and a research assistant in the selected schools after the necessary corrections have been made. Only one hundred and ninety (190) questionnaires were retrieved and used for the study. The data were analyzed using frequency count, percentage, mean, and standard deviation.

Presentation of results

Research Question 1: To what extent are the four compulsory cross cutting subjects of SSEC overloaded in FCT, Abuja?

Table 1: *The Extent of Over Loading the SSEC with the Four Compulsory Cross Cutting Subjects in Federal Capital Authority, Abuja.*

S/N	Item	SA	A	D	SD	Mean Value	S.D
1.	Inclusion of Mathematics as one of the four compulsory cross cutting subjects in the SSEC is over loading curriculum.	22	28	50	90	1.90	1.03
2.	Inclusion of English language as a compulsory cross cutting subject in the SSEC is over loading	10	30	60	90	1.78	0.89
3.	Inclusion of Civic Education as a compulsory cross cutting subject in the SSEC is over loading of the curriculum.	23	37	43	87	1.97	1.06
4.	Inclusion of Trade subjects as a compulsory cross cutting subject in the SSEC is over loading.	6	64	94	26	2.26	0.70

Table 1 revealed that item 1 had a mean value of 1.90 and standard deviation of 1.03 which represents 140 teachers out of the 190 respondents who disagreed with the proposition that inclusion of mathematics as a compulsory cross cutting subject in the SSS curriculum has over loaded the structure. The table also revealed that item 2 with a mean value of 1.78 and standard deviation of 1.89 which represent 150 teachers out of the 190 respondents who disagreed with the proposition that inclusion of English language as a compulsory cross cutting subject in the SSS curriculum has over loaded the structure of the curriculum.

The table revealed that item 3 with a mean value of 1.97 and standard deviation of 1.06 which represents 130 teachers out of the 190 respondents who disagreed with the proposition that inclusion of Civic Education as a compulsory cross cutting subject in the SSS curriculum has over loaded the structure of the curriculum. The table also revealed that item 3 with a mean value of 2.26 and standard deviation of 0.70 which represents 120 teachers out of the 190 respondents who disagreed

with preposition that inclusion of English language as a compulsory cross cutting subject in the SSS curriculum has over loaded the structure of the curriculum. The response from majority of the teachers shows that the inclusion of the four compulsory core cross cutting subjects in the curriculum did not over load the structure of the curriculum.

Research Question 2: To what extent are the four fields of studies of SSEC overloaded in FCT?

Table 2: *The Extent of over loading the SSEC with the Four Fields of Studies in Federal Capital Authority, Abuja*

S/N	Item	SA	A	D	S	Mean Value	S.D
5.	Subjects that made up Science and Mathematics as a field of study of the SSEC is over loaded	10	43	67	70	1.96	0.89
6	Subjects that made up Humanities as a field of study of the SSEC are over loaded.	2	48	100	40	2.06	0.70
7.	Subjects that made up Technology as a field of study of the SSEC are over loaded.	4	46	97	43	2.06	0.74
8.	Subjects that made up Business Studies as a field of study of the SSEC are over loaded	5	45	98	38	2.06	0.74

Table 2 revealed that item 5 had a mean value of 1.96 and standard deviation of 0.89 which represent 137 teachers out of the 190 respondents who disagreed with the preposition that the subjects that made up Science and Mathematics as a field of study are over loaded. Table 2 revealed that item 6 had a mean value of 2.06 and standard deviation of 0.70 which represent 140 teachers out of the 190 respondents who disagreed with the preposition that the subjects that made up Humanities as a field of study are over loaded. Table 2 revealed that item 7 had a mean value of 2.06 and standard deviation of 0.74 which represent 140 teachers out of the 190 respondents who disagreed with the preposition that the subjects that made up

Technology as a field of study are over loaded. Table 2 revealed that item 8 had a mean value of 2.06 and standard deviation of 0.74 which represent 138 teachers out of the 190 respondents who disagreed with the proposition that the subjects that made up Business Study as a field of study are over loaded. The results from majority of the teachers shows that the subjects that made up the four field of study are not over loaded.

Research Question 3: To what extent are the subjects' selections of SSEC overloaded in FCT?

Table 3: *The Extent of over loading the SSEC with the Subjects' Selections in Federal Capital Authority, Abuja,*

S/N	Item	SA	A	D	SD	Mean Value	S.D
9.	Selection of 4 compulsory core cross-cutting subjects is over loading.	23	27	95	45	2.15	0.91
10.	Selection of 3-4 subjects from the student's field of study is over schooling and over loaded.	22	48	85	35	2.23	0.98
11.	Selection of 1 or 2 elective subject(s) from another field of study or from the 34 Trades over loaded.	14	56	81	39	2.22	0.86
12.	Selection of minimum of 8 subjects at the SSEC level is over schooling and over loading of the curriculum.	12	28	93	57	1.97	0.83
13.	Selection of maximum of 9 subjects at the SSEC level is over schooling and over loading.	11	59	81	39	2.22	0.83
14	Offering of one compulsory core trade subject from the list of 34 trade/ entrepreneurship subjects is over schooling and over loading.	12	38	82	58	2.02	0.87

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Table 3 revealed that item 9 had a mean value of 2.15 and standard deviation of 0.91 which represent 140 teachers out of the 190 respondents who disagreed with the preposition that the selection of 4 compulsory core cross-cutting subjects (Mathematics, English Language, Civic Education and one Trade subjects) of the SSEC are not over loaded. Table 3 also revealed that item 10 had a mean value of 2.23 and standard deviation of 0.98 which represent 140 teachers out of the 190 respondents who disagreed with the preposition that the Selection of 3-4 subjects from the student’s field of study are not overloading the curriculum. Table 3 further revealed that item 11 had a mean value of 2.22 and standard deviation of 0.86 which represent 120 teachers out of the 190 respondents who disagreed with the preposition that the selection of 1 or 2 elective subject(s) from another field of study or from the 34 Trades are overloaded. Table 3 again revealed that item 12 had a mean value of 1.97 and standard deviation of 0.83 which represent 150 teachers out of the 190 respondents who disagreed with the preposition that the selections of minimum of 8 subjects are overloaded.

Table 3 again revealed that item 13 had a mean value of 2.22 and standard deviation of 0.83 which represent 120 teachers out of the 190 respondents who disagreed with the preposition that the selections of maximum of 9 subjects of the new SSEC are overloaded. Table 3 again revealed that item 14 had a mean value of 2.02 and standard deviation of 0.87 which represent 140 teachers out of the 190 respondents who disagreed with the preposition that the offering of trade/entrepreneurship subject from the list of 34 trade/entrepreneurship subjects is overloaded.

Discussion of Findings

The findings revealed that the inclusion of mathematics as a compulsory cross cutting subjects for the SSS curriculum is not overloaded in Nigeria. This finding is in agreement with the several studies that have carried out on the importance of mathematics to science and technology (Ethe, 2012 and Odiagbe & Okeke, 2014). Mathematics continued to remain a prime subject among the subject in schools. The findings also revealed that the teachers that responded to this item 2 agreed that the

inclusion of English Language as a compulsory cross cutting subject of new SSS curriculum is not overloaded in Nigeria. This finding is in agreement with the several studies that have carried out on the importance of English Language in Nigerian educational system (Ethe, 2012). The findings further revealed that the teachers that responded to this item 3 agreed that the inclusion of Civic Education as a compulsory cross cutting subject in the SSS curriculum is not overloaded in Nigeria. This findings contradicts the findings of Odiagbe (2018) who reported that most teachers responded that Civic Education as a compulsory subject should end at the junior secondary school level. This revelation is new and unique. The finding again revealed that the teachers that responded to item 4 agreed that the inclusion of a trade subject as one of the compulsory subjects is not over loading the SSEC in Nigeria. This finding is also in agreement with the study carried out by Odiagbe (2018) that the inclusion of a trade subject as one of the compulsory subjects is adequate and relevant to the desired needs in Nigeria.

The findings on research question two revealed that the subjects that made up Science and Mathematics, Humanities, business studies and technology as a field of study are not over loaded. This finding is also in agreement with the study carried out by Odiagbe (2018) that the inclusion of a trade subject as one of the compulsory subjects is adequate and relevant to the desired needs in Nigeria

The findings revealed that the teachers who responded to this item 9 agreed that the selection of 4 compulsory core cross-cutting subjects (Mathematics, English, Civic Education and Trade subjects) of the new SSEC are not overloaded. The finding also revealed that selection of 3-4 subjects from the student's field of study are not over loaded. The finding further revealed selection of 1 or 2 elective subject(s) from another field of study or from the 34 Trades are not also overloaded. The finding again revealed that selections of minimum of 8 subjects of the new SSEC are adequate and relevant to the desired needs. The finding again revealed that selections of maximum of 9 subjects of the new SSEC are adequate and relevant to the desired needs. The finding again revealed that selection of one compulsory core trade/entrepreneurship subject from the list of 34 trade/entrepreneurship subjects is not overloading the SSEC.

Conclusion

From the findings, it can be concluded that the Senior Secondary Education Curriculum (SSEC) are not over loaded. The senior secondary education curriculum contents and structure are adequate and relevant to the desired needs of the nation in terms of skills acquisition, science and technology.

Recommendations

Based on findings of this study, the following recommendations were made:

1. The government should continue with the implementation of the Senior Secondary Education Curriculum (SSEC) as the contents and structure of the curriculum are adequate and relevant to the desired needs of the nation and not over loaded.
2. The government should do more sensitization and advocacy on SSEC especially in area of subject selections.

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EXPLORING THE STATUS OF ADMISSION INTO NATIONAL OPEN UNIVERSITY OF NIGERIA IN PROVIDING QUALITY EDUCATIONAL ACCESS IN NIGERIA

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Abstract

National Open University of Nigeria (NOUN) was established on 22nd July, 1983 as a spring-board for Open and Distance Learning in Nigeria. The study explored the Status of Admission into the National Open University of Nigeria (NOUN) in providing quality education access in Nigeria. The study participants comprised academic staff and non-academic staff of NOUN in which 4 participants were purposely selected from the population. An interview protocol and document were used for data collection. The study adopted a qualitative research approach using instrumental case study design. Data analysis involved thematic and content analysis via computer assisted software Nvivo version 11. The results obtained indicated Admission of NOUN provides quality in accessing university education, the admission follow the academic requirements as enshrined in the NUC BMAS with clear policies and guideline for admission. In addition to that the admission practices of NOUN is ICT driven, it gives applicants information on the said academic requirement prior to payment of application form as these requirement are uploaded in the application portal and set as a precondition for all applicants to view before the payment option would be activated. Students being admitted are verified at study centres of their choice. The study recommends that Government should empower NOUN to operate to it full capacity so that the vision of the University will be fully realized. NOUN, Government and stakeholders should embark on massive sensitization to educate the public on the operations of NOUN

Keywords: Admission, Quality, Educational Access, NOUN

Introduction

National Open University of Nigeria (NOUN) was initially established on 22nd July, 1983 as a Spring-board for Open and Distance Learning in Nigeria. However it was suspended on the 25th April, 1984 (NOUN, 2015). The justification for the suspension was made by the then Military Head of State, Major General Muhammadu Buhari in his budget speech tagged budget of revival in 1984, he stated that:

The government has given serious consideration to the National Open University programme and found that the infrastructures to make the programme successful are not available and adequate. The government has decided that in the present financial situation, Nigeria could not afford the Open University programme. Existing universities with schemes for part time students will be encouraged to expand their programme to take in more students. This will provide university education for those who would have wished to avail themselves of the opportunity of the Open University programme. Pg. 162

Later, it was resuscitated on 1st October, 2002, specifically; the University was established to increase access of all Nigerians to formal and non-formal education in a manner that is convenient to their circumstances (NOUN Annual Report, 2011). The reopening of NOUN brought into ascendancy the use of distance education as a modality that can meet general demand for quality higher education in all spheres of life. Open and distance education as an educational programme and philosophic construct has been identified as the most potent instrument for combating the educational problems assailing a nation like Nigeria (Ojo and Olakulehi, 2006). In developing countries, human knowledge resource development through initial continuing education is not only seen as crucial for growth and competitiveness, but also has far-reaching social impact, for example in increasing the independence of women, and involving standard of health and rural environment (Moore and Tait, 2002). The situation in Nigeria is not different from the above assertion. This affirms the crucial role that education plays in developing countries like Nigeria. Since education is an important ally in the role of social and economic development, the potential of Open University in realizing the educational goals of increased access to education and balanced development in Nigeria is obvious.

The university admitted its pioneer set of students in 2004 with about 9,700 students in 23 study centres across the federation and by 2018; the university has a global total enrolled students since inception of 476,047 across all the programmes with 78 study centres spread across the country (NOUN at a glance 2018). From the time of its rebirth the university is working toward realizing its vision which is fundamental to its existence and based on the knowledge of the researcher there was no evidence of work that investigated the status of

the university as regards whether it is running with its vision or not. This study therefore explored the status of NOUN as regards its vision statement. The Vision statement of NOUN is to be regarded as the foremost university providing highly accessible and enhanced quality education anchored by social justice, equity, equality and national cohesion through a comprehensive reach that transcends all barriers (NOUN, 2015). The realization of this vision will drive its root from the admission practices of the university.

The practice of admission into programmes of NOUN is open and has no barrier with regard to JAMB requirements and age (Aminu 2015). The admission is not conditioned by the minimum Unified Tertiary Matriculation Examination/Post Unified Tertiary Matriculation Examination (UTME/PUTME) scores and post UTME Examinations but considers the minimum of O level requirements as spelt out in the conventional system. The entry procedure is relaxed and open in distance, time and space. Applicants will collect information on admission through the university website or go to nearest Study Centre of their convenience; student counsellor provides counselling services in case of any inquiry that arises on admission. If the applicants are satisfied after counselling or getting relevant information through website or Study Centre, then they will proceed to the website (www.nouonline.net) to process the admission. Admissions are basically on e-platform, after submitting an application form online, the system analyses the information supplied and grant instant admission if the candidate is qualified.

Students are admitted into the various academic programmes in NOUN's Faculties based on the minimum academic standard for all universities that was approved by the National Universities Commission (NUC). The admission process as retrieved from www.nouonline.net is as stated below:

The admission process as retrieved from www.nouonline.net is as stated below:

- An applicant for undergraduate admission into NOUN is normally expected to have a minimum of 5 o-level credits including English Language and Mathematics.

- Additional requirements might apply for some programmes and these can be viewed after selecting the Programme and entry level at the Faculty's admission page.
- To apply for a programme, select the Faculty, choose the programme and entry level so that the *View Requirement* button is enabled. Clicking this button will reveal the corresponding entry requirement and enable the *Apply* button on the pre-payment application page.
- Fill in all the remaining details on the page before submitting.
- On successful submission unique ID will be generated and you will be redirected to Remita to obtain Remita Retrieval Reference (RRR) invoice which should be used to effect payment for the application form.
- Applicants who pay must click on payment and enter their Unique Identification (ID) and RRR.
- Successful payment will lead to the generation of an online application form which should be filled before submission online. The admission process is automated and the outcome is virtually instantaneous.
- Print your form and admission letter and bring them to your chosen Study Centre for verification by an Admin Officer.

The need for access to university education has recently become vital in Nigeria as a result of an increase in the university-age population and an awareness of the role of University education in the development of the individual as well as the nation (Kanyap, 2013). In addition, it is important to state that there seems to be a general perception among the Nigerian people that only University degree can promise a good future (Ehiametalor, 2005). Ehiametalor further stated that, the demand for university education has reached an unprecedented high level that more than double the current number of universities in the country will be required to fill the gap. The provision of quality education to millions has been one of the struggles facing developing countries such as Nigeria. Experiences both nationally and internationally have shown that conventional education is extremely hard pressed to meet the demands of today's socio educational milieu especially for developing countries like Nigeria (Okoroma, 2008). The two major purposes for university

education are for manpower development and self-actualization and this is prominent in open and distance learning.

Statement of the Problem

The rebirth of NOUN in 2002 has renewed the focus to make education available to as many people as possible that have the ability and are willing and ready to benefit from the quality education provided through flexible and affordable distance learning (Peters 2006). From the time of its re-birth, the university is pursuing its vision of providing highly accessible and enhanced quality education anchored by social justice, equity, equality and national cohesion through a comprehensive reach that transcends all barriers. But the issue of quality access in university education in Nigeria still remains worrisome to stakeholders. There was no attempt so far to investigate the status of the university as regards whether it is running with its vision of providing accessible and quality education in Nigeria or not.

One major criticism and concern of distance education has been the quality of its products in terms of numbers and compromise (Badu-Nyarko, 2013). Many scholars have raised issues with the quality of learning being achieved through ODL, Muirhead (2000) and Twigg (2001) observed, although the growth of the ODL has washed away the scepticism about its quality, this study therefore explored the Status of Admission into National Open University of Nigeria in Providing Quality Access to Education in Nigeria.

Purpose of the Study

The main purpose of this study was to explore the status of National Open University of Nigeria (NOUN) as regards providing quality in accessing university education in Nigeria.

Research Questions

To what extent does the status of National Open University of Nigeria (NOUN) in providing quality in accessing university education in Nigeria?

Methodology

Design of the Study

This study adopted a qualitative research approach. The design that was used for this study was instrumental case study. Instrumental case study involves study of a case in order to investigate a phenomenon, population or general condition (Creswell, 2012).

Participants

The study used four participants from academic and senior nonacademic staff in National Open University of Nigeria (NOUN). The sampling technique used in this research is purposeful sampling. In purposeful sampling, researchers intentionally select individuals and sites to learn or understand the central phenomenon (Creswell, 2012).

The reason for carrying out purposeful sampling is that the people who have been selected for the sampling have been selected with a particular purpose in mind (those involved in the issues of admission and its practices).

Instrument for Data Collection

The instruments used for data collection were Interview and document. In qualitative research, the approach relies on general interviews or observations so that you do not restrict the view of participants, the researcher, therefore needed to collect data with few open-ended questions he designed (Creswell, 2012), Interview was used as a primary instrument for data collection. It was conducted in a structured form, with few open-ended questions on how the Administrative staff, Academic staff and staff of learner support services respond to admission issues. The interview took place in private places (participant's home, office, or in any conducive place in NOUN).

Reliability of the Instrument

Triangulation and member checking were used to establish the reliability in this study. Qualitative reliability refers to the researcher's approach being consistent across different researchers and different projects (Creswell, 2012).

Method of Data Analysis

The analysis procedure used for this qualitative approach was based on the two data sources that the researcher collected: interviews and document. For the interview thematic analysis was used, and document was analyzed using content analysis.

The computer qualitative data analysis software NVivo 11 (QRS international Pty Ltd) for windows, NVivo Plus 2015 edition was used to facilitate the coding and perform complex searches that would be very time consuming if done manually (Creswell, 2012). The computer software program helped the coding process by coding, generating themes, and sorting information for the analysis as the researcher will go through each line of the text and assigned codes (Creswell, 2012).

Procedure

The procedure involved in the analysis of data was shown in Figure 2, the procedures were performed using NVivo 11 qualitative data analysis software.

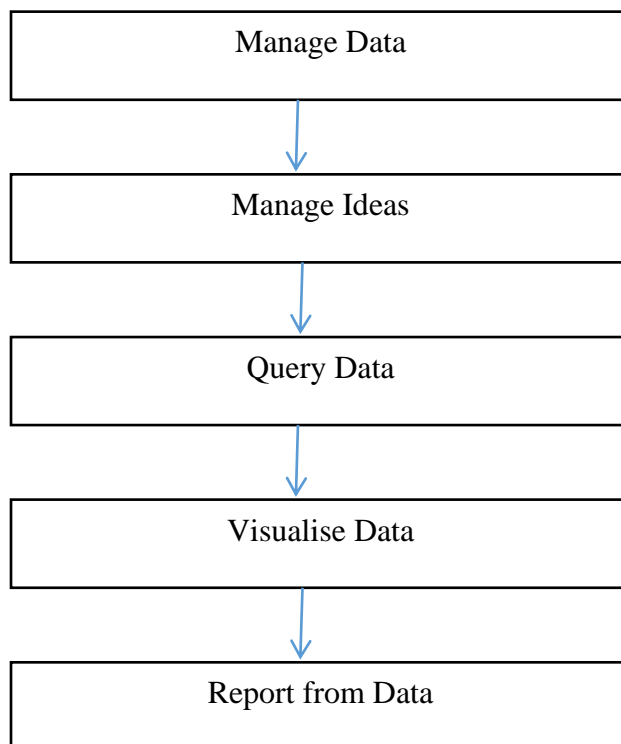


Figure 1: *Qualitative Data Analysis Procedures using NVivo 11*
 Source: Baseley and Jackson (2013)

Interview was conducted with 4 participants of three participant groups (administrative staff, academic staff and learner support services staff). Table 4 summarises the characteristics of interview.

Table 1: Characteristics of Interviewee

Participants	Participants pseudo names	Gender
One Administrative Staff	Fat	Female
One Academic Staff	Keto	Female
Two Learner Support Services Staff	Momy	Female
	Dingo	Male

Table 1 shows the characteristics of the participant in this study using the following format. The participants' group represent the job area of the participant and pseudo names represent the identity of the participant, followed by the participants' gender.

Data Management

The transcripts for all the participants were formatted in terms of paragraph style for the purpose of auto coding using NVivo 11 software. Auto coding automatically assigned relevant information to specified nodes/codes. It is a way of recognizing data for further analysis, with auto coding, headings with the same name and level across the transcripts were group into node. All the research questions were formatted to Heading I and the interview questions were formatted to Heading II and the responses were formatted to Normal.

Data Coding and Sorting

The transcribed data was sorted and coded using NVivo 11 software. NVivo is a Qualitative Data Analysis (QDA) computer package produced by QSR international. It has been designed for qualitative researchers working with very rich text-based and/or multimedia

information, where deep levels of analysis on small or large volumes of data are required (McNiff, 2016).

The formatted transcripts were imported into the NVivo 11 software, using auto coding function, the software organized and grouped the interview questions and responses of the participants based on research questions. Query functions such as word frequency and word tree were used to identify nodes/codes.

Validation of Codes

Codes were validated using Compound query provided by NVivo 11 software; this helped to find the content in the data sources that is close to other content. For example, a combination of text search query with a coding query was used to search for text in or near the coded content and a combination of two text search queries was also used to search for content where one term precedes another to make sure that no any important content was omitted.

Identification and Development of Emerging Sub theme (Child Nodes) and Theme (Parent Nodes)

Themes are patterns across data sets that are important to the description of a phenomenon and are associated to a specific research question (Daly and Glikman, 1997). The themes become the categories for analysis (Fereday and Elimear, 2006). In Nvivo software Parent Nodes are used instead of themes and Nodes are used instead of codes.

Sub themes were developed by identifying relevant information in the data using search query functions, the information identified were assigned words and phrases (concepts) that best represented the relevant information making sure that they are consistent with the research questions and were documented accordingly (Bazeley and Jackson, 2013). The themes were developed based on the content of the relevant information identified. Table 1 shows a summary of the emerging themes and sub themes.

THEME: Status of NOUN Admission as regards Quality in accessing university education

In an effort to answer research question four, the emerging sub themes were generated which explore the views of participants on status of NOUN as regards quality in accessing university education. The NUC

standard for admission is obtained in the NUC Benchmark Minimum Academic Standards (BMAS) which are designed for the education and training of undergraduate students wishing to obtain first degrees in the different areas and disciplines in the Nigerian university system. According to the BMAS Candidates are admitted into degree programmes in any of the following three ways: The Unified Tertiary Matriculation Examination (UTME), Direct Entry, and inter university transfer. For UTME in addition to acceptable passes in UTME, the minimum academic requirement is credit level passes in five subjects at 'O' Level in nationally recognized examination including English Language, Mathematics and three other relevant subjects at not more than two sittings. For Direct Entry, candidates must have passes in at least Two GCE 'A' level subjects or its equivalent. Holders of NCE, OND and HND at minimum of upper credit level are eligible for consideration for Direct Entry admission too. In addition, candidates must meet the required qualifications at Ordinary Level. And for inter university transfer; Students can transfer provided they met the receiving University's requirement in terms of qualification, grade and the minimum duration of stay to earn the university's degree.

This section presents the information on how admission practices of NOUN provide quality in accessing university education using the following interview questions:

1. What will you say about the quality of education in NOUN?
2. How will you assess the standard of the students being admitted?
3. Do the practices of admission in NOUN comply with NUC standard?
4. Do the practices of admission in NOUN promote quality education?
5. Are there other ways or means the University has to enhance quality education from admission?
6. What is your opinion for Nigerians on embracing NOUN as a solution to improve quality education in the country?
7. What admission practices is the most helpful to you and how can that improve quality education?

This theme attempts to address these questions by analyzing the responses of the interview which led to the emergence of the following sub-themes under quality:

- i. NUC BMAS
- ii. Clear policies and guideline
- iii. ICT Compliance
- iv. Verification

Figure 2 below shows the categories and sub categories as generated from the participants' responses, on quality in accessing university education based on the content of relevant information being identified.

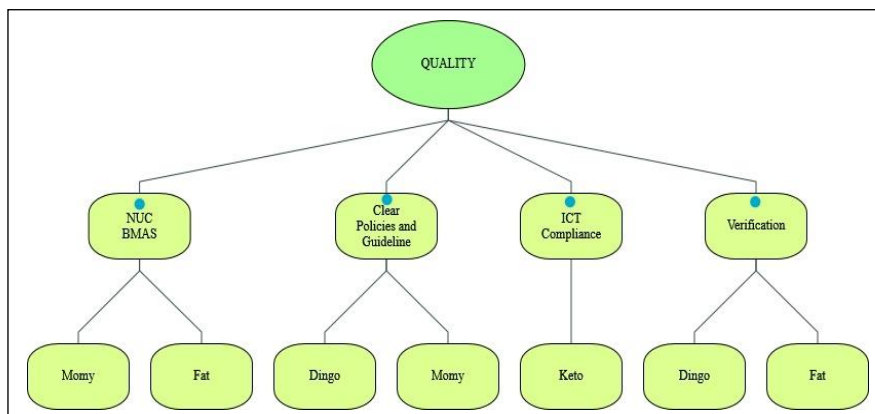


Figure 2: *Model for Status NOUN admission as regards Quality*

Source: NVivo 11 Output Generated from the Interview

NOUN Admission versus quality of access

Academic requirement for admission is on based NUC BMAS

NOUN programmes are mounted based on approved requirement of National Universities Commission (NUC). The participants revealed that students being admitted into NOUN meet up with the NUC bench mark for academic standard. And the expectation is that each candidate that meets up with such requirement will cope with academic demands of university education.

NOUN is a federal university regulated by National Universities Commission (NUC) and all programmes mounted are based on the NUC BMAS. Therefore, the quality of NOUN education is not in any way

inferior to other institutions in the country. And remember NOUN admission is based on merit and merit based admission brings quality students which in turn received quality education using qualitative course materials and robots e-learning facilities (Interview with Momy)

The student being admitted must meet the academic requirements for the course in which they are being admitted into, that is why any candidate that is admitted must be verified at the study centre to ensure that the certificates are genuine and the candidate has the needed qualifications for the programme he was admitted. With this in place I can say that the candidates admitted are good to go. She further stated that the main and most important consideration in admissions is merit (the academic requirement) and it is central to NOUN admission. Others are placed to improve balance in the admission process of conventional universities due to limited space. And NOUN has no limit for its admissions therefore does not require to use such parameters as catchment area, educationally less developed areas. Once you have the academic requirement you will be automatically admitted. You can see that the admission in NOUN complies with the standard of NUC (Interview with Fat).

In NOUN candidates are admitted into degree programmes based on credit level passes in five subjects at 'O' Level in nationally recognized examination including English Language, Mathematics and three other relevant subjects at not more than two sittings as spelt out in NUC BMAS. The candidates are not required to sit for Unified Tertiary Matriculation Examination (UTME), but all candidates being admitted must be regularized by Joint Admission and Matriculation Board (JAMB) to meet up with the NUC standard. This covers the provision that all candidates being admitted to tertiary institutions must be admitted through JAMB.

Policies and guideline for admission

Another sub theme being identified by respondents is Clear policies guiding admission. The policies and guideline for admission is published and made available on the website and document for prospective students to read in NOUN and the admission process requires that the candidate must read and check the requirement of the programme in which the application being sought prior to generating RemitaRetrieval Reference (RRR) number. This is revealed in an

interview with participants as follows:

NOUN adheres strictly in admitting students with requirement as approved by NUC. These requirements were uploaded on the admission portal of NOUN and you must meet the requirement before the system grant an admission to you. The programmes offered by NOUN follows guidelines as approved by NUC and as well as setting credible academic standard (Interview with Dingo)

The process of admission in NOUN will not even allow you to apply until you view the requirement of the programme of your interest and is only when you meet the requirement that you will be eligible to apply. You see the process has a check and balances of the standard of student being admitted (Interview with Momy)

ICT Compliance

Information Communications Technology (ICT) is the main factor upon which Open and Distance Learning (ODL) bases its development as an alternative way of learning. The participants in an interview revealed that, NOUN admissions as well as other activities is supported by Information and Communication Technology which is a driving force for quality.

Most of the activities in NOUN are done online which is one of the most important yard stick of determining quality. The admission, facilitation and examinations are conducted virtually. Online process has a lot to do in ensuring quality, because it reduces the chances of malpractices, corruption and many more, the quality of education in NOUN is open (Interview with Keto)

The use of ICT in NOUN admission in has destroyed the concept of societal connection and corruption in the admission process. The issues of corrupt practices such as bribery, missing application form, changing of short listed candidates' names are completely avoided. The process has a check and balances of the standard of student being admitted, it is based on merit and merit based admission brings quality students which in turn received quality education.

Verification at Study Centre

The participants revealed that verification of admitted students at study centre of their choice is an important exercise conducted by Centre Directors and Admin Officers to ascertain the authenticity of the

credentials used in securing the admission. This measure is taken to ensure quality of access into the university as revealed in the following interviews:

Quality of access in NOUN could be seen from application, sufficient information is being provided to guide the applicant on the process of application including the requirement for each course that the applicant intend to apply and candidates get admission instantly. Applicant cannot proceed to registration until they are properly screened at the study centre. Their credentials will be thoroughly checked to ensure conformity with the set standard requirement of the programme. This is to tell you NOUN is serious about the quality of students being admitted (Interview with Dingo)

The student being admitted must met the academic requirements for the course in which they are being admitted into, that is why any candidate that is admitted must be verified at the study centre to ensure that the certificates are genuine and the candidate has the needed qualifications for the programme he was admitted. With this in place I can say that the candidates admitted are good to go (Interview with Fat).

Summary

The participants confirmed that admission practices of NOUN provides quality in accessing university education, the admission follow the academic requirements as enshrine in the NUC BMAS with clear policies and guideline for admission. In addition to that the admission practices of NOUN is ICT driven, it gives applicants information on the said academic requirement prior to payment of application form as these requirement are uploaded in the application portal and set as a precondition for all applicants to view before the payment option would be activated. Students being admitted are verified at study centres of their choice.

Discussion

The finding revealed that admission practices of NOUN provides quality in accessing university education, the admission follow the academic requirements as enshrine in the NUC BMAS with clear policies and guideline for admission. In addition to that the admission practices of NOUN is ICT driven, it gives applicants information on the said academic requirement prior to payment of application form as these

requirement are uploaded in the application portal and set as a precondition for all applicants to view before the payment option will be activated. Students being admitted are verified at study centres of their choice.

This finding is confirmed by the Vice Chancellor NOUN, Professor Abdallah Uba Adamu at a one day workshop organized by Directorate of Academic Planning NOUN published in NOUN News (June, 2017). He said “we are NUC more than NUC, because NOUN is an institution that adheres strictly in offering programmes, follows guideline as approved by the NUC and as well setting credible academic standard”.

He added that “we don’t wait for NUC to tell us what is right or wrong, we go to them and tell them what we want to do, seek their opinion or suggestion, and the moment they say cart out this, stop this, we stop immediately, because we want to prove to them we are NUC more than NUC”.

Findings

Admission of NOUN provides quality in accessing university education, the admission follow the academic requirements as enshrined in the NUC BMAS with clear policies and guideline for admission. In addition to that the admission practices of NOUN is ICT driven, it gives applicants information on the said academic requirement prior to payment of application form as these requirement are uploaded in the application portal and set as a precondition for all applicants to view before the payment option would be activated. Students being admitted are verified at study Centres of their choice

Conclusion

It is clear that the practices of admission in NOUN provides quality in accessing university education, the admission follow the academic requirements as enshrine in the NUC BMAS with clear policies and guideline for admission.

The government, stake holders, parents, applicants and the private sectors are to put up combined effort to work together untiringly to sell the idea of NOUN as a complementary institution to conventional Universities and stem the tide of university education demand in order to improve human capital development of the nation which will in turn improve the socio economic value of the country.

Recommendations

Government should empower the institution to operate to its full capacity so that the vision of the University will be fully realized.

NOUN, Government and stake holders should embark on massive sensitization to educate the public on the operation of NOUN as an institution being established to complement the effort of conventional Universities and not to compete with them and the admission practices of the university provides quality which in turn yields quality graduates.

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EVALUATION OF THE RELIABILITY OF MEASUREMENT INSTRUMENTS: THE GENERALIZABILITY THEORY APPROACH

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Abstract

Measurement instruments play vital role in researches in behavioural sciences and the field of psychometrics is concerned with developing objective measures which are reliable and valid, in order to enhance the accuracy and precision of their assessments and evaluations. Reliability essentially, refers to consistency or dependability of measurement scores over time. Basically, the reliability of measurement instruments have been estimated using various classical theory approaches which recognizes true score and a single error as components of an observed score. Generalizability Theory (G-theory) overcame the unitary error limitations of classical test theory by offering an extensive conceptual framework and a powerful set of statistical procedures for addressing numerous measurement issues. G-theory is a statistical technique for evaluating the dependability (or reliability) of measurement instruments by assessing reliability in the presence of multiple sources of error. It takes the view that the observed score is a universe score, and allows generalizing from a specific sample to the universe of interest. G-theory employs two distinct stages. In G-study stage, the ANOVA techniques are used to estimate components of variance for whatever testing facets are of interest in the study, thereby estimating G-coefficient whereas in D-study stage the values from G-study are used to further calculate estimates of the effects of various measurement designs on the dependability coefficient (analogous to reliability) of the scores. These indices, if correctly interpreted can be very useful in the selection of reliable measurement instruments, in order to ensure the quality of the results of studies.

Keywords: Reliability, Measurement instruments, Generalizability theory, G-coefficient, Dependability-coefficient

Introduction

Psychometricians attempt to develop reliable and valid measurement instruments in order to enhance the accuracy and precision of their

assessments and evaluations. The field of psychometrics is concerned with objective measurement of skills and knowledge, abilities, attitudes, personality traits, and educational achievement (Tavakol and Dennick, 2011). Basically, instruments measure concepts, affective values and psychomotor skills. Validity and reliability are two fundamental elements in the evaluation of a measurement instrument. A reliable instrument measures something consistently while a valid instrument measures what it is intended to measure. These two theoretical considerations of a measurement instrument are closely related.

A measurement instrument cannot be valid unless it is reliable. However, reliability of an instrument does not depend on its validity (Tavakol & Dennick, 2011). Hence, a reliable instrument may be consistent without necessarily being valid.

“Measurement theories such as Classical Test Theory (CTT), Generalizability Theory (GT) and Item Response Theory (IRT) can be used to determine errors in the measurement process and the reliability of measurement application” (Kamis & Dogan, 2018: 103). This implies that it is possible to objectively estimate reliability of a measurement instrument and this chapter, generalizability theory approach to evaluation of reliability of measurement instruments is explored as a response to the limitations of the true-score-model of classical reliability theory (Matt in Amajuoyi, 2015).

The Concept of Reliability

The concept of reliability was first introduced by Charles Spearman in his work on Classical Test Theory (CTT) over 100 years ago (Alesopoulos, 2007 cited in Gugiu et al., 2012). Theoretically, reliability is seen as an observed score (X) which comprise a true score (T) and a random error term (E): $X = T + E$.

Generally, reliability refers to the extent to which a psychological device measures anything consistently (Aiken & Groth-Marnat, 2006). A measurement instrument is said to be reliable if it gives the same score each time it is used in the same setting with the same kind of subject (Sullivan, 2011). Souza, Alexandre and Guiradello (2017) see reliability as the ability of an instrument to reproduce a consistent result in time and space, or from different observers, presenting aspects on coherence, stability, equivalence and homogeneity. Essentially reliability means the consistent and dependable results generated from a

measurement instrument.

Reliability of an instrument could be estimated using different techniques namely, stability, parallel or equivalent forms, internal consistency and inter-rater reliabilities. Each of these forms of reliability estimators produces a reliability coefficient which is an index of measurement consistency ranging from 0 to + 1.00 and whose interpretation is based on the assumption that the proportion of observed score variance is attributable to true score and the error term (Webb, Shavelson & Haertel, 2006). This random error term is single and undifferentiated (Brennan, 2001) which implies that other sources of measurement errors were not accounted for. Generalizability theory approach to evaluation of reliability is posit to overcome this limitation of classical reliability theory by identifying multiple sources of measurement error, disentangling them, and estimating each of them (Kamis & Dogan, 2018).

Generalizability Theory

Generalizability Theory (G-Theory) was originally introduced by Cronbach, Rajaratnam, Gleser, Shavelson and Webb (Crocker & Algina, 2008 in Kanus & Dogan, 2018), to overcome the limitations of true score model of classical reliability theory. It addresses all error sources in a measurement process in combination and sets the reliability coefficient by providing a variance value for all error sources with a single analysis.

G-Theory is “a statistical technique that allows for the identification and estimation of different sources of measurement errors” (Webb & Shavelson cited in Hart, 2017:1). These different sources of errors include items, occasions, raters, and test forms and are known as facets or conditions of measurement. As against the single error term in CTT, G-Theory is interested in knowing how much of the variations is attributable to the each facet hence, G-Theory permits determination of the amount of variance for which each facet is responsible for in the total error of measurement using analysis of variance (ANOVA) methods (Yelboga, 2012; Lafave & Bulterwick, 2014).

According to Brennan (2010), in G-Theory, the investigator decides on which sources of error are of interest which effectively defines the facets of measurement. Webb and Shavelson (2005) stated that the universe of admissible observations is defined by all possible

combinations of the levels (called conditions) of facets. Brennan (2010) defined universe score as the expected value of observed scores over replications of the measurement procedures in which each replication involves a different random sample of conditions from each measurement facts. Put differently, “a behavioural measurement score is conceived of as a sample from a universe of admissible observations, which consist of all possible observations that decision makers consider acceptable substitutes for the observation in hand” (Webb & Shavelson, 2005: 717). Lending credence to Webb and Shavelson’s observation, Matt in Amajuoyi, 2015 contended that a universe, its facets and the conditions for admissible observations are defined through careful construct explication and the traditional domain of validity. The information regarding the facets of the universe (sources of variability) that influence the generalizability of observation is provided by generalizability studies and decision studies with practical application of measurement procedures (Amajuoyi, 2015).

Generalizability Study and Decision Study

Generalizability Study (G-Study) and decision study (D-Study) are employed in estimating the reliability of measurement instrument using G-theory approach. G-Study is conducted to investigate the relationship between an observed score and universe score. A G-Study, essentially, generates the indices of dependability (Southam-Gerow et al 2018). In other words, G-study addresses the questions of how well measures taken in one context generalize to another. According to Shavelson and Webb (2005), as G-study specifically isolates and estimates various facets of measurement error, it includes major facets a decision maker might wish to generalize. A fully crossed designs are preferred where all individuals are measured on all levels of all facets.

D-Study is a stage that follows G-Study. It uses the values determined for the estimated variance components to further determine estimates of the effects of various measurement designs on the dependability of the scores (Brown, 2005). Actually, D-study is designed to gather data based on which decisions about individuals are made, hence it deals with practical application of a measurement procedure.

D-study requires decision about the universe of generalization, which may contain some or all of the facets and their levels in the

universe of admissible observations (Webb et al., 2006). The decision maker can make two types of decision, relative (norm-referenced) and absolute (criterion or domain-referenced) decisions (Shavelson & Webb, 2005). Relative decision involves ranking of individual and relies on the relative interpretation of scores whereas absolute decision is based on absolute interpretation of a score, mastery tests in education provide a good example (Matt cited in Amajuoyi, 2015).

G-study gives rise to generalizability coefficient which will only allow for relative decision, another coefficient, the phi coefficient (dependability coefficient) which is obtained as a result of D-study and is utilized in absolute decision (Webb et al., 2006). Essentially, G-coefficient for a given data, determines the measurement design to be used in the D-study (Kimberley & William, 2009). Basically, there are two main decisions taken in planning D-study. The first has to do with levels of facets to include. For instance, number of Raters (R) who will provide data on each Person (P) and number of Items (I) on which each P will be rated. Secondly, decision is made on whether the measurement design will be crossed or nested.

A crossed design (Figure 1) in a single facet study involves Persons and Raters (P X R). In this situation, every Person in the study is rated by the same set of Raters. This design is often possible when a trained observer provides ratings of live or recorded behavior. On the other hand, nested design (Figure 2) is when Persons are nested within raters (P:R). It implies that each rater evaluates multiple persons but each person is evaluated by only one rater or a set of raters (Kimberley & William, 2009). This is used when teachers rate multiple students in their classes, but each student is rated by only one teacher.

Components of the Observed Score

After the decision maker specifies the universe of generalization, an observed measurement can be decomposed into a component or effect for the universe score and one or more error components with data collected in a G study (Faleye, 2018). An observed score in a G-study for an individual (X_{pi}) in one facet $p \times i$ (crossed design) study can be decomposed as follows:

$$\begin{aligned} X_{pi} &= \mu \text{ (grand mean)} \\ &+ \mu_p - \mu \text{ (person effect)} \\ &+ \mu_i - \mu \text{ (item effect)} \end{aligned}$$

$$+ \mu_{pi} - \mu_p - \mu_i + \mu \text{ (residual)}$$

Webb and Shavelson (1991; 2000) cited Faleye (2018) described the decomposition of the one facet person (p) by item (i) crossed design as containing these components:

1. The grand mean, a constant for all people, positions the score on the particular scale of measurement.
2. The person effect shows the distance between an individual's universe score (μ_p) and the grand mean (μ), a constant with zero variance. A positive person effect indicates that the person scored higher than average; a negative effect means that a person scored lower than average.
3. The item effect shows the difficulty of the particular item. A positive item effect indicates that the item is easier than average (i.e., more people answered it correctly than the average item); a negative item effect means that the item is more difficult than average (fewer people answer it correctly, than the average score across all items).
4. Finally, the residual reflects the influence of the $p \times i$ interaction, other systematic sources of error not expressly included in the one-facet measurement, and random events" (p.19)

Variance is used to express the magnitude of errors introduced into measurement by person and item effects in G-theory designs. Except for the grand mean, μ , each observed-score component varies from one level to another—for example, items vary in difficulty on a test. Assuming a random-effects model, the distribution of each component or "effect," except for the grand mean, has a mean of zero and a variance σ^2 (called the variance component). Thus, the variance (σ^2) of the observed scores (X_{pi}) in the example above is the sum of the three variance components such that:

$$\sigma^2 (X_{pi}) = \sigma_p^2 + \sigma_i^2 + \sigma_{pi.e}^2$$

Each variance component can be estimated from a traditional analysis of variance (or other methods such as maximum likelihood and use of electronic soft wares such as *Genova* and *EduG*). The relative magnitudes of the estimated variance components provide information about potential sources of error influencing a psychometric measurement instruments. Statistical tests are not used in G-theory; instead, standard errors for variance component estimates provide information about sampling variability of estimated variance

components (Brennan, 2001). The variability in performance on items represents systematic individual differences in performance on items from person to person.

Facets of G-Study

The facets of G-study are one-facet and multiple facet G-studies. Multiple facet is further divided into two and three facets.

One-Facet G-Study

One or single facet G-study (PxR) allows for estimation of magnitude of the three sources of variability and used to make decisions about the best way to redesign a measure in D-study. Measures in one-facet G-study are generalizable to the extent that variance due to object of measurement is large relative to variance from the several sources of error (Deshon, 2007). The single facet design is decomposable into three major sources of variance.

- Object of measurement systematic variability due to the focus of differentiation Person (P)
- Condition of mean systematic variability due to Rater (R) facet.
- Interaction variance, random error, and unaccounted for systematic variance (that is, unmeasured facets) (PR, e).

Let us illustrate single facet $p \times r$ with the data set in Table 1, adapted from Kimberley and William (2009).

Table 1: *Sample data set for five persons and three raters*

Person	Rater			Person mean
	1	2	3	
1	27	31	25	27.67
2	15	19	21	18.33
3	15	23	22	20.00
4	7	12	10	9.67
5	18	20	11	16.33
Rater mean	16.40	21.00	17.80	

The output of a two-way ANOVA and variance partitioning for the sample data set is shown in Table 2.

Table 2: A two-way ANOVA and variance partitioning for the sample data

Source of Variation	Sums of Squares	df	Mean Squares	Estimated Variance Components	SE	Percentage of Total Variance
Persons (<i>p</i>)	507.0	4	127.0	39.03	24.40	75
Rater (<i>r</i>)	55.6	2	27.8	3.63	4.02	7
Residual (<i>pr,e</i>)	77.1	8	9.63	9.63	4.31	18
Total	640.0	14				

To obtain the generalizability coefficient and subsequently, dependability (phi) coefficient, the value of relative (δ) and absolute (Δ) error variances by using the following formula:

$$\sigma_{\delta}^2 = \frac{\sigma_{pr,e}^2}{n_r} = \frac{9.63}{3} = 3.21$$

$$\sigma_{\Delta}^2 = \frac{\sigma_r^2}{n_r} + \frac{\sigma_{pr,e}^2}{n_r} = \frac{3.63}{3} + \frac{9.63}{3} = 1.21 + 3.21 = 4.42$$

To obtain the G-coefficient ($E\rho^2$), the following formula is to be employed:

$$E\rho^2 = \frac{\sigma_p^2}{\sigma_p^2 + \sigma_{\delta(rel)}^2} = \frac{39.03}{39.03 + 3.21} = \frac{39.03}{42.24} = 0.924$$

To obtain the D-coefficient, the following formula is to be used:

$$\text{D-coefficient } (\Phi) = \frac{\sigma_p^2}{\sigma_p^2 + \sigma_{\Delta(abs)}^2} = \frac{39.03}{39.03 + 4.42} = \frac{39.03}{43.45} = 0.898$$

(Note that D-coefficient is less than G-coefficient. To obtain an increase in the value of dependability coefficient, the number of raters should be increased, this will then lead to increase in the value of Φ)

Multiple Facet G-Studies

The real power of G-theory is the decomposition of error variance in its multiple constituent, information from this can be used in substantially improving decision making. There are two facet and three facet G-studies.

Two Facet G-study:

The two-facet G-study (P x r x i) involves the person, raters and occasions as conditions of measurement (PxRxI), and seven sources of variance can be identified. These are the main effects (P, R, & I), the two way interaction, (PR*PI*RI), and the error (PRI, error). To illustrate two-facet G-study let of us use an output (Table 3) of G-study by Lakes and Hoyt (2004) with 181 children responding to 16 items on challenge scale on promotion of self-regulation and rated by five raters.

Table 3: *Estimated Variance Components for response on challenge scale (p x r x i)*

Source of Variation	Df	Estimated Variance Component (σ^2)	SE	Percentage of Total variance
Person (<i>p</i>)	180	0.3332	0.0405	32
Raters (<i>r</i>)	4	0.0619	0.0406	6
Item (<i>i</i>)	5	0.0020	0.0060	0
<i>Pr</i>	720	0.1445	0.0114	14
<i>Pi</i>	900	0.0564	0.0068	5
<i>Ri</i>	20	0.0429	0.0136	4
<i>pri,e</i> (Residual)	3600	0.4152	0.0098	39

First step is to estimate the value of relative error variance (σ^2_{δ}) and absolute error variance (σ^2_{Δ}) by using the formula:

Relative Error Variance ($\sigma^2_{\delta(\text{rel})}$)

$$\sigma^2_{\delta(\text{rel})} = \sigma^2_{pr}/n_r + \sigma^2_{pi}/n_i + \sigma^2_{pri,e}/n_r n_i$$

$$\sigma^2_{\delta(\text{rel})} = 0.1445/5 + 0.0564/16 + 0.4152/5(16)$$

$$\sigma^2_{\delta(\text{rel})} = 0.0289 + 0.0035 + 0.0005$$

$$\sigma^2_{\delta(\text{rel})} = 0.0329$$

Absolute Error Variance (σ^2_{Δ})

$$\sigma^2_{\Delta(\text{abs})} = \sigma^2_r/n_r + \sigma^2_i/n_i + \sigma^2_{pr}/n_r + \sigma^2_{pi}/n_i + \sigma^2_{ri}/n_r n_i + \sigma^2_{pro,e}/n_r n_o$$

$$\sigma^2_{\Delta(\text{abs})} = 0.0691/5 + 0.0020/16 + 0.1445/5 + 0.0564/16 + 0.0429/5(16) + 0.4152/5(16) = 0.0138 + 0.0001 + 0.0289 + 0.0035 + 0.0005 + 0.0005 = 0.0473$$

The next step is to determine the G-coefficient, i.e. ρ^2 (for the $p \times r \times i$ design); and it is determined by

$$E\rho^2 = \frac{\sigma^2_p}{\sigma^2_p + \sigma^2_{\delta(\text{rel})}} = \frac{0.3332}{0.3332 + 0.0329} = \frac{0.3332}{0.3661} = 0.910$$

Note that the higher the G-coefficient the better. The next step after obtaining the G-coefficient to obtain the index of dependability – D-coefficient - (i.e. reliability of generalization) and it is denoted with the sign ϕ (Phi) and it is obtained by using the formula

$$\text{D-coefficient } (\Phi) = \frac{\sigma^2_p}{\sigma^2_p + \sigma^2_{\Delta(\text{abs})}} = \frac{0.3332}{0.3332 + 0.0473} = \frac{0.3332}{0.3805} = 0.876$$

Note that the value of D-coefficient is lower than that of G-coefficient. To increase its value, one of the facets of measurement (e.g. items) will have to be increased. For this increase to be effective, the increment could be as high as times three the number of items used in the G-theory analysis.

Three Facet G-Study: The three facets involve Person, Rater, Items and Occasion (PxRxIxO). The observed score variance is partitioned into variance attributable to main effect (P, R, I, & O) two way interaction (PR, PI, PO, & RO), and three way interaction which is confounded to error (PRIO, error) (Kimberley & William, 2009).

Conclusion

Generalizability Theory is considered a modern measurement theory and an extension of models used in classical measurement theory, the major point of difference being the error term. Whereas G. theory allows for disentanglement and estimation of multiple sources of error by application of ANOVA, classical theory approaches have undifferentiated error term, hence, G. theory is especially well suited to

evaluating measurement instrument in psychometrics. Generalizability analyses can be very useful for sorting out person effects, rater effects interactions, and so on, and their implications for various generalizations one might want make about rating.

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**IDENTIFYING THE ELEMENTS FOR THE DEVELOPMENT
OF INTEGRATED STEM INSTRUCTIONAL MODULE FOR
SCIENCE LEARNING AMONG SECONDARY SCHOOL
STUDENTS IN NIGERIA**

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Abstract

Integrated STEM education is one of the essential areas of research in recent times. However, there is no consensus among educational stakeholders on the definition and components of STEM instruction. Therefore, this article determined the Elements for the Development of Integrated STEM Instructional Module for Nigerian Senior Secondary School Science (genetics) Learning. Design and Development Research (DDR) design was adopted. Ten science education experts were purposefully selected and participated in the study. Experts' consensus was adopted to determine the components of the integrated STEM instructional modules (i-STEMim) for science (genetic) instruction. The learning objectives, elements and phases of the instructional modules were adopted from curriculum documents, and review of related literature. The final components were established using two rounds of experts' consensus. The findings from the first round of the survey showed items less than 75% consensus among experts were eliminated and the findings of the first round subjected to the second-round survey. The experts' consensus was used to identify the items that the experts agreed to be included in the instructional module. Four-point rating scale which yielded a reliability of 0.76 was used to collect quantitative data, while interview and documents provided the qualitative data.

The data collected were analyzed qualitatively and quantitatively using a simple

percentage. The finding revealed seven objectives, seven elements, and five phases. The average score of all the items was high indicating that these learning components could be included in i-STEMim. The findings of this study could contribute to the current literature on the development of instructional modules for science instruction.

Keywords: Genetics, Instructional elements of STEM education, Integrated STEM education,

Introduction

The Science education curriculum has been undergoing reforms globally to meet the needs of a dynamic society. One of these reforms in science education is focus integrated-based education that will cater to the needs of learners in a dynamic society. Instructional benefits are associated with integrated-based curriculum because it provides less isolated science learning and provides more opportunities for meaningful learning experiences (Moore et al., 2014; Puspitasari, Herlina, & Suyatna, 2020). An example of integrated-based instruction or education is integrated STEM education. Similarly, instructional benefits of integrated STEM education have been reported which includes positive learning experiences, enhance achievement, assist students to be critical thinkers, innovators, and problem-solvers (Morrison, 2006; Sahin, Ayar, & Adiguzel, 2014). Students' experiences with integrated STEM education is similar to the way STEM professionals solve problems in real-life and relevant to their daily life. Given the importance of integrated STEM education, it is essential to consider how teachers can effectively guide students to learn using integrated STEM education. Therefore, an instructional module that will assist teachers to implement this approach is a vital factor. A critical review of related literature indicates that teachers do not have sufficient knowledge to implement STEM education (Rinke, Gladstone-Brown, Kinlaw, & Capiello, 2016). Internationally there is lack of instructional module to assist teachers to implement the approach (English & King, 2015; Nadelson et al., 2013; Osman & Saat, 2014), in Nigeria the case is not different. Other researchers attributed the lack of instructional module to the relative innovative nature of integrated STEM education (Roberts, 2012; Stohlmann, Moore, & Roehrig, 2012). The problem is further worsened because most teachers were trained to teach science subjects in isolation (Dare, Ellis, & Roehrig, 2018).

Available curricular materials do not seem to align with the goals of STEM education because the instructional modules failed to link science instructional contents to real-world problem-solving. It does not also provide the opportunity for multidisciplinary learning experiences and working in a team similar to the way experts work in real life. This has led to a lack of meaningful learning of science and has culminated in unsatisfactory performance in science especially at the secondary school level of education. Therefore, to maximise the benefits of integrated STEM education and achieve the goal of this reform as highlighted above, there is the need to prepare an integrated STEM instructional module to assist teachers to implement this approach.

The lack of integrated STEM education instructional module to guide teachers could affect teachers' self-efficacy (teachers' belief on their capabilities to influence positive students' learning) to implement STEM education in the classroom (Stohlmann et al., 2012). Quality instructional material is one of the most important factors that positively influence teachers' self-efficacy and effective classroom practices.

Although there is a consensus on the role of the teacher in a STEM-based instruction as a facilitator while learning is student-centred, however, there is disagreement among scholars about what qualifies STEM education instruction in the classroom (Honey, Pearson, & Schweingruber, 2014; Stohlmann et al., 2012). Garnering from literature, integrated STEM education could be in any of these forms, learning of a small content area of one STEM discipline in the context of one or more STEM discipline. Learning science in the context of engineering, technology, or both (Honey et al., 2014; Kertil & Gurel, 2016). Learning content from two or more STEM areas that is, learning the contents of engineering and mathematics (Kertil & Gurel, 2016). Integration among the four STEM areas and organising instruction around a theme or big idea where a relevant portion of STEM areas are integrated (Bybee, 2010). In this study, we focus on learning in a given area of science (genetics) in the context of engineering and genetic engineering as a prominent theme. The rationale for the use of engineering as a context for science instruction include it is the major component of STEM education and provides the basis for the integration of science and mathematics (National Research Council, 2012). Engineering drives complex and higher-order thinking through providing the opportunity for students to define the problem, generate

ideas and make inferences. Engineering provides the platform for learners to think out of the box (Hiong & Kamisah, 2015).

The constructivist theory provides support for the preparation of i-STEMim. In this theory, the emphasis of learning is on the student and not on the teacher. Therefore, the instructional module is prepared for the student to interact with individually and as a group, in the process, their higher cognitive skills are engaged. The instructional module will provide the opportunity for students to construct their understanding and find a solution to the open-ended problem in line with the constructivist theory. Instruction based on the constructivist theory enhance learners' critical thinking, self-regulated learning and more in-depth understanding (Demiral, 2018). Educational document in the US highlighted that critical thinking and problem-solving skills are vital for effective learning of science (The NGSS Lead States, 2013). Therefore, students are expected to demonstrate the ability to plan and carry out an investigation, collect and interpret data, design solution, evaluate, and communicate the findings, these activities could foster their ability to think critically.

Genetic Teaching and Learning

Furthermore, a gleaned at literature indicated that genetics is a difficult concept to teach and learn (Atilla, 2012; Williams , Montgomery, & Manokore, 2012).

This could be attributed to the multidisciplinary nature of genetics which involves some aspects of mathematical probability with its application in genetic engineering. This probably suggests the best way to learn genetics will be through the use of interdisciplinary or multidisciplinary approaches. Therefore, the understanding of the abstract concept of genesis can be achieved through integrated STEM approach which will engage students actively in the learning process. Previous literature has reported that the active engagement of students in the learning process enhanced students understanding of the abstract genetic concept (Yaki, Saat, Sathasivam and Zulnaidi, 2019). Consequently, some of the elements to be embedded in i-STEMim such as open-ended problem, hands-on activities (simulation of how traits are inherited) and the authentic task could make abstract concept concrete for the students to understand.

Therefore, the main study investigated the effects of an integrated

STEM approach towards secondary school students' critical thinking skills and achievement in genetics. This article is part of that more extensive study and focuses on the determination of the components of integrated STEM instructional module (i-STEMim). Therefore, the objective of this article includes, determine the need for the preparation of i-STEMim for implementation among senior secondary school students. Determine the components of i-STEMim that could enhance critical thinking skills and achievement in genetics among senior secondary school students. To guide this study, the following research questions were formulated.

1. What is the need for the preparation of i-STEMim for implementation among senior secondary school students?
2. What are the elements of i-STEMim that could enhance critical thinking skills and achievement in genetics among senior secondary school students?

Methodology

To achieve the objectives of this study, Design and Development Research (DDR). Experts' consensus was adopted to determine the components to be included in i-STEMim. Two phases were employed: analysis, and design, and development.

Ten Science education experts were involved in validating i-STEMim. The experts were drawn from the university, secondary school and policymakers from the ministry of education. The experts are as presented in Table 1

Table 1: *Science Education Experts and Organization*

	Organisation	Number
1	National University of Malaysia (UKM)	2
2	Federal University of Technology Minna Nigeria	4
3	Federal Government College Minna	2
4	Ministry of Education	2

The experts were all PhD holders and among them were four professors. The experts validated i-STEMim, and some of the items were modified based on their suggestion.

Instrument and Procedures

The preparation of i-STEMim involves two phases adopted from the ADDIE. The first phase was the need analysis, and the second phase was design and development. In the need analysis phase, a four-point rating questionnaire was employed, an adopted 4 point Likert type scale; Strongly Needed (SN), Needed (N), Not Needed (NN), Strongly Not Needed (SNN) was adopted for rating each item. The questionnaire was validated by two science education experts and one expert in psychometric. The instrument was pilot tested and using Cronbach alpha the questionnaire yielded a reliability of 0.76. Review of related literature was carried out and content analysis to establish the need for developing the instructional module.

The design and development phase involves several steps. The first stage in this phase was the review of related literature and content analysis of curricular materials on the components of i-STEMim as highlighted in Table 2

Table 2: *Components of i-STEMim*

Components	Description
Learning Objectives	These are performance objectives that learners could acquire at the end of learning with the i-STEMim
Instructional Elements	These instructional elements adapted to be embedded in the instructional module to engage learners' higher cognitive skills
Instructional Phases	These are phases adopted from the engineering design process to provide the context to learn science and enhance critical thinking skills
Instructional Task	These are the design-based learning task included to help learners learn genetics and acquire critical thinking skills

The items of each component were subjected to two rounds of validation by the experts. The instrument for validating of the components was a four-point rating scale; Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). There was a section for experts' comments and observations. The items of each component were

subjected to the first round of the survey to receive expert's consensus on each item. The results of the first round are sent out for the second survey and the findings of the second survey will establish the elements of each component that will be incorporated in i-STEMim.

Determination of i-STEMim Components

The study adopted the phases of Dick and Carew; Analysis, Design, Development, Implementation, and Evaluation (ADDIE), these steps are linear, each of this element is dependent on one another (Dick, Carey, & Carey, 2001). The details of each phase are presented in the next section.

Need Analysis

This is the first stage in the ADDIE model to develop an instructional module, and the need analysis is done to understand the phenomenon and establish the need for the instructional module. The goal of i-STEMim was to enhance critical thinking skills and science achievement among senior secondary school students. To achieve this instructional purpose, a need analysis was performed to establish if there is an instructional need for i-STEMim. Several methods were employed to conduct the need analysis which could enhance the results (Borg & Gall, 1989). Firstly, review of related literature was conducted, followed by document analysis and interviews; seven secondary school science teachers were interviewed in Minna, to gain the understanding of instructional practices in the science classroom. The findings of this stage are explained in the results section

Design and Development

The curriculum content differs from one country to another; similarly, the science instructional content and syllabus with regards to genetics also differ. However, there is a consensus on the design components of a module. Hashim (1999) reported that good instructional module should include instructional design elements: learning goal and objectives, multimedia materials, instructional approach, instructional activities, and evaluation. The review of related literature and content analysis of curricular materials and textbooks were done to establish the items of each component. The components were subjected to two rounds of the survey as highlighted in figure 1

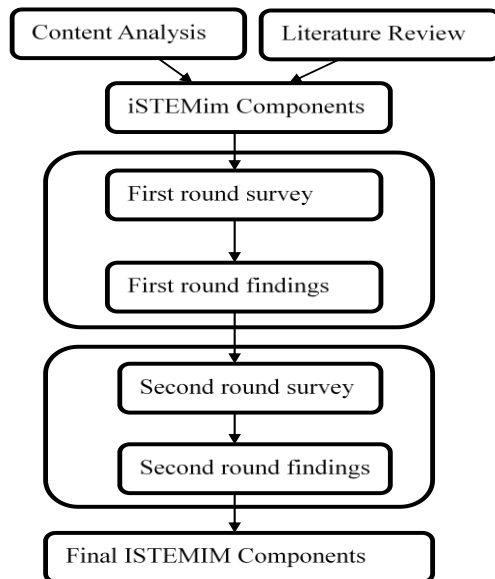


Figure 1. *Flow chart of Design and Development*

Data Analysis

Descriptive statistics were employed to analyze the quantitative data collected using four-point rating questionnaires for both the need analysis phase and the design and development phase. The analysis of the first-round survey was carried out, an item with the average percentage of 75% and above was retained because they are needed while items below 75% were discarded or omitted from round two (Kasim & Ahmad, 2018). The round two surveys were based on the findings of round 1 during the design and development phase.

Results

The purpose of this article is to identify and prepare the components to be embedded in i-STEMim. The findings of the study were presented based on the stated research questions. Research question 1; Is there any need for the preparation of i-STEMim for implementation among senior secondary school students? The findings are as presented below.

Findings from Need Analysis

Ten experts who were anonymous to each other were involved in need analysis which was considered acceptable. This was supported by Okoli and Pawlowski (2004) who reported that 10-18 experts are sufficient to achieve expert's consensus in design and development research. The findings of need analysis are as presented in Table 3

Table 3 *Experts' Consensus on Need Analysis*

	SA	A	NA	SNA	Remarks
There is a need for a paradigm shift from traditional to innovative-based instruction	9 (90%)	1 (10%)			Needed
Genetics is multidisciplinary and complicated, and it is suited for STEM-based learning	8 (80%)	2 (20%)			Needed
There is a need to improve critical thinking skills among secondary school students	10 (100%)	-			Needed
There is a need to improve students' STEM learning and skills	8 (80%)	2 (20%)			Needed
Teachers experience difficulties in implementing STEM integrated instruction	10 (100%)	-			Needed
Teachers need instructional modules to implement STEM-based instruction	10 (100%)	-			Needed
Average experts' consensus	91.67%	8.33%			Needed

Strongly Acceptable (SA), Acceptable (A), Not Acceptable (NA), Strongly Not Acceptable (SNA).

Table 3 indicates the findings of need analysis. The results show that an average of 91.67% experts strongly agree that there is need to develop the module while 8.33% accepted that there is no need to develop the instructional module for the target population.

Findings from document analysis seem to support the quantitative

findings presented above. The policy document highlighted that "science and technology shall continue to be taught in an integrated manner in the schools to promote in students the appreciation of the practical application of basic ideas" (Federal Republic of Nigeria, 2004, P32). Consequently, this policy statement supports the development of i-STEMim because it is an integrated instructional module. However, the findings from the analysis of biology textbooks, syllabus, and scheme of work, showed that textbooks are subject-based and are written in isolation without links to other STEM subjects. Classroom observation indicated that traditional instructional practices dominate the Nigerian classroom. This implies that students are deficient in critical thinking skills which is an essential goal of science education because traditional instructional practices focus on lower-order thinking skills. Therefore, experts' consensus on the need to develop i-STEMim was achieved.

Findings from Design and Development

The design and development phase was done to answer research question two; what are the components of i-STEMim that could enhance critical thinking skills and achievement in genetics among senior secondary school students? Each component to be included in i-STEMim was subjected to two rounds of the survey. The results of the first round were harvested and sent out for the second and final round of survey for experts' consensus.

The first component was 15 performance objectives were proposed and placed in round one of the experts' consensus survey. The example of the learning objectives was that the students would be able to enhance their critical thinking skills (inference, recognising assumption, deduction, interpretation, and evaluation). Explain Mendel's first and second law, explain genetic terminology. Use proportions, percentages, and ratios to solve problems. Identify and practice an iterative process of designing a solution or a prototype through the engineering design process.

The second components are the elements that would be integrated into the instructional module that will engage the students' higher cognitive skills which could enhance critical thinking skills. Twelve (12) elements were proposed; open-ended problem, real-world scenario, questioning, hands-on activities, minds-on activities, inquiry, collaboration, authentic task, argumentation, group projects, teacher as

facilitator, authentic assessment.

The findings after the first round showed that seven instructional elements received experts' consensus and these seven instructional elements were subjected to the second round of survey for experts' consensus. The findings of the second and final round of the experts' consensus produce the following instructional elements for inclusion in the instructional module; the open-ended problem, real-world scenario, questioning, hands-on activities, minds-on activities, inquiry, group projects and collaboration.

Third component; a good instructional module should also include the instructional context or strategy. In this instructional module, the engineering design process. The engineering design process is seen as a design-based problem-solving process because it promotes thinking out of the box and the phases scaffold students' learning (English & King, 2015; Hiong & Kamisah, 2015). After an extensive literature review, seven iterative engineering design process or cycle were proposed and placed in round one of the experts' consensus survey. The iterative engineering design process phases are the engaging problem, generation of ideas, brainstorm, designing prototype, testing prototype, and redesign and communicate findings. These phases went through round one experts' consensus survey. The findings after the first round showed that six phases received consensus from experts and these six phases were subjected to the second round of the survey. The findings of the second and final round of the experts' consensus produce five-phases for inclusion in the instructional module. The phases were the engaging problem, generate ideas design solution, evaluate and improve, communicate findings.

The instructional task was being provided in a design-based open-ended problem that requires learners to gain knowledge of the science and mathematics relevant to solve the problem and apply such knowledge to problem-solving. In this study, the i-STEMim assist learners to learn genetics and apply the genetic knowledge; Mendel's laws, principles of dominance, recessive, phenotype, genotype among others to design the solution and in the process enhance their ability to think. Therefore, the items of each component used based on experts' consensus are as presented in Table 4.

Table 4 *The summary of proposed the items of each component*

Component	Items
Learning Objectives	Enhance their critical thinking skills (inference, recognising assumption, deduction, interpretation, and evaluation)
	Enhance students' genetic learning and achievement (explain Mendel's laws, concepts, and terminology)
	Use proportions, percentages, and ratios to solve problems
	Explain the concept of Dominance and Recessive Trait
	Identify and practice an iterative process of designing a solution through the engineering design process.
	Identify the relevance of STEM to their daily lives.
	Define the problem and generate ideas
	Enhance students' motivation and learning satisfaction
Instructional Elements	Open-ended problem
	Real-world problem
	Questioning
	Hands-on activities
	Minds-on activities
	Inquiry
	Group project
Collaboration	
Instructional Phases	Engaging the problem
	Generate ideas
	Design solution
	Evaluate and Improved
	Communicate findings
Learning Task	Engineering a unique savannah hare that will benefit the community

	Creating an insect for aesthetic value in a community that insects are valued
	Settling a dispute of the appearance of a new trait in a family

Table 4 shows the summary of all the elements that achieved experts' consensus to be embedded in the integrated STEM teaching and learning module.

Discussion of Results

The need to provide instructional modules to guide the implementation of innovative instructional materials that will enhance meaningful learning is at the forefront of educational research. Therefore, this study determined the elements for the development of integrated STEM instructional module for Nigerian senior secondary school science learning.

The finding of the study indicated that there is a need to develop integrated STEM instructional module. The findings agree with the earlier findings of Kasim and Ahmad (2018) who reported that experts' consensus should be 75% and above. This finding could be attributed to the fact that traditional instructional approach is prevalent in the classroom and teachers may not have the expertise to implement an innovative instructional approach. Hence, the respondents in this population believe that there is a need for i-STEMim. Therefore, experts' consensus on the need to develop i-STEMim was achieved.

The finding also indicated that experts agree that instructional elements such as open-ended problem, questioning, hands-on, minds-on and inquiry, among others should be included in the module. This finding concurs Puspitasari et al. (2020) with who reported that physics teachers in Indonesia agreed that there is the need for an integrated STEM e-module to foster students' critical thinking skills. This finding can be attributed to the fact that the respondents in this population believe that these elements will foster students' critical thinking skills and deepened students' understanding of the genetic concept. This implies that the experts believed that these elements could link what students learn in the classroom to their daily lives and make learning more meaningful.

Conclusion

Given the findings of this article, it can be concluded that this article established the instructional components to be embedded in i-STEMim based on experts' consensus. Therefore, the result could provide a guide for science and mathematics textbooks, authors, to write textbooks incorporating these elements to emphasize integrated STEM-based learning. The findings could also provide useful guides for curriculum developers. Policymakers could benefit immensely from the results especially now that the trends of educational reform are in STEM education. It is hoped that these elements, when incorporated in the instructional module, will promote students' higher cognitive engagement in the learning process and promote effective and meaningful learning and thinking skills.

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ENSURING EFFECTIVE ONLINE FACILITATION AS AN INSTRUMENTAL DELIVERY MEDIUM IN OPEN AND DISTANCE LEARNING

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Abstract

With the exponential growth of online learning across the globe, it becomes imperative to strengthen the connection between distance learners and their tutors. In the recent time, distance learning institutions are increasingly depending on online facilitation to improve interaction and engagement, regardless of the separation between tutors and the learners. Online facilitation involves synchronous and asynchronous interaction between students and lecturers to make learning more flexible, self-regulated, and engaging. This medium of instructional delivery occupies a strategic position in the 21st Century open and distance learning (ODL) environment. Therefore, it is important to examine factors that could enhance effective online facilitation within the ODL instructional space. Based on review of relevant literature, this study examined the factors that could encourage effective integration of online facilitation in open and distance learning. The review of relevant literature indicated that factors like Availability of resources, Information and Communication Technology (ICT) competence, understanding online learning pedagogy, development of adequate course materials, maintaining discipline and active interaction are strategic to effective online facilitation process. It is therefore recommended that the planning and implementation of effective online facilitation should be based on these critical factors to improve the quality of online learning at different levels of education. This would provide a workable framework that would engender institutionalization of online facilitation in the system, especially in the Post COVID-19 Pandemic era.

Keywords: Online learning space, online tutor, online facilitation process, ICT competence, online learning pedagogy.

Introduction

Open and distance learning has been touted as a flexible mode of learning to improve access to education across the globe. In the recent time, online learning has been recognised as a strategic component of ODL, to ensure that learners are able to access educational

opportunities, irrespective of the temporal and spatial barriers. Online learning is experiencing rapid growth worldwide and it is at the threshold of becoming a universally accepted learning platform to engage diverse categories of students.

Online learning has enormous potential to democratise learning at different levels and engage students from diverse backgrounds, since online platforms provide opportunities to learn anywhere, anytime (Traxler, 2018; Traxler & Lally, 2016). Bijeesh (2017) argues that online learning promotes flexibility and accessibility to educational opportunities as students can connect with their tutor from any part of the world.

Online teaching and learning is a fairly new innovation within Nigerian education system and it is meant to expand educational access in the country. Learning institutions at different levels are forced to join the new trend of using online learning as a complementary/alternative mode of teaching and learning, due to the pressure on the existing face-to-face system and the global health emergency like COVID-19 pandemic. Exciting as this may sound, it is challenging at the same time, due to the instructional requirements that are different from the conventional mode of learning. To bridge the instructional gap that exists between tutors and the students, learning institutions worldwide are rapidly taking advantage of online facilitation process to ensure active interaction and engagement within the online learning ecosystem. So, it becomes imperative to examine issues surrounding effective online facilitation, with a view to improving the quality of online learning in different regions of the world.

Online facilitation as a positive response to improve the quality of online learning

Notwithstanding the unprecedented instructional benefits of online learning to the education systems across the globe, issues regarding its quality still persist as some scholars believe that online learning is inferior to face-to-face instruction, due to the separation between learners and their lecturers. However, with the advancement in technological innovations, online facilitation has been introduced to enhance seamless interaction between distance learners and their lecturers. The facts that the rate of enrolment in online learning has increased, that the courses have become more diverse and that different

categories of learners are now applying for online courses, raise the question of whether the given education is as efficient and of good quality as it should be. That is why researchers are continuing to improve online learning activities through effective online facilitation (Kör, Erbay, Demir, and Akmeşe, 2016; Reiser and Dempsey, 2012). Online learning basically leverages the capabilities of a number of emerging technologies to communicate ideas with diverse categories of students and through online facilitation, interactive videos, e-mail, and discussion forum could be used to engage learners in instructional process (Velasenko and Bozhok, 2014).

Online facilitation is an ODL instructional delivery medium that requires personnel with appropriate competences to moderate teaching-learning process in virtual learning environments (Motladi, 2014). An online facilitator is a person saddled with the responsibility to galvanise available learning resources to stimulate interaction with learners and support their learning process, as they take part in online learning (Goga, 2010). Apparently, online facilitation remains a positive response to meet the needs and aspirations of the ever-increasing population of 21st Century distance learners, who live practically in media-saturated environments.

Despite the strategic roles of online facilitation in online learning and ODL in general, many faculty members still find it difficult to deliver effective instruction in this new learning environment (Mandernach, Mason, Forrest, and Hackathorn, 2012). Previous studies have explored how online courses might be better designed to support student learning and their engagement in instructional content (Ferguson and DeFelice, 2010). However, there is a need to review relevant literature on some factors that could promote effective online facilitation process within online learning space. As a facilitator who empowers groups and individuals within the learning space, it is essential to be aware of the key issues to be considered in ensuring effective online facilitation. This is with the view to promoting quality online learning and equipping distance learners with requisite competences to function effectively in the 21st Century society.

The roles of facilitator in online facilitation process

The learning management system (LMS), like MOODLE, is an integrated platform that allows online tutor to replicate almost all the

face-to-face classroom activities in the virtual learning environment. In other words, online session could be approximated, as close as possible, to the instructional activities obtainable in the brick and mortar classroom setting. The same way the teacher manages discussions and instructional activities in the traditional classroom setting, so it is in online learning environment (Traxler, 2018). However, online teaching-learning process has some special challenges as students are temporally and spatially separated from their tutors. The role of the facilitator is therefore both strategic and crucial for effective learning outcomes and enjoyable learning experiences in the virtual learning setting.

There is a reasonable consensus in the literature about the changing and challenging roles of the facilitator in online learning. Kemshal-Bell (2001) gives good coverage roles of facilitator as follows:

- providing friendly learning environment to engage learners in the learning process
- ensuring appropriate questioning, listening and feedback mechanisms
- provision of adequate direction and support to learners at all times
- coordinating and managing online discussion through discussion forum
- building community of online learners that are able to collaborate and interact on different issues.

The tutor's assistance is a strategic component of online learning to ensure that learners are not stranded along the instructional path. Online tutors provide words of motivation, affirmation or validation for students to participate actively in the instructional tasks (Wisneski, Ozogul, and Bichelmeyer, 2015). These roles are important for a successful online learning at all levels of education. An ODL environment requires facilitators to take up multidimensional roles and therefore, these experts are expected to acquire variety of competencies to function effectively in this new learning environment. For instance, facilitators have the responsibilities to facilitate and guide learning; assess student's academic work; respond to technical issues; communicate and interact with students; motivate students to learn; and provide adequate feedback on student performance (Simpson, 2002; Denis; Angeli, Valanides & Bonk, 2003; Lentell, 2003).

However, what is critical in all of the aforementioned roles is the

interaction with students as well as the competencies necessary to ensure that learning takes place regardless of space and distance (Motladi, 2014). Apparently, online facilitators need to be equipped with requisite knowledge and skills to perform these roles to make learning engaging and interactive for distance learners.

Factors that promote teachers' effective online facilitation according to experts

Online facilitation has become a significant component of online learning, as it engenders active interaction and communication among the critical instructional elements (teachers, students and media) within the instructional process. It has been considered as a viable platform through which the teacher can interface with students from different parts of the world. It is therefore important to consider factors that could enhance effective online facilitation, with a view to improving the quality of online learning across different levels of education (Nagy, 2018). The review of relevant literature shows that scholars have advocated that specific conditions and resources be considered in the planning and implementation of online facilitation, with a view to promoting engagement and interaction within the teaching-learning environment. The factors are reviewed below:

1. Establish clear goals at the outset and maintain discipline

Online learning is relatively a new instructional mode, especially in this part of the world. Therefore, an efficient online tutor is expected to let students understand the learning requirements and expectations in this virtual instructional setting. So, for online facilitation, it is important to set expectations and learning requirements regarding:

- i. The learning resources students will need for interaction and collaboration
- ii. Appropriate technologies to be used
- iii. Schedules for contacts with students
- iv. Provision of adequate feedback to students posts, especially in asynchronous session
- v. The mode of assessment

After establishing these goals, you might need to ensure that you maintain discipline by sticking to the guidelines and rules for effective online facilitation. Effective online learning as an

alternative/complementary mode of education begins from ensuring and respecting quality criteria in terms of pedagogical, academic, administrative and technical aspects. Studies across the world indicate that online learning can be as effective as the traditional mode of learning, if it is properly designed to ensure that students are really active participants within the instructional process (Istrate, 2000; Eduard & Lucian, 2020). The erroneous impression that online learning is flexible and learners can therefore participate in online activities anyhow should generally be discouraged. Flexibility does not translate to laxity. If an online tutor wants to be successful in the instructional process, then, learners should be put on their toes to do the right thing and execute learning tasks within the specified time. In other words, be sure to be very specific about deadlines for execution of tasks.

2. Provision of adequate resources

Online learning is a paradigm shift in the education system and therefore requires substantially different skills sets and learning resources from the traditional learning mode. This implies that adequate resources are to be made available for effective online facilitation. Many countries in the Sub-Sahara Africa face challenges in accessing information technology as a result of poor infrastructural resources (Molawa, 2009). Of the eight conditions identified by Ely (1999) to be capable of hindering effective online learning, the three conditions that are perceived by faculty to have the greatest impact on the implementation of new online programmes are adequate technological resources, appropriate competencies, and resistance to change. In this wise, online learning requires adequate planning and provision of resources that would encourage active participation of teachers and students in the instructional activities. Infrastructural resources are to be made available to facilitate seamless integration of online facilitation in the system. For instance, effective online facilitation could largely be a function of adequate internet services as well as other technological learning resources like computers, mobile devices, cameras and so on.

3. Preparation of adequate course content

An effective online facilitation is largely a function of adequate and appropriate course content. It is important to note that the learning management systems (LMSs) like MOODLE, Blackboard and others,

are viable learning platforms to interact with learners and engage them in instructional content. However, the journey to a successful online facilitation begins with the kind of content put together by the tutor. Therefore, an online facilitator needs to ensure that the content is well structured to cater to the diverse needs of the students. A strategic role of an online teacher is the development of appropriate course material that would provide learning experience that could be approximated as close as possible to what is obtainable in the brick and mortar classroom setting (Price, Whitlatch, Maier, Burdi & Peacock, 2016). Production of weekly instructional videos, making learning materials available, providing links to relevant information, engaging in the weekly forums and staying up-to-date with the recent research development in the subject area are some of the instructional requirements an online faculty member should be involved in, depending on the workload and availability of resources (Keengwe & Kidd, 2010; Adebisi & Oyeleke, 2018). The implication is that online facilitation requires a proactive approach to course design and weekly engagement in order to provide the best quality of instruction. This remains a critical factor in the effective online facilitation process at all levels of education

4. Adequate interaction with the students

Many scholars remain skeptical about the quality of online learning due to the temporal and spatial separation between the teacher and distance learners. Online facilitation has, therefore, been introduced to bridge this gap in online instructional process. This implies that online facilitation that does not engender interaction cannot be considered to be successful in the real sense of it. An integral part of the task of an online tutor is to build relationships with the students where there could be learning and proper communication of expectations on subject matter.

In online formats, faculty members must become proactive at ensuring active interaction with the students, with a view to keeping them on track within the instructional process (Keengwe & Kidd, 2010; Hew, 2015). Pelz (2010) is of the opinion that interaction remains the heart of online learning, and the success of online facilitation is tied to the quality of interaction among students and between students and their tutor. Price, Whitlatch, Maier, Burdi and Peacock (2016) also suggest good and timely communication with students as a fundamental skill for online teaching and could be a strong prerequisite for effective online

facilitation.

5. ICT competence

With the unprecedented influence of online learning on the education systems worldwide, lecturers require new skills sets for survival in the 21st Century learning space. The competencies include the use of appropriate technological tools and internet resources to navigate LMS and interact with students from different parts of the world. An efficient online tutor requires competence in the use of technological tools to engage learners from diverse backgrounds (Oladokun & Aina, 2011). Dennis, Watland, Pirotte, & Verday, (2004) assert that teaching online requires specific competencies in the pedagogical, communicational, discipline expertise and technological areas. As an extension, these skills are crucial in ensuring effective online facilitation process. The paradigm shift in the skills requirements indicates that teachers in virtual learning environment need to be equipped with technical capabilities to use technological resources to engage learners in instructional process. Therefore, ODL institutions need to do more in the area of training and capacity building, with a view to ensuring that teachers and students could leverage the capabilities of technology to facilitate teaching-learning process.

6. Understanding online learning pedagogy

Online learning pedagogy has to do with the knowledge of the course, using appropriate strategies and selection of relevant learning resources to engage online learners across different geographical regions. It is important to note that online learning is substantially different from traditional mode of instruction and therefore, teachers in the virtual learning environments are expected to possess a full grasp of relevant methodologies and resources that could be used to facilitate instructional activities. Online learning now emphasises interactive structure that recognises the social and interactive elements of knowledge construction, which encourages student-centred learning strategies like problem-based, inquiry-based, discovery, and authentic learning (Jasinski 2001). Teachers need to possess much more than just technical competence, if they are to be successful in online instructional space. They need an understanding of the dynamics of online interaction process to effectively facilitate online courses.

Studies on effective pedagogies and online learning point to the continual increase in the need for online tutors/teachers to understand the strategies that are appropriate to deliver learning through the internet (Allen and Seaman, 2018; Allen, and Seaman, 2016; Budhai and Williams, 2016; Keengwe and Kidd, 2010). Adebisi and Oyeleke (2018) suggest that constructivism remains the key element for effective online teaching and learning at different levels of education.

The authors describe it as a theory that emphasises collaboration and teamwork between faculty members and students, where distance learners become active participants in the instructional process, and lecturers facilitate an environment for learning and growth. This could be situated well with the online facilitation process, as facilitators are expected to moderate teaching-learning process and encourage active interaction among the critical instructional elements.

The need to align online practices to sound pedagogical approaches has been advocated among scholars to ensure that online teachers understand the peculiarities of online instructional process and engage learners maximally with the instructional content (Baggaley, 2014). Online lecturers are expected to acquire relevant pedagogical skills to teach online, which involves development of curricula of an exploratory nature that engages learners with hands-on, inquiry-based learning (Croxt, 2014). Thus, for a successful online facilitation process, there is a need for proper understanding of online teaching pedagogy, which will direct the selection of materials and learning activities in the system. These and other related factors should be considered in the planning and implementation of online facilitation at different levels of education.

Conclusion

Learning institutions are increasingly committing huge resources to online facilitation to ensure active interaction and engagement. In order to understand online learning and explore the capabilities of online facilitation, there is a need to reflect upon the factors that could enhance effective interaction and collaboration in the synchronous and asynchronous sessions. It is clear that online learning requires a substantially different skill set from the traditional mode of learning. Thus, the successful implementation of online facilitation could be a function of these highlighted factors, as indicated by experts across the world. The review of relevant literature indicates that these factors could

go a long way in determining the level of success of online facilitation at different levels of education. Thus, it becomes imperative for education stakeholders to ensure that due consideration is given to these factors, with a view to ensuring effective online facilitation and active engagement with the instructional content in the virtual learning environment.

Recommendations

Based on the review of relevant literature, the following recommendations are made to improve the quality of online facilitation:

- i. Stakeholders in education are encouraged to leverage the capabilities of online facilitation to bridge the instructional gaps between learners and their tutors.
- ii. ODL institutions need to provide adequate facilities to integrate online facilitation, with a view to engaging learners in instructional process.
- iii. The aforementioned factors should be considered in the planning and implementation of online facilitation at all levels of education.

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EFFECTS OF GALLERY WALKS AND MIND-MAPPING STRATEGIES ON STUDENTS' ATTITUDE TO SOME CONCEPTS IN GENETICS IN KWARA STATE

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Abstract

Records have shown that students' performed low in genetics biology; a trend which has been attributed to the use of conventional strategy. This has necessitated the use of other innovative teaching strategies such as gallery walks and mind mapping strategies that could facilitate the teaching and learning of the concepts in biology. This study, therefore, determined the impact of Gallery Walks and Mind Mapping teaching Strategies on students' attitude to genetics Biology. The study adopted a pretest-posttest control group, quasi-experimental design. 365 SSS (II) Biology students from nine schools in three Local Government Areas (LGAs) of Kwara state were randomly selected (sampled). Participants were randomly assigned to treatment groups. The instruments used were: Students Attitude to Biology ($r=0.89$), Biology students Learning Style Scale ($r=0.81$) and Teachers Instructional guides on Gallery walks and Mind Mapping strategies. Two hypotheses were tested at 0.05 level of significance. Data collected were subjected to analysis of covariance. Treatment had significant main effect on students' attitude to genetics Biology ($F_{(2, 361)}=10.84$; $p<0.05$, partial $\eta^2 = 0.06$). Students' in Gallery Walks strategy treatment group 1 has the highest adjusted post attitude to genetics biology mean scores ($\bar{x} = 56.68$), than those in the Mind Mapping Strategy treatment group 2 ($\bar{x} = 55.18$) and the students in Conventional Strategy control group 3 has the least adjusted post attitude to genetics biology mean scores ($\bar{x} = 50.38$). This order is represented $GWS > MMS > CS$. Gallery walks and Mind Mapping strategies should be adopted for the improvement of students' attitude to genetics biology.

Keywords: Gallery Walks strategy, Mind Mapping strategy, students' attitude to genetics biology and Learning Style.

Introduction

Biology is a captivating field of study, and an interesting subject that has been intriguing scientific minds for many centuries. Biology is so important in our world, it is the basis of our origin and existence on earth lies within the depths of the Biological science. It plays a crucial role in every ones lives and touches almost every aspect of our existence it helps human life in many ways. It helps in increasing production of food, combating diseases and aids in protecting and conserving our environment.

The specific objectives to be achieved by Biology curriculum, as stated in the National Policy on Education, (FRN, 2013), include the following among others; to understand certain key biological concepts necessary for successful living and ; to illuminate the problems of reproduction, growth, pollution, health and to disperse superstitions beliefs.

In spite of the fact that Biology curriculum has robust and reliable objectives for biology as a teaching subject, students still find some Biological concepts difficult to understand such as genetics, enzyme, and chromosome. Cimer (2012) reported that genes, chromosomes, Mendelian genetics and hormones are considered difficult concepts by secondary school students. John (2006) also remarked that there are many difficult concepts such as gene, genetic crossing and organs in biology.

The dependent variables attitude can only be improved upon on the students' through teaching using appropriate instructional strategies. Among the strategies that have been previously used are; Experiential strategy by Awolere (2015), Inquiry strategy by Akinwumi (2009) , Critical exploration strategy by Oloyede (2014),Adewumi (2014), Puzzled Based Critical Thinking Motivation Strategies by Ogundiwin (2013) to mention few.

Ogundiwin, Asaju, Adegoke and Ojo(2015) while citing from WAEC and NECO Chief Examiners reports stated that in recent times, observations on students' academic performance in biology; over the years in result of the Senior Secondary Certificate Examination (SSCE) conducted by West Africa Examination Council (WAEC) and National Examination Council (NECO) revealed that a very few number of

students perform better in Biology Examination compared with other subjects and as a result affected the academic aspirations of many candidates. Isa (2007) opined that students' performance in Biology is poor despite the fact that several crucial efforts have continually been made over the years to remedy the yearly poor performance and improve students' performance.

The West Africa Examination Council (WAEC) May/June (2003), Chief Examiner's report stressed that some candidate were conversant with the formation of cell and its parts however some candidate gave the history of the cell and the name of the scientist who propounded the cell theory and so did not score. Also according to the Chief Examiner's Report (2003), stated that most candidates rightly list the scientist that have contributed to evolution study but some candidates lost marks due to spelling errors.

The trend occurs in the Chief Examiner's Reports WAEC in Nigeria May/June in (2004) candidates who attempted this question (No 4a) scored high mark on the definitions. They correctly defined hybride and dominant but candidates could not properly define phenotype neither could they give appropriate examples. Most candidates who attempted the genetic crossing performed poorly.

They did not do well in genetic crossing. They did not state the genotype of the F1 generation.

The trend continues in the Chief Examiner's Reports WAEC in Nigeria May/June (2005) where most candidates could not properly define trait –characteristic of an organism controlled by a pair of genes and Test cross-mating of the heterozygous individual of the F1 generation, to homozygous recessive parent. Few candidates that attempted Question 7c was also poorly attempted and most candidates failed to state that the male brown rabbit is mated with a homozygous white female rabbit and so did not score the marks.

The West Africa Examination Council, May/June (2006) Chief Examiners report stated that candidate performance was poor. Executive summary of Chief Examiner's Reports WAEC in Nigeria Nov/Dec (2006) stated that candidate's performance was reported to be poor in many subject such as Biology, Health Science, French etc. In the Chief Examiner's reports WAEC in Nigeria May/June (2007), No 3. This question was the least popular question in this part and most candidates avoided it, those candidates who attempted it scored low marks. Many

Candidates could not define gene and gene mutation.

Chief Examiner's reports WAEC in Nigeria Nov/Dec (2007) stated that candidates could not properly define sex-linked characters and co-dominance and they cannot give appropriate examples; more also, most candidates who attempt genetic crossing performed poorly. They could not properly represent the parents as $X^h X^H$ and X^H and Y and the gametes as (X^h) (X^H) and (X^H) (Y) . They did not do the crossing well. They could neither state the phenotypes and genotypes of the F_1 offspring nor the probability of the couple having hemophilic sons. Chief Examiner's Reports WAEC in Nigeria Nov/Dec (2009) stated that the performances of the candidates was slightly poorer than that of the previous year with a mean score of 18 and a standard deviation of 08.54 compared with a mean scored of 21 and a standard deviation of 11.58. Chief Examiner's Reports WAEC in Nigeria May/June (2010) revealed that most of the candidates could list transmittable characteristics. Most candidates who attempted the genetic diagram perform it wrongly. Chief Examiner's Report WAEC in Nigeria (2010a PP 176 – 186) pointed out the observed weaknesses of candidates they were –

- a) Poor spelling of technical terms
- b) Poor knowledge of carrying out experiments, taking reading and making observations and drawing conclusions on experimental data;
- c) Poor knowledge of genetics and drawing of poor genetic
- d) Poor mathematical skills;
- e) Poor grasp of classification of plants.

The poor attitudes students have to the subject and low level of achievement among the students in Biology have all been attributed to the inappropriate strategies of teaching mainly employed by most Biology teachers. Researchers have revealed that the teacher-centered strategy normally used by the teachers would not assist the learners to be active recipient of knowledge by which the achievement can be improved, (Ogundiwin, 2013; Babayemi, 2014 and Adegoke, 2015.) Scholars have therefore suggested the use of active learning strategies to take care of the deficiencies.

One of the suggested active strategies is Gallery Walks Strategy. Mark (2012) defined Gallery walks Strategy as a teaching and learning strategy that allows students' to be actively engaged as they walk throughout the classroom. They work together in small groups of three

to six share ideas and respond to meaningful questions, documents, images, problem-solving situations or texts. John (2013) pointed it out that gallery walk strategy enable learners to improve their work through the use of feedback from multiple sources such as peers, teachers and experts. During gallery walks according to Mark (2014) and David (2015) students' explore multiple texts or images that are placed around the room. Carolyn (2012) opined that gallery walk is a discussion strategy that engages groups of participants as they examine and respond to a document; often these document (or items) is displayed on a wall and the participants move as a group from one to the next station. The teacher use gallery walk strategy as a way to have students share their works with peers, examine multiple documents or respond to a collection of quotations, This is supported by John (2013) who confirmed that gallery walks is a way of sharing of knowledge by students after they have read something or done research or as a way for students to share research or to generate discussion on a topic or concept. Gallery walk strategy introduced students to new materials that will help them to obtain specific information that will allow them to develop cognitively. According to David (2015) a traditional gallery walk requires teams of students to rotate between stations to answer or build on other teams answers at each station. Once all teams have visited each station oral presentation and discussion by the class follows.

Mind mapping is another active strategy. Busan (2000) defined mind mapping strategy as a teaching strategy which is visual and non-linear representation of ideas and their relationship. He described the strategy as student-centered. Mind mapping has been described as one of the teaching strategy that promotes creative thinking, ability and high retention in learners. It is also a powerful tool that teachers can use to enhance learning as it is evident in brainstorming, note taking, problem solving, memory learning and visual thinking technique used by psychologist, educationist and other professionals (Batdi and Yusuf, 2015). It enhances the development of certain skills in learner's b such as thinking skills, reasoning skills, and ability to make decision, taking action, information gathering and generating skills. Mind Maps use letters, numbers, color and image, which means that they engage the left and the right sides of the brain. The thinking power of learner will increase synergistically when using Mind Maps.

Conventional strategy is a teaching strategy in which the teacher

presents a verbal discourse on a particular subject, theme or concept to the learners Okoli (2006). Conventional strategy is an ideal way of presentation of facts in sequential order and it is also used to throw light and clarify information or problems. Convectional strategy is used primarily to introduce students to a new subject but it is also a valuable strategy for summarizing ideas, showing relationship between theory and practice and re-emphasizing main point Oloyede (2014). Conventional strategy is a teaching technique that combines oral presentation with doing to communicate process, concepts, ideas and facts, observation Suleeiman (2011). Christopher (2013) reported the inherent setbacks of conventional strategy. He affirm that it does not promote meaningful learning as it appeals only to the sense of hearing events.

Statement of the Problem

Biology is a very important to major careers in sciences, oloyede 2014 reports have showed that science students in kwara state have problem in attitude to genetics concepts in Biology. This has been blamed on poor teaching strategies adopted by science teachers in teaching genetics concepts Biology.

Previous research studies by Ogundiwin, 2013 were largely focused on instructional strategies such as project strategy, Inquiry strategy, Critical exploration strategy, enhanced explicit strategy, Generative-learning strategy among others with little emphasis on Gallery walk and Mind mapping strategies.

Research studies by Ogundiwin, 2013 has revealed that these two strategies (Gallery walk and Mind mapping) were effective in Mathematics, Basic Science and Basic Technology, but their effectiveness on students Attitude to genetics concepts have not been examine.

Therefore, this study was designed to determine the effects of Gallery Walk and Mind Mapping Strategies on Students' attitude to Genetics Concepts in Biology. The moderating effects of Learning Style was determined.

Hypotheses

To guide the study, two null hypotheses were formulated and tested at 0.05 level of significance.

H₀₁: There will be no significant main effect of treatment on students'

(1) Attitude towards biology

H₀₂: There will be no significant main effect of learning style on students'

(1) Attitude towards Biology

Methodology

Research Design

This study adopted the pretest-posttest control group quasi-experimental research design

Selection of Participants

Kwara state is divided into three senatorial districts – Kwara North, Kwara South and Kwara Central. Of the three, Kwara south was randomly selected and was used. Kwara south is further divided into two federal constituencies. Out of the two- Irepodun – Isin – Ekiti – Oke-Ero Federal constituency was randomly selected with the use of ballot papers. Out of the four local Government Area (LGA) ,three was randomly sampled and nine secondary schools were randomly sampled from all secondary schools making use of table of random numbers, three schools per local Government Area that is three intact classes for Gallery walk Strategy in three local government areas, three intact classes for Mind mapping Strategy in three local government and Mind mapping three intact classes for Conventional Strategy in three local government. One intact class was used per school. The nine schools were randomly assigned to six treatment and the three control group.

Selection of Topics /Concepts

Genetics concepts in biology Senior Secondary 2 were selected for the purpose of this study Genetics: Transmission and Expression of characters from parent to offspring; First Mendelian law; Second Mendelian law; Chromosomes the basis of heredity; Probability in genetics; Application of the principle of heredity in agricultural science and medicine.

Research instruments

Six instruments were used in the study. They include;

- a. Students Attitude Toward Biology Scale (SATBS)
- b. Biology Students Learning Style Scale (BSLSS)
- c. Teachers Guide on Gallery walk Strategy(TGGS)
- d. Teachers Guide on Mind mapping Strategy(TGMS)
- e. Teachers Guide on Conventional Strategy(TGCS)
- f. Evaluation Sheet for Assessing Teachers 'Performanceduring Training. (ESATPDT)
 - i. Gallerywalk strategy (ESATGS)
 - ii. Mind mapping strategy (ESATMS)
 - iii. Conventional strategy(ESATCS)

The Students Attitude to Biology (SATBS) instrument was purposefully designed to measure the students' attitude toward Biology and was developed by the researcher. It is divided into two sections. Section A is demographic. It sought information on the name of School, name of the students, sex and age of the students, and time allowed for the test, Section B has items assessing students' attitude to biology. It comprises of 20 items on a 4-point liker type scale, which will be scored as follows; 4marks for strongly agree, 3 marks for Agree, 2 marks for strongly disagree and 1 mark for strongly disagree

The face and content validity of the instrument was ensured through experts in the field of biology in the department of science education, university of Ibadan. The test instrument was also examined by researchers' supervisor in order to determine whether the items measure the intended content. There suggestions were used in the final draft. The Cronbach alpha formular procedure was applied by the researcher to find the reliability co-efficients. In order to do this, some students which were out of the student area in the same local government areas were used to determine the reliability co-efficient of the instrument. The reliability (Cronbach Alpha co-efficient of **0.89** was obtained and it was considered high enough for the instrument to be used for this study).

The learning style test developed by Jonelle A. Beatrice in 1995 and digitized in 2009 was adopted for this study. It is considered appropriate for this study because it has been standardized for use in categorizing learners into their learning modality. The instrument is made up to two sections A &B. Section A consists of personal data of students such as school names, student's name, age and sex. Section B consists of

fourteen questions to which correct choice that are best describes each learner's are to be supplied by ticking the letter A, B and C. It is designed to group students into Kinesthetic (A), Visual (B) and Auditory (C). In grouping the students into the deferent categories of learning styles, the area students tick highest numbers of responses will be their mode of learning.

The face and content validity of experts the instrument was carried out by subjecting it to the scrutiny of test and measurement. The test items were administered to SS two students in the concerned schools using split half method of odd and even numbers of the items.

For the present study the LST was trial tested twice (separated by two weeks) using 25 SS II students of the field-testing school, (Emmanuel College, Ibadan.) in order to further ensure its validity and reliability. A test-retest reliability value of 0.81 was obtained.

These instruments described how instructions were carried out for the different groups, and they contain the following; topic(s), subjects, content, class, and reference book, teaching aids, objectives, presentations, summary and evaluation. The drafts of Teachers Instructional Guides were examined by four experienced biology teachers for suitability for classroom use.

The instrument is in form of lesson notes based on the genetics concept.

Step 1: The teacher creates and post questions;

- i. The teacher creates questions based on the objective of the concept to be taught.
- ii. The number of questions created is the same with the number of the Gallery Walk station
- iii. The teacher distribute the questions to the various gallery walk Station; a question per station.

Step 2: The students' were grouped and collect their assigned roles.

- i. The students' assigned roles such as; Recorder, Reporter, Time keeper and Leader.

Step 3: The group moves to their first assigned stations.

- i. The group begin comment on the concepts of the day

Step 4: The group rotates to the next station clockwise

- i. The rotation will take place after spending five to eight minutes in a station.
- ii. The group adds new comment to the gallery work sheet (note) left by the previous group.
- iii. The teacher acts as a facilitator he/she moves round the gallery Classroom in order to monitor the way by which the students carried out their group activities,

Step 5: The students begin oral presentation.

- i. Each group will be giving five to ten minutes to present oral report
- ii. Facilitator will reinforce good presentation and corrects misconception of idea or concepts.

The draft of the Teacher's Guide on gallery walk Strategy were given to five experienced biology teachers in selected secondary schools. This was done in order to ensure the face, content and construct validity of the guide. These teachers are seasoned WAEC, NECO and NABTEB examiners, and based on their comment and suggestion necessary amendments were made.

The instrument is in form of lesson notes based on the genetics concepts using the Mind Mapping Strategy

Step 1: The teacher instructs the student how to create a central idea

- (i) Central idea will be at center of students mapping sheet page
- (ii) Insert image that will represents mind map's topic.

Step 2: The students add branches to their map.

- (i) Let the main branch that come from central idea thicker.
- (ii) Many branches of sub idea can be added to the main branch

Step 3: The student adds key words to the map

- (i) Adds important key word to a branch :one word per branch

Step 4: The students color (code) the branches of the map

- (i) Create a mental shortcut to your map by colour code it with different colour

Step 5: The students include images to their map

(i) Insert relevant images to your map to make it an imagery map.

The draft of the teacher guide on mind mapping strategy were given to five experienced biology teachers in selected secondary schools. This was done in order to ascertain the face, content and construct validity of the instrument. These teachers were seasoned WAEC, NECO and NABTEB examiners. Based on their comments and suggestions necessary amendment were made.

Teacher's guides on conventional strategy (**TGCS**) consisted of lesson guides on the genetic topic using the following procedural steps.

Step 1: The teacher introduces the lesson by asking questions based on their previous knowledge.

Step 2: Teacher presents the instructional aids and explanation of the contents of the lesson.

Step 3: Teacher asks students to write the chalkboard summary on their note books

Step 4: Teacher asks some questions to evaluate the students

Step 5: Teacher gives assignments/home work.

The draft of the teacher's guide on conventional strategy were given to five experienced biology teachers in selected secondary schools. This was done to ascertain face content and construct validity of the guide (instrument). These teachers are seasoned WAEC, NECO and NABTEB examiners and based on their comment and suggestion, necessary amendments were made.

Evaluation sheet for assessing teachers performance on the use of the strategies (**ESATP**) was done during the training of the participatory teachers for two weeks, the researcher requested the teachers to give demonstration lesson which was assessed by the researcher using the evaluation sheet for assessing teachers' performance (ESATP), to ensure strict compliance to the guide.

The draft of the evaluation sheet for assessing teachers' performance during training were given to five experienced biology teachers in selected secondary schools. This was done in order to ascertain the face, content and construct validity of the instrument. These teachers are seasoned WAEC, NECO and NABTEB examiners. Based on their comments and suggestions necessary amendment were made.

The researchers administered the instruments to pre-test the students and their scores was recorded. The researcher exposed the experimental group I and 2 to genetics concepts using Gallery walk and Mind mapping strategies for eight weeks.

Training was done systematically (step by step) through the explanation on the teaching guides using

- i. Teachers guide on gallery walks
- ii. Teachers guide on mind mapping strategy

The training materials was given to them, the teaching guide for all groups has for its content the following areas of genetics topics in biology; Genetics; Transmission and Expression of characters from parent to offspring; First Mendelian law; Second Mendelian law; Chromosomes the basis of heredity; Probability in genetics; Application of the principle of heredity in agricultural science and medicine. Also, the research assistants was trained on how to administer the instruments.

The pre-test material was given to them shortly after the training. Their first contact with the students in the classroom is for introduction / familiarization and inform the students the purpose, principles and procedures governing the research. The students was informed the benefits they stand to gain if they participated fully from the beginning of the programme to the end. The Students Learning Style (BSLS) questionnaire administered first by biology teacher and followed by Students Attitude to biology Scale (SABS) questionnaire.

At the end of the treatment, the three groups was exposed to the achievement, attitude to biology scale and science process skills test as post-test. The test/scale items was re-arranged so that subjects could not be easily recognized by the students.

The data collected were analyzed using descriptive statistics (mean, standard deviation). Analysis of Covariance (ANCOVA) of inferential statistics was used in testing the hypotheses using the pretest scores as covariates. Multiple Classification Analysis (MCA) was used to determine estimated marginal means of different groups. Bornferroniposthoc test was used where significant main effects were obtained. Lined graph was used to explain the significant interaction effects.

Results

Table 1: Analysis of Covariance (ANCOVA) of Post-Attitude by Treatment, Mental ability and Learning style

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4632.795	27	171.585	1.977	0.003	0.138
Intercept	21348.401	1	21348.401	245.929	0.000	0.424
Pre-Attitude	431.837	1	431.837	4.975	0.026*	0.015
Treatment	1881.088	2	940.544	10.835	0.000*	0.061
Mental ability	195.229	2	97.615	1.124	0.326	0.007
Learning style	52.331	2	26.166	0.301	0.740	0.002
Treatment x Mental ability	711.855	4	177.964	2.050	0.087	0.024
Treatment x Learning style	26.236	4	6.559	0.076	0.990	0.001
Mental ability x Learning style	141.738	4	35.435	0.408	0.803	0.005
Treatment x Mental ability x Learning style	191.697	8	23.962	0.276	0.973	0.007
Error	28993.603	334	86.807			
Total	1074796.000	362				
Corrected Total	33626.398	361				

R Squared = 0.14 (Adjusted R Squared = 0.07) * denotes significant $p < 0.05$

Table 1 reveals that there is a significant main effect of treatment on students' attitude to biology ($F_{(2, 361)} = 10.84$; $p < 0.05$, partial $\eta^2 = 0.06$). The effect is 6.0%. This means that 6.0% of the total difference in students' post-attitude to biology scores is as the results of the significant main effect of the treatment. Hence, hypothesis 1b was rejected. In order to explore the magnitude of the significant main effect across treatment groups, the estimated marginal means of the treatment groups were carried out and the result is presented in Table 2

Table 2: Estimated Marginal Means for Post-Attitude by Treatment and Control group

Treatment	Mean	Std Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Gallery Walk Strategy (GWS)	56.68	1.07	54.59	58.78
Mind Mapping Strategy (MMS)	55.18	0.93	53.35	57.00
Conventional Strategy (CS)	50.38	0.97	48.46	52.29

Table 2 indicates that students in the Gallery Walk Strategy (GWS) treatment group 1 (\bar{x} =56.68) had the highest adjusted post-attitude to biology mean score, follows by their counterparts in the Mind Mapping Strategy (MMS) treatment group 11 (\bar{x} =55.18) and Conventional Strategy (CS) control group (\bar{x} =50.38). This order is represented GWS>MMS >CS. To determine which of the groups causes this significant main effect of treatment on students' attitude to biology, the Bonferroni post-hoc test is carried out across the groups, while the result is presented in Table 3

Table 3: Bonferroni Post-hoc Analysis of Post-Attitude by Treatment and Control Group

Treatment	Mean	GWS	MMS	CS
Gallery Walk Strategy (GWS)	56.68			*
Mind Mapping Strategy (MMS)	55.18			*
Conventional Strategy (CS)	50.38	*	*	

Table 3 reveals that the post-attitude to biology mean score of students exposed to the Gallery Walk Strategy (GWS) is not significantly difference from those in the Mind Mapping Strategy (MMS) but is significantly different from those in the Conventional Strategy (CS). Also, the difference in the post-attitude mean scores of students in the mind mapping strategy and those in the conventional strategy is significant. This implies that the significant difference showed by the ANCOVA result is not due to the difference between the treatment groups (mind mapping and gallery walk strategies) but between the treatment groups (gallery walk and mind mapping

strategies) and the control group as students' post-attitude scores to biology is concerned.

Ho2: There is no significant main effect of learning style on students' attitude to biology

The ANCOVA results in Table 2 reveals that the main effect of learning style on students' attitude to biology ($F_{(2, 361)} = 0.30$; $p > 0.05$, partial $\eta^2 = 0.00$) is not significant. Thus, hypothesis 2 was not rejected. This indicates that learning style had no effect on students' attitude to biology.

Discussion

Main Effects of Treatment on Students' Attitude to Genetics Biology

The result obtained in this study showed that, there was a significant main effect of treatment on student's attitude to Biology. Gallery walk strategy was more effective than the Mind mapping strategy and the conventional strategy. The effectiveness of Gallery walk strategy over both Mind Mapping and Convention strategies may be as a result of the fact that the students were giving opportunity to effectively engage in the learning process. The students' were able to get information that will make them acquired knowledge effortlessly and used their skills of understanding; hence they were able to build constructive attitude towards biology and other students'. The finding of this study is in agreement with the submission of Ridwan (2013), Gaye and Julia (2007) and Suleiman (2011). The Mind Mapping Strategy was found to be more effective than conventional strategy, this may be as a result of the fact that the teacher monitor the students' progress in Mind Mapping, provides support and scores are awarded to each students which can serve as reinforcement to them thus change the attitude towards Biology. This is in line with the study of Akinsola (2013), Idowu (2010), Soltani et al. (2010) and Azizoglu et al (2009). However, this finding is opposed to Brenda (2003) who argued that the conventional could not be totally ignored. Mind mapping strategy shows best positive attitude / favorable attitude which lead to significant / higher attitude in science.

Conclusion

The findings of this study have shown that Gallery walk and Mind Mapping strategies were effective and in improving student's academic achievement in genetics concepts in Biology than the traditional or conventional teaching strategy. The reason for this was that the two instructional strategies enhanced the development of critical thinking of students' allowed them to be actively involved in learning activities and create positive environment for effective interaction of students with one another i.e both strategies were student-centred. It is noteworthy that students showed a higher level of commitment and involvement to solving the genetics problems in Biology when taught using these strategies. The two strategies also encouraged active participation of students to master the genetics concepts; therefore the students were able to solve problems on genetics easily.

Educational Implications

The exposure of the learners to gallery walk and mind mapping strategies have been found to positively affect the improvement of students' achievement, in genetic concepts in biology. The findings have shown the importance of using teaching strategies that are participatory and students centered, where students are trained to take charge of their learning process.

The study also revealed that there is need for total involvement in our educational system of teaching and learning strategies.

The gallery walk and mind mapping strategies could help in providing quick and easy understanding and assimilation of genetics concepts (terminologies) and acquisition of science process skills needed to solve highly chronic prevalent biological problems.

Biology teachers must endeavor to match teaching with the manner in which students will develop positive attitude to genetics Biology.

Teachers should take cognizance notice of students' learning style (visual, auditory and kinesthetic) they like most before using any teaching strategy.

Recommendations

From the results obtained and the discussion made, the following recommendations are therefore made:

1. Gallery Walk strategy and Mind Mapping strategy should be adopted as effective and viable strategies for studying of genetics in Biology. The strategies involved the students in their learning process and they improved their academic achievement in genetics concept.
2. Teachers of biology should develop activities that will give room for the learners to be active participants in the teaching and learning process in the biology class.
3. There should be organization of seminars and workshops for biology teachers where the various steps involved in Gallery Walk Strategy and Mind Mapping Strategy would be made known to them
4. It is recommended that biology teachers should make use of Gallery Walk Strategy and Mind Mapping Strategy as they are activity-based and students-centered, hence the quality and quantity of learning will be improved
5. Both Gallery Walk Strategy and Mind Mapping Strategy steps should be integrated into the school science curriculum so that the teachers and would-be teachers can be trained in the use of the two strategies, not only for teaching of genetics concepts but should be applied to other concepts in biology. If this is done, more qualified biology students would be groomed and produced for biology-related courses in higher institutions of learning.
6. It is also recommended that the Biology education researchers should replicate and improve upon this study making use of the two strategies by conducting it among larger sample size, and at other educational levels in the nation's education system.

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**VIRTUAL-BASED ASSESSMENT DURING COVID-19
PANDEMIC: NATIONAL OPEN UNIVERSITY OF NIGERIA
LECTURERS' LIVED EXPERIENCE**

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Abstract

Presently, the world is on a standstill as a result of coronavirus (covid-19) pandemic which broke out at Wuhan, China. Currently, over 19.9 million people have been confirmed with the disease, while as at today 800539 has been reported dead globally. Educationally, institutions of learning the world over have been closed and students asked to remain at home. In Nigeria, the National Open University of Nigeria (NOUN) which is an open and online learning institution was operational during the pandemic. However, virtual examinations were administered on the students after the online classes. For the first time in history of NOUN that lecturers were engaged on virtual marking exercise. Based on the above, the study seeks to explore NOUN lecturers' lived experiences on virtual-based assessment. The study adopted qualitative method. In addition, interpretive paradigm was used to understand lecturers' experiences on virtual-based assessment. Twenty-four lecturers who participated on virtual marking were purposively selected from all the faculties. In line with qualitative method adopted, thematic analysis was used to analyse the data. Findings indicated that majority of the lecturers found virtual-based assessment very exciting and user friendly. However, they frowned at the use of manual rubrics (hardcopy of the marking guides) for virtual marking and concluded that it was very frustrating. It was recommended among others that virtual based marking rubrics should be uploaded for easy online assessment.

Keywords: Virtual-based, assessment, lecturers, Covid-19, lived experiences

Introduction

Presently, the world is on a standstill as a result of Coronavirus 2019 (covid-19) pandemic which broke out at Wuhan, China. Within few weeks of outbreak of the disease, it negative impacts was felt around the world. As at 11th August, 2020, over 20.1 million people have been confirmed with the disease (John Hopkins University, 2020), while over

800539 has been reported dead globally (New York Times, 2020; W.H.O, 2020). Furthermore, due to this pandemic social, economic, religious and education activities the world over have been paralysed. In the area of education, various institutions of learning the world over have been closed and students asked to remain at home.

In Nigeria, President M. Buhari on the advised of Nigeria Centre for Disease Control (NCDC) ordered the closure of all institutions of learning. Interestingly, National Open University of Nigeria (NOUN) which is an open and online learning institution did not stop its academic activities during the pandemic. In fact, it was during this period that teaching and learning were effectively carried out through social media such as Zoom, Slack, Skype, Facebook and WhatsApp. Similarly, email and teleconferencing were used as official medium of communication among academic and non-academic staff. It is worthy of note that covid-19 pandemic initiates radical transformation in the area of teaching and learning through use of electronic technology (e-technology).

Prior to the outbreak of covid-19 pandemic, NOUN students were often made to write pen-on paper (POP) examination. In fact, at every end of the semester, NOUN students are compelled to converge at their study centres for either terminal or promotion examinations. This traditional method of assessment, that is, POP was roundly criticised by researchers and experts who argued that POP examination requires large number of lecturers to supervise it, thereby increasing the cost for the examination in school (Al-Hakeem & Abdulrahman, 2017). In the same vein, Birt, Moore and Cowling (2017) said that a considerable period of time are usually spent for the distribution and collation of question and answer scripts by the invigilators thereby subjecting the students to unnecessary examination fever. Apparently, with the covid-19 pandemic ravaging the world, the university (NOUN) authority realised that the engagement of her students on POP examinations was totally unachievable. Therefore, students for the first time in the history of the university were asked to write their examination virtually. On completion of the virtual-based examination, the university management under the able leadership of the vice chancellor resolved to engage lecturers on virtual-based marking exercise. Though, this was a complete new innovation which took most lecturers unaware. However, lecturers did not disappoint themselves or authority of the university as

they braced up to the challenges with unprecedented enthusiasm. Despite the fact that the virtual-based assessment has come and gone, but not without some pocket of complains by lecturers. In light of the above assertion, the researcher investigates lived experiences of NOUN lecturers on virtual-based assessment during Covid-19 pandemic. In other words, the researcher sought to answer the following questions; how do NOUN lecturers experience virtual-based assessment of students' examination scripts? What are challenges faced by NOUN lecturers during virtual-based assessment?

Theoretical Framework for the Study

In any empirical study, a theory is important because it serves as a lens in which a researcher used in understanding the phenomenon under investigation. In that breathe, however, self-efficacy theory is deployed for this study. In 1977, Albert Bandura came up with self-efficacy theory to explain people's judgment about their ability to execute a certain task successfully. In other words, the idea behind self-efficacy theory is that motivation and performance are determined by how effective a person believes he or she can do the impossible thing(s) (Redmond, 2010). According to Chowdhury and Lanis (1999), for an individual to perform a task he or she must have confidence in his or her ability to perform and accomplish the task irrespective of the challenges rounding it.

Let go practical to shed light on the theory's relevance, lecturer A has a high ability and experience to mark students' examination scripts virtually, but he or she does not have self-confidence to embark on marking exercise for fear of making mistakes. Conversely, lecturer B has an average ability with no experience in marking examination scripts virtually, yet he or she believes in accomplishing the task. Putting the theory in context, Forlin (2013) held that it is crucial for teachers to have the confidence in their own knowledge, skills and abilities of practicing inclusive education in order to conduct the inclusive classroom successfully. In another circumstance, Olivier, Archambault and Dupéré (2018) postulates that academic achievement is closely linked to the feeling that learners have of their individual competencies and their perceptions of how good they are in each domain, especially in the core subjects such as English, mathematics and physics. Olivier, Archambault, De Clercq and Galand (2019) went

further to aver that prior self-efficacy leads to later emotional engagement, behavioural engagement, and (Maliheh, Nayeemeh, Mitra, Abbas, & Zohreh, 2016) achievement. Based on illustrated examples, however, it is appropriate to deploy this theory to understand lecturers' lived experiences on virtual-based assessment exercise in NOUN.

Related Literature

Literature review is important in any research. This is because it gives an interpretation of existing scholarly works in the light of updated developments in the field to assist in creating consistency in knowledge and relevance in existing materials (Hart, 2018). Based on the above, the researcher looked at scholarly materials which relates to assessment, virtual-based assessment and its importance, among others for the study.

Assessment in the university serves numerous functions. Obviously, one important function of assessment is to measure students' academic performance which is essential for their promotion to new class or awards degree or diploma as the case may be. In recent times, especially since the outbreak of covid-19, virtual-based assessment in universities and other higher institutions of learning has been steadily on the rise. Virtual-based assessment involves two key concepts. First, for virtual-based assessment to flourish students must give their examination responses online. Second, students' responses must be marked by an automated system by their educators. Though, the above assertion was not dispelled by Sturgill (2011), instead, he argued that virtual-based assignment is very easy to assess especially when it involves multiple choice questions, matching questions and fill in the blank space questions. Hensley (2015) postulated that virtual-based assessment is complex when it involves essay-type of assessment. This is because it demands sophisticated and complex software which understand the cognitive content of the students. This fear was allayed by Okada, Whitelock, Holmes and Edwards (2019) who reported that e-assessment software known as Adaptive Assessment Tool (AAT) has been introduced to address essay answers.

With the introduction of online software for essay assessment, researchers have come up with its advantages over traditional POP assessment. For instance, Sorensen (2013) said that one important advantage of virtual-based assessment is in the area of time saving. The author went further to say that time for the sorting of scripts after

traditional POP examination is completely eliminated.

In the area of cost effectiveness, Gilbert, Whitelock and Gale (2011) who conducted a study at Leeds Metropolitan University on cost implication of virtual-based assessment said that virtual-based assessment saved the university up to £3000 per cohort in staff time. Aside from economic effectiveness of virtual-based assessment, paperless virtual-based examination reduces to the barest minimum the need for printing, transporting, and keeping track of paper testing materials (Hensley, 2015). Additionally, virtual-based assessment provides immediate feedback to the students which ultimately aid in promoting learning (Way, 2012). Similarly, research conducted by Williams and Wong (2009) have shown that virtual-based assessment help students in rural areas to learn and be assessed in their own locations. In the same manner, Villar-Onrubia, and Rajpal (2016) aver that virtual-based assessment enable students to take the examinations anywhere and their scripts assessed without fear of misplacement.

Methodological Choice

Research methodology is the plan of action which lies behind the choice and use of certain methods (Scotland, 2012). In this study, therefore, the methodology adopted is qualitative. Reason for the choice of qualitative methodology is to have a firsthand and an in-depth understanding (Creswell & Creswell, 2017) of NOUN lecturers lived experiences on virtual-based assessment. Since the study focuses on social phenomenon which is being investigated in its natural setting, interpretive paradigm was therefore considered appropriate, and it was subsequently adopted. After all, interpretivism supports researchers to explore their world by interpreting the understanding of individuals (Thanh & Thanh, 2015).

Population and Sampling Technique

Fraekel, Wallen and Hyun (2012) say that research population includes all individuals with similar or specified characteristics. Drawing from Fraekel, Wallen and Hyun's assertion, the population of this study is the entire three hundred and fourteen (314) academic staff in NOUN (NOUN Postgraduate School Prospectus, 2018). Having realised that not all the three hundred and fourteen academic staff were engaged on virtual-based marking by the Examination and Assessment unit, on that light, the researcher made frantic effort to see the Director of the

Examination and Assessment unit for the exact number of staff selected for the marking. Due to covid-19 outbreak and subsequent stay at home order, the Director's office was locked. Fortunately, the researcher placed cellphone call to a senior staff in the unit. It was revealed by this staff that the number selected was seventy two staff. Based on the number given, the researcher purposively selected twenty-four participants from eight faculties that domicile in the university. This researcher was intermittently asked by his senior colleagues the reason for the selection of small sample size. In fact, Cohen, Manion and Morrison's (2013) had earlier said that qualitative researchers always select small sample size to have thick, in-depth and undiluted information from the participants. The above assertion actually formed the basis for the selection of a small size for this study.

In line with qualitative methodology adopted and research questions earlier developed, semi-structured interview was designed to generate rich information from the participants. There were total of fifteen interview questions which bordered on the phenomenon under investigation.

Unlike quantitative methodology where the instrument was subjected to validity and reliability test, in qualitative study like the one under exploration, triangulation was used to give credence to the interview schedule. Noble and Heale (2019) have argued that triangulation is a method used to increase the credibility and validity of research findings. Before the interview, all ethical issues were attended to. For instance, permissions were sought from all participants through cellphone calls for their voluntary participation on the study. Furthermore, for confidentiality purpose, names of the participants were replaced with pseudonyms. Because of the outbreak of covid-19 disease, face-to-face interview was not possible. Rather, WhatSapp video interview was used with all the participants. Additionally, the interviews were all recorded with an audio-tape. For clarity purpose, some important issues raised during interview by the participants were hand-written on the field-note. Data generated were transcribed into textual form and it was subsequently subjected to open coding. Creswell (2015), Saldaña (2016) argued that open coding help researchers to analyse qualitative textual materials by taking them apart to see what they yield before putting them (data) back together in a meaningful way. The emerging themes from the code were analysed through thematic

analysis. The choice of thematic analysis was because it provides a flexible and useful research tool which can potentially provide a rich and detailed, yet complex account of data (Braun & Clarke, 2006).

Findings

From the first research question which bordered on how NOUN lecturers experience virtual-based assessment of examination scripts, the following theme emerged and was explained below.

User Friendly Platform

Findings indicated that out of twenty-four participants interviewed on the subjected matter, approximately eighty percent of them informed the researcher that the virtual-based assessment platform was user friendly. In fact, a particular lecturer who is named Dr Musa narrated that when the idea of virtual marking was first introduced by the Director of Examination and Assessment Unit, he was apprehensive on the modality(s) to be adopted without hitch. He went further to say that throughout the night before the orientation, he could not sleep because of the tension generated by the introduction of virtual-based exercise. When he was asked why he could not sleep. He responded:

The reason I was not able to sleep was very simple. Despite my vast knowledge in computer programming, I have never done virtual marking, therefore, I was afraid of the exercise (personal interview, 2020)

Another participant (Dr Glory) added that her Blood Pressure (BP) was alarmingly high when the Director of Examination unit introduced the virtual-based assessment. In her mind, she was of the view that the introduction of virtual marking was an avenue to get rid of lecturers who were not vast on information communication technology (ICT). She was confused and very sad throughout the duration in which online orientation was conducted. However, the researcher was informed that the situation suddenly changed when the actual virtual-based marking began.

In fact, Dr Raymond said that all the negative fears he and his colleagues developed during virtual marking orientation disappeared when examination scripts were uploaded for actual marking. When participants were asked to explain how he and his colleagues felt when

they were given their user's names and passwords to log into their various platforms. At this juncture, Dr Issa replied;

“Sincerely speaking, I was very surprised to realise that the platform was user friendly. I was able to login without any hindrance and virtually marked all the examination scripts allocated to me.” In the same breathe, sounding happy in his voice, Dr Ogonna declared:

My brother, I should be sincere to you, I did not anticipate that the virtual-based assessment to be this easy. We nearly crucified the director when he came with this new innovation. The platform was very easy to manipulate and the marking exercise very easy to accomplish (personal interview, 2020).

On examination marks awarded on the platform, the majority of the participants agreed that it was easy to award examination marks on the platform. In fact, Dr Aminu was very categorical with is statement when he said;

“During actual virtual marking exercise, the marks allocated to each question was very simple to calculate and inserted on the column provided.”

Similarly, Drs Peter, Ibrahim and Angela clearly informed this researcher that in spite of the fact that there were many columns on the platform, however, the function or importance of each column was self-explanatory. Therefore, it was totally impossible to misapply any of the columns provided.

The appropriateness of columns for the allocation of marks notwithstanding, Dr Dorothy pointed out that the issue of missing scripts and marks which were often reported by students during the POP examination was completely eliminated. In addition to Dr Dorothy's position, Dr Badmus who claimed that he is the faculty examination committee member, narrated how he was often confronted by some students on the issue of missing examination scores after every POP examination. He went further to say that he was often referred to as heartless lecturer by majority of the students who reported for their missing examination scores. He concluded by saying that with the introduction of virtual-based assessment by the vice chancellor, the era of missing examination scores has been completely eliminated.

From the above conversation, it is obvious that despite the initial fear developed by all participants on virtual-based examination marking,

they have come to realisation that the platform was user friendly. In other words, virtual-based assessment platform was designed to accommodate all manner of lecturers irrespective whether he/she has vast knowledge in ICT or not. All the participants were able to virtually mark the students' scripts and scores awarded on the right column provided. Apparently, the success recorded through virtual-based assessment completely eradicates missing scores often complained by some students.

From the second research question, the themes which emerged were provision of manual rubrics and non-provision of internet service. These are explained below.

Provision of Manual Rubrics

Findings showed that most lecturers engaged on virtual-based assessment complained of the provision of manual rubrics by Examination and Assessment Unit. For instance, Dr Magaji said that he was very uncomfortable with the manual rubric provided. When asked why he not comfortable with manual rubric given, he declared:

My brother, it was not acceptable to be provided with a hardcopy of marking guiding because of inconvenience I faced. I have to read on the hard copy first and go back to the platform to read on the answer given by the student. It created serious challenges for me. In fact, I did not like the method at all (personal interview, 2020).

In the same vein, Dr Ogbuji reported that the use of manual rubrics for virtual-based assessment was completely out of order. When he was probed further on why it was out of order, he responded;

“Look, it was very stressful to look at rubric sideward and awarded marks upward on the virtual platform. Moreover, aside from the fact that it was stressful, the completion time allotted for marking of scripts was delayed unnecessarily.” Another participant jokingly said; “compelling us to virtually marked examination scripts while marking guide was not virtually used was like putting the cart before the horse.”

Another participant (Dr Omolara) said that she was extremely amazed when the Director of Examination and Assessment Unit told them during orientation that the marking guides should be requested for our department heads. She went on to narrate how she called her head of

department to request for the marking guides for the two courses allocated to her. According to her, it took the head of department hours before the documents (marking guides) were forwarded through email to her. Dr Omolara angrily submitted that the right thing which Examination and Assessment Unit should have done was to upload courses rubrics and students' scripts on the same platform for easy marking.

Non-Provision of Internet Service

Another theme which came up prominently among the participants was the issue of non-provision of internet service to markers. Dr Lucky specifically narrated how he spent huge sum of money subscribing to one of the internet service providers for the sole purpose of the marking scripts allocated to him. In his words, he declared;

“I want to tell you that I did spend twelve thousand naira for the three days I used for marking the scripts allocated to me by the university authority. This is not acceptable during this covid-19 disease outbreak when people are looking for money to take care of their family.

In line with Dr Lucky's position, Dr (Mrs) Olatunde was visibly frowned at the situation in which she was compelled to spend so much money for the acquisition internet service for virtual marking. In her words, she thundered:

It was absolutely unacceptable and very frustrating to spend huge sum of money for internet service when I was looking for money to buy foodstuff for my family during this covid-19 pandemic. The university authority ought to have given us some 'palliatives' to buy data bundle for this exercise (personal interview, 2020).

The above excerpts indicated that the major challenge encountered by participants was the issue of non-provision of internet service for use on virtual marking. It was reported that all the lecturers selected for virtual marking were compelled to buy their own internet service for the exercise. From the researcher's interpretive position, the acquisition of data bundle at the time they were looking for money to gather for the family's needs was lecturers' nightmare. From all indications, the situation was frustrating to all lecturers because they were struggling to feed their children and families during covid-19 pandemic.

Discussion of the Findings

The study investigated NOUN lecturers lived experiences on virtual-based assessment during covid-19 pandemic. From the findings, it was discovered that lecturers who were selected for virtual-based assessment were initially apprehensive over the success of the marking exercise. From the interpretive point of view, it may be argued that the reason for the negative apathy towards virtual marking was based on the fact that the exercise was alien to the lecturers. Moreover, it was newly introduced by the university authority to address the effects of Covid-19 pandemic. With the actual commencement of virtual marking, all participants who participated unanimously agreed that the virtual-based assessment platform was user friendly. In other words, the platform was simply and easy to manipulate by all the participants. Furthermore, it can be submitted that the use of virtual-based marking promote unbiased award of marks to students, because the identity of students taking the examination are not known by the markers. This position was affirmed by McGourty (2000) who postulated that the adoption of virtual-based marking do not only speed up grading time, but also makes identity of examinees anonymous. Obviously, from the researcher's perspective, the participants' notion of user friendly platform was not simply based on the simplicity and commonality of the virtual platform. Rather, it is argued that lecturers' self-efficacy significantly played a crucial role at ensuring the successful implementation of virtual-based marking exercise. Confirming the above assertion, Ashton and Webb (1986) had earlier submitted that the highly efficacious lecturers tend to be more organised, display greater skills of instruction, questioning, explaining, assessment and providing feedback to students who have difficulties, therefore, maintain students on task. In the same manner, Shahzad and Naureen (2017) contended that when lecturers accomplish the task efficaciously, their self-efficacy will surely increase, however, lecturers' low level of self-efficacy results in complete failure.

The non-provision of virtual-based rubrics and internet service were some of the challenges the participants reported to have encountered. Specifically, the use of manual marking rubrics frustrated lecturers' efforts towards the timely completion of marking task assigned. Obviously, the delay in completing the marking exercise due to manual marking rubrics provided, may negatively impacts the compilation and

eventual release of students' results. Quellmalz and Pellegrino (2009) had earlier said that virtual-based marking guide enable lecturers to finish marking on time and provides quick feedback to students wherever they may be. In line with Quellmalz and Pellegrino's (2009) position, Nguyen, Rienties, Toetenel, Ferguson and Whitelock (2017) contended that virtual-based rubrics has an advantage over traditional form or hardcopy rubrics because it is electronically built, moreso, (Helfaya and O'Neill, 2018) it motivate and support students to improve their learning through prompt feedback.

On the issue of non-provision of internet services to the participants, this was a sad development because it happened when lecturers themselves were looking for financial assistance to cushion the effects of covid-19 pandemic. Aside from that, the amputation lecturers' salaries due to their force migration to integrated payroll and personnel information system negatively altered patronisation of internet service providers.

Conclusion

The outbreak and spread of covid-19 pandemic across the world has brought education to a complete halt. In spite of the locked down, NOUN which is online institution has been having academic interaction with her students. In order to determine academic performance of all students after online classes, virtual-based assessment was initiated for the first time by university headed Professor Abdalla Uba Adamu to curtail the contact and spread of covid-19 disease. This study examined lived experiences of NOUN lecturers on virtual-based assessment of students during Covid-19 pandemic. Apparently, despite initial apprehension expressed by all lecturers on the complex nature of the platform, findings showed that virtual-based assessment platform was user friendly. All lecturers were able to manipulate the system to their advantage. In other words, marking of students' scripts online did not pose any difficulty, rather, it was easily done by all lecturers. Despite the fact that the platform was user friendly, it did not in any way stopped lecturers from having challenges. For instance, the provision of manual assessment rubrics and non- provision of internet services were some of the challenges markers reported to have encountered.

Recommendations

From the findings, though the virtual-based assessment platform was user friendly in spite of initial apprehension developed by lecturers. In fact, majority of the participants were angry for two hours orientation organised. Obviously, they claimed it was grossly inadequate. The researcher strongly recommends that adequate orientation and sensitisation sessions should be organised by directorate of Examination and Assessment to keep all stakeholders abreast of the event before the commencement of the exercise (virtual-based assessment). When this is done, the initial fear developed will be a thing of the past.

The participants complained of the provision of manual assessment rubrics on virtual-based assessment for its discomfort while marking. Apart from the above, it also delays the timely completion of the assessment task. In light of the above, it is recommended that virtual-based assessment rubrics should be introduced by the authority to speed completion of the task and minimise discomfort experienced by the markers.

Findings also indicated that lecturers complained bitterly over non-provision of internet services for the exercise. Therefore, it is recommended that anytime the university authority intends to engage her staff on virtual-based assessment, internet services should be provided to all the lecturers for the exercise. If this is not possible, alternatively, before the commencement of virtual marking exercise money should be provided to lecturers to buy internet bundle for the task.

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DRUG ABUSE AMONG NIGERIAN ADOLESCENTS IN SECONDARY SCHOOLS: STRATEGIES FOR COUNSELLING IN THE 21ST CENTURY.

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Abstract

Adolescents are young people whose age range from 13 to 19 years. Most of these adolescents are found in the secondary schools. These adolescents prefer an autonomous and independent life that is totally free from adult control. This often makes them engage in various delinquent behaviour such as; drug abuse, rape, cultism, robbery including vandalism. All these acts are dangerous to the family, home, school, community and the nation at large. The impact of drug abuse among these adolescents has been a peril of moral decadence, violence, banditry, assault, madness and murder. The negative consequences of drug abuse have eaten deep into the walls of our society especially in our secondary schools where the society expects the best training for them through quality education but the reverse seems to be the case. However, with effective counselling programmes, the problems can be tackled through campaign against drug abuse by school principals, government and other relevant authorities. Drug control counselling centres should be established in every secondary school and community. Qualified health counsellors should be engaged in assisting drug addicts by giving them special advice on how to go about the withdrawal process. Drug awareness units need to be established in all states by the federal, state and local governments for the purpose of prosecuting them but to help solve their socio-psychological problems which will enable them continue their education and turn into a new leaf for the betterment of our society. This paper therefore discusses the concept of drug, drug abuse, types, theories of causes, signs and symptoms, effects, issues of drug abuse among adolescents in Nigeria secondary schools and strategies for counselling.

Key Words: Drug Abuse, Drug Dependence, Adolescents, Secondary Schools, Peer Group.

Introduction

Right from the human existence, traditional approach has been adopted to heal and control diseases making use of herbs, leaves and plants. The uses of drugs in itself do not prone or accommodate any form of danger, because drugs correctly administered have been a source of quick

recovery from ill-health. Chronic use of substances can cause serious, sometimes irreversible damage to adolescent's physical mental and psychological development (Oparaduru and Makinde, 2018). The use of drugs could be beneficial or harmful depending on the mode of administration.

Drugs refer to substances that could bring about a change in the biological function through its chemical actions (Nestler, 2013). They are also considered as substances that modify cognition, mood, perceptions, behaviour and general body functions (Balogun, 2006). They could thus, be considered as chemical modifiers of the living tissues that could bring about physiological and behavioural changes (Nnachi, 2007).

In the opinion of Fawa (2003), "Drug is defined as any substance, which is used for treatment or prevention of a disease in man and animals. Drug alters the body functions either positively or otherwise depending on the body composition of the user, the type of drug used, the amount used and whether used singly or with other drugs at the same time".

According to the National Institute on Drug Abuse, (2018, pp.47-58) drug abuse is defined as "a maladaptive pattern of substance abuse leading to clinically significant impairment. They also viewed drugs as chemical compounds that affect the mind and body.

Drug abuse generally is a prevalent public health problem across the globe (Fonseca and Ferro, 2013). The application and abuse of drugs by adolescents have become one of the most disturbing health related phenomena in Nigeria and other parts of the world (NDLEA; 2019). Several students in our secondary schools who are within the age bracket termed adolescents experience mental health problems, either temporarily or for a long period of time. Some of them become maladjusted to school situations, some are insane and become frustrated going to the school due to their new life styles they found enjoyable.

NDLEA as cited by Fareo (2012) explained the term drug abuse as excessive and persistent self-administration of a drug without regard to the medically or culturally accepted patterns. It could also be viewed as the use of a drug to the extent that it interferes with the health and social function of an individual. Feldstein & Miller (2006) defined drug abuse as the non-medical use of a drug that interferes with a healthy and productive life. Drug abuse is the constant use of drugs to the extent that

it interferes with the health and social function of an individual (Abdulahi, 2009). This is to say that, drug abuse may be defined as the excessive dependence or misuse of one particular drug with or without a prior medical diagnosis from qualified doctors or health care givers. It can also be viewed as the unlawful overdose in the use of drug(s) to the detriment of the health status of that particular individual.

Types of Drug Abuse

In Nigeria, the most common types of abused drugs according to NAFDAC (2018) are categorized as follows:-

1. **Stimulants:** These are substances that directly act and stimulate the central nervous system. Users at the initial stage experience pleasant effects such as energy increase. The major source of these comes from caffeine, **substance and tramadol.**
2. **Hallucinogens:** These are drugs that alter the sensory processing unit in the brain. Thus, producing distorted perception, feeling of anxiety and euphoria, sadness and inner joy, they normally come from marijuana, lysergic acid diethylamide (LSD) and others.
3. **Narcotics:** These drugs relieve pains, induce sleeping and they are addictive. They are found in heroin, codeine, and opioid.
4. **Sedatives:** These drugs are among the most widely used and abused. This is largely due to the belief that they relieve stress and anxiety, and some of them induce sleep, ease tension, cause relaxation or help users to forget their problems. They are sourced from valium, alcohol, prometazine, chloroform.
5. **Miscellaneous:** This is a group of volatile solvents or inhalants that provide euphoria, emotional and perpetual distortion of thought to the user. The main sources are glues, spot removers, tube repair, perfumes, chemicals and many others.
6. **Tranquilizers:** They are believed to produce calmness without bringing drowsiness; they are chiefly derived from Librium, Valium and others.

Theories of Drug Abuse

Theories of drug abuse indicate that some people truly depend on certain drugs for their survival due to a number of factors. The major emphasis of the theories is that people have their individual reasons for depending on one type of the drug or the other. Such reasons, according to Eze and

Omeje (1999) are explained by the following theories.

Personality theory of drug abuse, learning theory of drug abuse, biological theory of drug abuse and socio-cultural theories

- a. **Personality Theories of Drug Abuse:** the main emphases of the theories are that there are certain traits or characteristics in the individuals that abuse drugs. Such personality characteristics, according to Eze and Omeje (1999) are inability to delay gratification, low tolerance for frustration, poor impulse control, and high emotional dependence on other people, poor coping ability and low self-esteem. Individuals with these personality characteristics find it difficult to abstain from drug abuse.
- b. **Learning Theory of Drug Abuse:** It maintains that dependence or abuse of drugs occurs as a result of learning. The learning could be by means of conditioning, instrumental learning or social learning.
- c. **Biological Theory of Drug Abuse:** The theory maintains that drug abuse is determined by the individual's biological or genetic factors which make them vulnerable to drug addiction
- d. **Socio-cultural Theories of Drug Dependence/Abuse:** The theories maintain that abuse is determined by socio-cultural values of the people. For instance, while certain cultures permit the consumption of alcohol and marijuana, other cultures do not.

Among the Urhobo, Ijaw, Ibibio, Edo, Igbo, Yoruba and Itsekiri, alcohol i.e. Oogoro is used in cultural activities. In Northern Nigeria, alcohol is forbidden due to Sharia law. However, the sharing law does not forbid cigarette consumption and thus nicotine dependence. It should be noted, however that no theory fully explains the etiology of drug abuse. This is due to individual differences. It then becomes obvious that the disorder (drug abuse) is an acquired one. The acquisition then is dependent on a host of personal inclinations and environmental factors, a situation explained suggestively by Bandura (1986) social cognitive theory, i.e. the triadic reciprocity involving behaviour, environment and the person.

Causes of Drug Abuse

The abuse of drugs in Nigeria is caused by many factors including love for money by peddlers, disobedience to the laws of the country, proliferation of the market with individuals who sell medicines, lack of control of prescriptions in the healthcare facilities and lack of control of

dispensing among dispensers (NAFDAC, 2020). Other reasons for abuse of drugs include smuggling substances of abuse through our porous seaports and land borders, corruption and compromises at the point of entries, diversion of legitimate exports to illicit use, weakness in inspections and weak penalties for the sellers and traffickers.

According to NAFDAC (2020) there are many social factors that have resulted in the use of drugs which led to its abuse. These include decline of family value systems, parents not playing their roles properly, children and youth therefore not receiving proper guidance, peer pressure, social media influence, poverty and unemployment. In their view, the most commonly abused drugs in the country presently are **tramadol and codeine**. However, Haladu (2003) gave the following as some of the causes of drug abuse.

1. **Experimental Curiosity:** Curiosity to experiment the unknown facts about drugs thus motivates adolescents into drug use. The first experience in drug abuse produces a state of arousal such as happiness and pleasure which in turn motivate them to continue.
2. **Peer Group Influence:** Peer pressure plays a major role in influencing many adolescents into drug abuse. This is because peer pressure is a fact of teenage and youth life. As they try to depend less on parents, they show more dependency on their friends. In Nigeria, as other parts of the world, one may not enjoy the company of others unless he conforms to their norms.
3. **Lack of parental supervision:** Many parents have no time to supervise their sons and daughters. Some parents have little or no interaction with family members, while others put pressure on their children to pass exams or perform better in their studies. These phenomena initialize and increases drug abuse.
4. **Personality Problems due to socio-Economic Conditions:** Adolescents with personality problems arising from social conditions have been found to abuse drugs. The social and economic status of most Nigerians is below average. Poverty is widespread, broken homes and unemployment is on the increase, therefore our youths roam the streets looking for employment or resort to begging.
5. These situations have been aggravated by lack of skills, opportunities for training and re-training and lack of committed action to promote job creation by private and community

entrepreneurs. Frustration arising from these problems lead to recourse in drug abuse for temporarily removing the tension and problems arising from it.

6. **The Need for Energy to Work for Long Hours:** The increasing economic deterioration that leads to poverty and disempowerment of the people has driven many parents to send their children out in search of a means of earning something for contribution to family income. These children engage in hawking, bus conducting, head loading, scavenging, and serving in food canteens. They are prone to drug taking so as to gain more energy to work for long hours.
7. **Availability of the Drugs:** In many countries, drugs have dropped in prices as supplies have increased.
8. **The Need to prevent the Occurrence of Withdrawal symptoms:** If a drug is stopped, the user experiences what is termed “withdrawal symptoms”. Pain, anxiety, excessive sweating and shaking characterize such symptoms. The inability of the drug user to tolerate the symptoms motivates him to continue (Schmitz, 2016).

Signs and Symptoms of Drug Abuse

According to National Institute on Drug Abuse (2020) the following are most common signs and symptoms of drug abuse. They are: cravings, tolerance, withdrawal symptoms, physical dependence, poor judgement, drug-seeking, financial trouble, neglect responsibilities, developing unhealthy friendship and Isolate.

Cravings

This is when people suffering from drug abuse usually experience intense urges or cravings for the drug as their addiction develops. Cravings can be thought of as the conscious or unconscious experience of wanting to use a substance (Tiffany and Wray, 2012).

Tolerance

Over time and with prolonged use, those who use drugs can build up tolerance to them, meaning they need more of a drug to achieve the desired effects.

Withdrawal Symptoms

Many drugs create withdrawal symptoms when those who use them attempt to stop abruptly or reduce their usage. The presence of a withdrawal syndrome and tolerance indicates their psychological dependency on the use of the drug as it keeps reoccurring.

Physical Dependence

Physical dependence on drugs can develop as individuals grow accustomed to the persistent presence and influence of the substance. The changes in physiology that accompany this process leave people feeling poorly or functioning sub-optimally when the drug is no longer in the system.

Poor judgement

When an individual is addicted to drugs, he or she gets it abused and may do anything to obtain more, including risky behaviours such as stealing, lying, engaging in unsafe sexual activity, selling drugs, or *crimes* that could land the person in jail.

Drug – seeking

In this case those who are already abused may spend excessive amounts of time and energy finding and getting their drug of choice.

Financial trouble

Individuals using drugs may spend large and unexplained amounts of money, drain their bank account in case of students spend their school fees, and go outside their budgets in order to get the drug. This behaviour can be a major red flag for drug abuse/ addicts and has massive consequences. In a recent survey, 341 Nigerians showed that 44% had a loved one with substance use disorder and of those with a substance usedisorder, 48% drained savings or retirement accounts, 42% sold assets for cash, 11% filed for bankruptcy (National Institute on Drug Abuse, 2020).

Neglect responsibility

This happens when people choose using or getting the drug over meeting work or personal obligations, this is a classic sign of addiction resulting from drug abuse. In the case of students, they will prefer to

have the drugs more than buying their writing materials, books and even going to the school at all.

Developing unhealthy friendship

Here when people start using new substance, they may spend time with others who have similar habits. They may hang out with a new group of people who may encourage unhealthy habits; doing so makes them more likely to engage into drug use for a longer time especially if others in the group have a negative life outlook (Shadur and Hussong, 2014)

Isolation

Alternatively, individuals may withdraw and isolate themselves, hiding their drug use from friends and family. Some reasons for this may include perceived stigma or increased depression, anxiety, or paranoia as a result of their drug addiction.

The Effects of Drug Abuse

The effects of drug abuse depend on the type of drug, any other substances that a person is using, and their health history. This is to say that the exact effects vary among individuals and also depend on the drug, dosage and delivery method (Schmitz, 2016). The National Institute on Drug Abuse (2020) categorized the effects of drug abuse in two groups namely:

1. Short Term Effects.
2. Long Term Effects

Short Term Effects: This is the effect resulting from using a drug, even in moderation or according to a medical prescription. For instance, consuming one or two servings of alcohol can lead to mild intoxication. A person may feel relaxed, uninhibited, or sleepy.

Nicotine from cigarettes and other tobacco products raises blood pressure and increases alertness.

Using a prescription opioid as a doctor has instructed helps relieve moderate- to – severe pain but opioids can also cause drowsiness, shallow breathing and constipation.

Abusing a drug, or misusing a prescription medication, can produce other short-term effects, such as; .changes in appetite, sleeplessness or insomnia, increased heart rate, slurred speech, changes in cognitive

ability, temporary sense of euphoria and loss of coordination.

Drug abuse still under short term effects can affect aspects of person`s life beyond their physical health. People with substance use disorder, for example, may experience: an inability to cease using a drug, relationship problems, poor work or academic performance, difficulty to maintaining personal hygiene, noticeable changes in appearance, such as extreme weight loss, increased impulsivity and risk-taking behaviours and loss of interest in formerly enjoyable activities.

Long Term Effects: This is the type which as such can have numerous long-term effects. Chronic drug use can alter a person`s brain structure and function resulting in long-term psychological effects, such as: depression, anxiety, panic disorders, increased aggression, paranoia and hallucinations.

Long-term drug use can also affect a person`s memory, learning, and concentration. The long-term physical effects of drug use vary depending on the type of drug and the duration of use (National Institute on Drug Abuse, 2017). However, experts have linked chronic drug use with the following health conditions:

Cardiovascular disease

Stimulants, such as cocaine and methamphetamines, can damage the heart and blood vessels. The long term use of these drugs can lead to coronary artery disease arrhythmia, and heart attack.

Respiratory Problems

Drugs that adolescents smoke or inhale can damage the respiratory system and lead to chronic respiratory infections and diseases.

Kidney damage

The kidneys filter excess minerals and waste products from the blood. Heroin, Ketamine, and Synthetic cannabinoids can cause kidney damage or kidney failure.

Liver disease

Chronic drug and alcohol use can damage the liver cells, leading to inflammation, scarring, and even liver failure. In the opinion of the National Institute of Drug Abuse (2019), Opioids slow a person`s

breathing by binding to specific receptors in the central nervous system that regulate respiration. By depressing a person's respiration, these drugs can lead to slow breathing or heavy snoring. A person may stop breathing entirely if they take a large dose of an opioid or take it alongside other drugs, such as sleep aids or alcohol.

In addition, Mba (2008) identified numerous negative effects of drug abuse on the body chemistry as follows:

1. **Alcohol-related problems include:**
 - a. Physical problems e.g. liver cirrhosis, pancreatic, peptic ulcer, tuberculosis, hypertension, neurological disorder.
 - b. Mental retardation for the fetus in the womb, growth, deficiency, delayed motor development.
 - c. Craniofacial abnormalities, limbs abnormalities and cardiac deficits.
 - d. Psychiatric e.g. pathological drunkenness, suicidal behaviour
 - e. Socially-broken homes, increased crime rate, sexual offences, homicide and sexually transmitted diseases.
2. **Tobacco:** Causes stimulation of heart and narrowing of blood vessels, producing hypertension, headache, loss of appetite, nausea and delayed growth of the fetus. It also aggravates or causes sinusitis, bronchitis, cancer, strokes, and heart attack.
3. **Stimulants:** Lethargy, irritability, exaggerated self-confidence, damage nose linings, sleeplessness, and psychiatric complications.
4. **Inhalants:** Causes anemia, damage kidney and stomach bleeding.
5. **Narcotics:** Causes poor perception, constipation, cough, suppression, vomiting, drowsiness and sleep, unconsciousness and death.

Coming down to the effects of drug abuse among our adolescents in Nigeria who are in secondary schools could be viewed as following:

Drug use by students has hampered education and management in Nigerian secondary schools. In Nigeria, recent statistics suggest that one in every three secondary school students consumes alcohol. Another 8.3% smoke cigarettes while almost one in every ten (9.1%) chew Miraa. About 3% smoke bhang and use hard drugs like heroin, cocaine, mandrax and tranquilizers (National Institute of Drug Abuse, 2020). Drugs have varied physiological effects. Some adverse consequences include insomnia, prolonged loss of appetite, increased body

temperature, greater risk of hepatitis and HIV/AIDS infection (National Institute on Drug Abuse, 2019), death, various forms of cancers, ulcers and brain damage. Cannabis affects the hormonal and reproductive system and the regular use of cannabis can reduce male testosterone and sperm cells. Drug abuse contributes to the formation of uric acid which accelerates conditions like arthritis, gout, osteoporosis, and heart attacks, particularly those with pre-existing coronary hypertensive problems. Drug abuse also affects the brain, resulting in a major decline in its functions. Drugs can affect a student's concentration and thus interest in school and extracurricular activities. This leads to increased absenteeism and drop outs. Most psychoactive drugs affect the decision making process of students, their creative thinking and the development of necessary life and social skills. Drugs also interfere with an individual's awareness of their unique potential and thus their interest in their career development (Louw, 2001). Drug habits also affect an individual's self-concept. Self-concept refers to the way an individual perceives himself or herself in a variety of areas for example academically, physically, and socially (Luow, 2001). Low self-esteem can lead to a detrimental redefinition of self-concept and this in turn can lead the student to indulge in escapist behaviour such as drug and substance abuse. According to Schmitz (2016) found that when the students are feeling bad about themselves or are feeling unworthy, unloved or rejected, they turn to drugs. Students are affected more by these emotions and their inability to cope given their adolescent stage of development. During this stage, identity formation is important and self-concept plays a major role (Erikson, 1974). Addiction can develop when students' insecurities combine with the influence of peers and the media. Drugs then become the social and emotional focus at the expense of other interests and activities. This gradually leads to social, emotional and physical problems and new feelings of guilt, despair and helplessness.

Issues of Drug Abuse among Nigerian Adolescents in Nigerian Schools

Students, especially those in secondary schools tend to see the drug user as one who is tough, bold and strong. Many youngsters have been known to use drugs at the instance of peers, elders or siblings. Students who usually feel inadequate have been known to use drugs to achieve social acceptance. Esen (1979) stated that Nigerian secondary school

adolescents under the influence of Indian hemp shed all inhibitions and produce behaviour that is inconsistent with school discipline. He went further to observe that the increasing incidence of drug abuse among secondary school students is a contributory factor in the ugly confrontation between school administration and students.

Fayombo and Aremu (2000) in their research on the effect of drug abuse on educational performance of some adolescent drug abusers in Ibadan found that the misuse of marijuana had reached an epidemic level in the present Nigeria society, and that drug abuse could lead to reduce academic achievement or even halt one's entire academic process. Adesina, (1975) and Orubu, (1983) in their studies dwelled extensively on reasons students use drugs include success in examination, social acceptance and initiation of peers. Olatunde (1979) states that Nigerian adolescents students take drugs such as amphetamines and pro-plus as aid for success in examination. He postulated that those who take drugs as aid for studies toward examinations are those with poor academic records, a history of instability and family/social problems, while others, he commended; use rugs to increase their self-confidence, heighten pleasure, cope with feelings of depression and inadequacy, and to facilitate communication. Idowu (1987) found that students smoke and use drugs at the instance of friends/peers, parents and television/radio advertisements. Okorodudu and Okorodudu (2004); and Enakpoya (2009) in their studies showed that adolescents were very susceptible to the influence of their peers. Osikoya and Ali (2006) asserted that socially, a drug abuser is always pre-occupied with how to obtain drug of choice and crave for the substance. Kobiowu (2006) study revealed that the academic pursuit of those secondary school students and even undergraduates who engage in drug misuse are not unduly jeopardized, and that the abusers do not socialize extraordinarily, contrary to seemingly popular expectation. In the works of Oduaran, (1979) and Johnson, (1979) exhibit a plethora of purposes for which students use drug. The list includes curiosity, boldness, and friends-do-it, enjoyment of social gathering, academic pressure, sound-sleep, sexual-prowess, and performance in sports. Drug abuse is a very serious problem among school adolescents and which has slowly made the average Nigerian student to be maimed, sentenced to a life of delinquency, insanity, street walking and premature death.

Strategies for Counselling

The following counselling strategies are suggested to help reduce drug abuse among adolescents. Establishment of Family Education on Drugs: The family is the nucleus of the social organization. Parents should give their children appropriate education on drug use. They should be encouraged by health authorities to offer family education on drug abuse to their children. They should inform them of the dangers of drug abuse and dependence on their health, society and the nation.

Establishment of Counselling Centres for Drug Control: Counselling centers should be established in every community by the government or private individuals. Qualified health counsellor should be employed in helping drug addicts or those dependent on drugs by giving them special advice on how to go about the withdrawal system.

Designing Curricula on Drug Education: Ministry of education (State and Federal) should as matters of urgency add to the curricula-drug education at all levels of education.

Campaign against Drug Abuse: National Drug Law Enforcement Agency (NDLEA) should intensify their campaigns on antidrug in order to have a drug free society. The campaign against use of certain drugs and misuse of drugs should be more intensified at the secondary school level because it is the peak of adolescent. Also, government and other relevant authorities should launch out campaigns against drug abuse as well as dependence.

Effective study Habit for Students: An effective study is that which centers on a well-planned scheme of study involving sufficient recreational activities, enough resting time and sleep. Thus, such well-planned time table of study habits that make adequate provision for rest will enhance good study habit without necessary resorting to the use of drugs to keep students artificially awake.

Establishment of Drug Awareness Units: Drug awareness units to be set up in all states and moderated by the federal state and local governments. It should not be a panel established to try people who use drugs as criminals, but to help solve their socio-psychological problem. Parents and adults should refrain from using drugs in discriminately in the presence of youngsters and they should discourage their wards/children from associating with “unknown” gangs or suspicious neighborhood peer groups.

Conclusion

Drug abuse is a problem that is causing serious concern to our educational sector both individuals and government all over the world. The problem is prevalent among adolescents who in most cases are ignorant about the dangers inherent in drug abuse found within the four walls of the schools. Many of them engaged in drug abuse out of frustration, poverty, lack of parental supervision, peer influence and pleasure. However, with effective counselling programme, the problems can be well addressed.

Suggestions for Improvement

There is urgent need for professional counsellors to create awareness on the negative, implications of drug abuse in Nigerian secondary schools. This can be done through frequent workshops and seminars organized by the professional association in the country. Sensitization programmes should be organized for various institutions and organizations to expose them to the health, mental and psychological implications of drug abuse. Other allied professions such as the healthcare institutions, social workers can assist by referring counselling related problems/issues which require counselling interventions to professional counselors instead of treating such issues as medical or psychiatric problems. Factors that hinder the practice of professional counselling in the Nigerian secondary schools can be addressed if the government assists by granting the professional associations` legislative backing. Professional bodies should ensure proper monitoring and supervision of practitioners to avoid proliferation of counselors in all Nigerian secondary schools.

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**PRACTICUM IN SCIENCE TEACHING AS EVIDENCE OF
GETTING TO ADULTHOOD FOR NATIONAL OPEN
UNIVERSITY OF NIGERIA AT 15**

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Abstract

Startup of 'Practicum in Science Teaching' portray the adulthood of National Open University of Nigeria. This study investigated National Open University of Nigeria students' attendance and performance in *Practicum in Science Teaching* (SED305) in the six geo-political zones of Nigeria. A total of 56 students formed the sample for the study from a population of 250 science education students. Descriptive survey design was employed to carry out the investigation. The instrument used was *Lecturers Students' Assessment* (LSA) and *Practicum Achievement Test* (PAT). The instrument PAT was validated by a team of experts in Science Education, and had reliability coefficient of 0.78, 0.98, 0.75, 0.83, 0.75, 0.82, and 0.80 which corresponds to Agricultural Science Education, Biology Education, Computer Science Education, Physics Education, Chemistry Education, Integrated Science and Mathematics Education. One research question and two research hypotheses were raised to guide the study. Data were analysed using pie-chart for research question and inferential statistics for the Hypotheses. The findings revealed that NOUN students' attendance in Practicum for science teaching was generally low across the six geo-political zones. Performance of the students across the geo-political zones was satisfactory, while students from North East have the highest mean score of 72.25. Also, the gender variable revealed that male students performed better than their female counterparts. It was recommended that awareness programme that promotes attendance, performance and practical skills needed for knowledge application and competitive edge in future industry be organized for NOUN students. Also, learner's support devices that build confidence in female students for positive learning gains should be provided in the University.

Introduction

The benefits of science education to national development has made federal Government of Nigeria endorsed its total support, by stating in the National Policy of Education (FRN, 2004) that government shall popularize the study of the sciences and production of an adequate number of scientists to inspire and support national development. This aim will be realizable if practicum in science teaching which is imperative to industrial skills for national development is given adequate attention.

The National Universities Commission (NUC) recommends that a specialized compulsory practical course, coded SED305 in the NUC benchmark should be taken by the students of each programme in Science Education Department. The course serves to give students hands-on exposure acquisition, utilization of skills and attitudes useful for entrepreneurial endeavours.

Therefore, the relevance of this course to science educators and its impact on the capacity building for national development has made National Open University of Nigeria (NOUN) embark on the achievable goal of enhanced quality science education that transcends all barriers. In the early study, Hanna (1998) reported that Distance Education is driven by the rapid development of telecommunications technologies, globalization, and emerging social perspectives toward knowledge-making and learning. In the same vein, Palkova (2019) asserted that greater connectivity creates opportunities for flexible, collaborative modes of learning while supporting stronger links between learning at work, in the home, at school, and in the community.

Furthermore, Kanuka (2010) reported numerous online strategies that can remove barriers in science education. These include computer-based learning, distance learning, distributed learning, Web-based learning, virtual classrooms, hybrid learning, digital collaboration, mixed-mode delivery, and blended learning.

The National Open University of Nigeria uses a set of approaches that allow open access to science education and training provision, freeing learners from the constraint of time and place, and offering flexible learning opportunities to individuals and group of learners (UNESCO, 2002). Technology driven teaching aided by Learning Content Management System unit of the University through mobile technology devices such as mobile phones, laptops and tablet PCs were

employed for teaching. This was also complemented with mobile laboratory teaching of practicum in science teaching was embarked on in the six geo-political zones, for students to have hands-on experience in practice for a good foundation to build on.

Despite the relevance of practicum to science teaching to human development and effort of the University to ensure that students benefited optimally from the exercise as evidenced above, it is somehow disheartening to note that students' participation in the course is below expectation in the majority of the zones for all programme compared to others. Fadelelmoula, (2018) found correlation between attendance and final exam results for each separate courses. Therefore, class attendance and engagement plays an important role in science education, as such non-attendance of a student is a sign that students do not see the relevance of what they are learning.

Similarly, Kirby and McElroy (2003) show that class attendance is important determinants of academic outcomes, students who attend more classes earn higher final grades. Ukoh and Amuda (2015) opined that science is a subject that can only be understood by students' through students' active participation in practical. Therefore, students' class attendance in practical class plays an important role in positive learning outcomes

Scholars have examined issues relating to gender difference in science performance. Studies recorded that female students experienced a less equitable environment in technology for learning purpose while learning environment supported male domination in the online communication pattern that effectively silenced female students and affected their performance negatively (Falade, 2013; Obafemi, 2015). Apata (2020) found that female performed better than their male counterparts in science when they both taught using cooperative learning strategy. Therefore, gender studies in science is inconclusive.

Statement of the problem

The National Open University of Nigeria with the vision of being the foremost University, providing highly accessible and enhanced quality education through a comprehensive reach that transcends all barriers, provides an environment that is conducive for the teaching and learning of their courses, most especially 'Practicum in Science Teaching' (SED305) through technology and mobile laboratory in all the six geo-

political zones of Nigeria. However, students' enrolment recorded in the seven programmes for the course is very low and performances of some zones are not encouraging. Therefore, a gap is left. The study, therefore, examines students' attendance and performance in a practicum in a science teaching course in each geopolitical zone of Nigeria with mobile laboratory exercise, to create a database for proffering solution that promotes performance and attendance of students in practical skills.

Research Question

The study was designed to answer these questions:

- a. To what extent do students of the National Open University of Nigeria attend Practicum in Science Teaching (SED305) based on geo-political zones?

Research Hypotheses

- a. There is no significant difference in the performance of students of the National Open University of Nigeria in 'Practicum for Science Teaching' (SED305) based on geo-political zones.
- b. There is no significant difference in the performance of students of the National Open University of Nigeria in Practicum for Science Teaching (SED305) based on gender.

Methodology

The study population comprised all 300 Level students in National Open University of Nigeria, 2018/2019 session in Science Education, numbering two hundred and fifty (250) from the six geo-political zones of Nigeria. The sample comprised of thirty-two (32) male and twenty-six (26) female participated in the study from the six geo-political zones. The sample size is fifty-eight (58) students.

The study adopted the survey research design as the researcher was only interested in determining students' attendance in each geo-political zones, students' performance based on gender and students' performance based on zones without any manipulation of the variable. Data were collected through the assessment of students by the *Lecturers Students' Assessment (LSA)* and *Practicum Achievement Test (PAT)* in Practicum for Science Teaching (SED305).

Instrumentation

The research instrument for the collection of data through Lecture Students' Assessment (LSA) and Practicum Achievement Test (PAT). *LSA* was based on the following criteria: (i) Ability to manipulate apparatus, (ii) Ability to improvise instructional material, and (iii) Ability to assemble appropriate materials. While *PAT* form the questions that are related to the practical exercise for each programme in Science Education. The programmes include Agricultural Science Education, Biology Education, Computer Science Education, Physics Education, Chemistry Education, Integrated Science and Mathematics Education. The validity of the PAT instrument was determined by experts in each of the science programmes. Using Kuder Richardson 21, a Reliability coefficient of 0.78, 0.98, 0.75, 0.83, 0.75, 0.82, 0.80 were determined for PAT as it relates to each of the programmes namely; Agricultural Science Education, Biology Education, Computer Science Education, Physics Education, Chemistry Education, Integrated Science and Mathematics Education coefficients respectively. The instruments were administered for one week in each of the six geo-political zones. Cumulative scores for each student obtained were converted to a percentage for each programme under SED305 because the course is non-examinable thus, has no Tutor Marked Assignment (TMA) and examination.

Data Analysis

Data collected were analysed using pie-chart for the only research question. The two Hypotheses were analysed using t-test and Analysis of Variance (ANOVA).

Results

Research Question 1: To what extent do students attend Practicum in Science Teaching (SED305) based on geo-political zones?

Figure 1

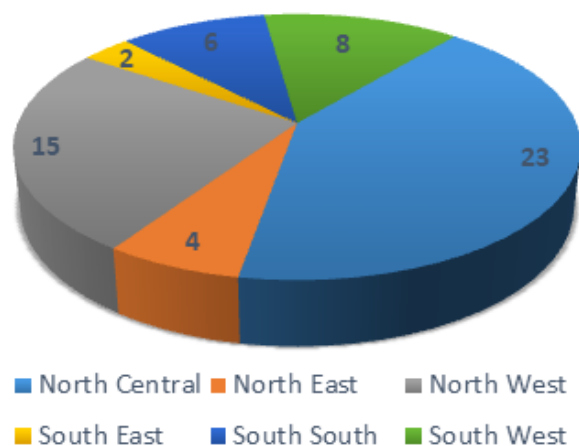


Figure 1 shows the extent of NOUN students' attendance in each geo-political zone in SED305 practicum. From the data collected, it could be seen that North Central geo-political zone (23) has the highest number of students in attendance, while South East (2) geo-political zone has the least number of students in attendance.

H₀₁: There is no significant difference in the performance of students of the National Open University of Nigeria in Practicum for Science Teaching (SED305) based on geo-political zones.

Table 1: Summary of Analysis of Variance (ANOVA) test of difference in mean score among the six geo-political zones

	Sum of Squares	df	Mean Square	F	P
Between Groups	504.695	5	100.939	1.621	0.171
Within Groups	3237.305	52	62.256		
Total	3742.000	57			

Scheffe Post Hoc Multiple Comparison of Practicum in Science Teaching (SED305) scores of students in the six geo-political zones.

Scheffe Post hoc test

Political_zones	N	Subset for alpha = 0.05
		1
South-South	6	60.6667
North West	15	62.2667
South East	2	64.5000
North Central	23	65.7826
South West	8	67.6250
North East	4	72.2500
Sig.		.360

Table 1 shows the mean score of students according to the geopolitical zone. The results are South-South (60.6667), North West (62.2667), South East (64.5000), North Central (65.7826), South West (67.6250), and North East (72.2500). North East had the highest mean scores in a practicum in Science Teaching (SED305). The ANOVA results in the table reveal that there is no significant difference in the students' performance based on geo-political zones, therefore the hypothesis is accepted.

H₀₂: There is no significant difference in the performance of students of the National Open University of Nigeria in Practicum for Science Teaching (SED305) based on gender.

Table 2: *t-test of performance of male and female students in SED305*

Variable	N	Mean	SD	SE	DF	t-cal	P
Male	32	65.07	7.692	1.404	57	0.422	0.21
Female	26	64.09	9.219	1.922			

Significant at 0.05 alpha levels

From the data shown in Table 2, the mean score of male students (mean = 65.07; SD = 7.692) is higher than the female students (mean = 64.09; SD = 9.219). This difference is not significant ($t = 0.422$; $df = 52$; $P > 0.05$). The null hypothesis, which states that there is no significant difference between the performance of male and female in a practicum in science teaching, is therefore accepted.

Discussion

The findings showed that NOUN students' attendance in Practicum for science teaching is generally low across the six geo-political zones. The zone (North Central) with the highest attendance has 32 out of 250, which translated to 9.2%.

While the zone (South East) with two (2) students in attendance which, translated to 0.8%.out of two hundred and fifty (250) students that registered. This may be because the awareness of the benefit accrued to exposure and knowledge of practicum in science teaching (SED305) is low.

Also, considering the effect of geo-political zones on students' performance, it was found that students from the North East have the highest mean score of 72.25. This might be that the students realize the relevance of this course to human development and put in their efforts. This is in agreement with the findings of Kirby *et al.* (2003), who reported that class attendance is important determinants of academic outcomes, students who attend more classes performed better, also, it conforms to Ukoh *et al.* (2015) that asserted that science is a subject that can only be understood by students' through students' active participation in practical.

Findings on gender revealed that male students performed better than their female counterparts. The findings agree with Issa, (2009) and Falade (2013) who found that female students experienced a less equitable for learning purpose while learning environment supported a male domination pattern that effectively silenced female students. The reason might be because of cultural consideration where the boy-child is allowed to fulfil and actualize himself, while the girl-child is made to believe that her greater height is within the kitchen and bedroom.

Recommendation and Conclusion

The finding of this study implies that if the effort is not made to give students quality awareness programme on the benefit of attendance in a practicum in science teaching (SED305), their understanding of the course will be limited. Also, the general average performance across the six geo-political zones of Nigeria might hinder NOUN students' competitiveness in the future job market. On low female performance recorded in the test, it could prevent the female from contributing their quota to national development. Based on the findings of this study, it is

recommended that:

1. Awareness programme that promotes attendance and performance in a practicum in science teaching for ability in future industry and competitive edge in the job market be organized for NOUN students.
2. Motivational strategies that promote students' performance should be employed in NOUN.
3. Learner support devices that build confidence in female students for positive learning gains should be made available.
4. Further studies should be carried out on this course 'Practicum in Science Teaching (SED305)' so that the findings can be generalized.

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