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EDITORIAL NOTE

I have the delight and privilege to write as Editor-in-chief of the *Rima International Journal of Education (RIJE)*, an official research publication of the Faculty of Education, Sokoto State University. This edition (Volume 2: No. 1) of the *RIJE* has nineteen (19) articles from distinguished scholars and educators, poised to report cut-edge research findings and discourse on contemporary educational issues with implications for pedagogy, national and global development.

The dictum of “publish or perish” is in vogue in any worthwhile research-based institutions, hence strict adherence to publications in any reputable and recognized Journal, as such *RIJE* is recognized as complimentary to contemporary dissemination and propagation of knowledge. Therefore, the Editorial Board of *RIJE* wishes to use this medium to solicit well researched articles for publication from teeming population of academics and researchers globally. The Journal would always be subjected to thorough peer review and proper editorial vetting.

Prof. M. U. Tambawal,
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CALL FOR PAPERS

The Editorial Board invite interested scholars and researchers to submit original manuscripts for publication. The Journal is a bi-annual publication of the Faculty of Education, Sokoto State University, Sokoto, designed to disseminate relevant research findings related to all fields of education. Both empirical and theoretical papers that are articulately written based on contemporary educational issues that have national and international relevance shall be accepted for publication. The manuscript shall not be under consideration elsewhere for publication.

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- i. **Language:** Manuscripts meant for submission should be written in English language with strict adherence to British standard.
- ii. **Paper Size, Font and Length:** Manuscript prepared for submission should be typed in Microsoft Word on A4 paper size using Times New Romans, font size 12 and 1.5-line spacing. The manuscript should not be more than 15 pages including references.
- iii. **Title Page:** The title page should capture the title of the manuscript which should not be too lengthy, the author(s) name(s) with surname in Upper Case, institution's affiliation, current mailing address, valid e-mail address, Phone No(s) and full postal address of the main author and co-authors.
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- ix. **Referencing Style:** All in-text citations and references should confirm strictly with the latest APA style/format.
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REORIENTATION AND VITALISATION OF TEACHER EDUCATION IN A KNOWLEDGE ECONOMY IN NIGERIA: CONSTRAINTS AND IMPLICATIONS FOR EDUCATIONAL ADMINISTRATION

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Abstract

In response to world-wide debates intensified on the re-orientation and vitalization of education with a view to preparing young people for today in order to meet foreseeable demands in the knowledge society necessitates a study on re-orientation and vitalization of teacher education in a knowledge economy with a view to providing solution to the problems of teacher education in a knowledge economy. Teachers are key actors in the education process and every meaningful reforms of education should always pay due attention to the teacher factor. Teacher education is a program that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein. In this era of knowledge society knowledge is increasingly becoming more recognized as the key driver of productivity and economic growth, given rise to what is now referred to as knowledge-based economy, the key variable that determines how fast nations outgrow others is the speed of accumulation of human capital. Consequently, countries with the most highly educated citizens are also the wealthiest in the world, and they are the ones dominating the global market in a knowledge-based society. Part of the constraints is that only quality education can trigger knowledge economy. This necessarily means that the prosperity of nations depends on their ability to generate and apply innovative ideas. The major implication is that Faculties of Education, especially needs to redefine their goals through effective knowledge management to produce intellectually competent graduate teachers. Part of the recommendations stated that greater attention should be paid to research and development of teacher education, while Information Technology (IT) compliance must be mandated in teacher preparation. Also Ministry of Education must ensure regular continuous development of teachers, this means that teachers must be regularly placed on seminars, conferences and workshops in order to develop their competencies in the area of knowledge creation, preservation, distribution and utilisation.

Keywords: Teacher education, knowledge, Economy, Reorientation, Vitalisation.

Introduction

Traditional education in Nigeria has generally focused on developing worthwhile citizens who will contribute to a better society and a better future for all. In recent time, scholars have concentrated on how education can become a tool for economic development. However, a sound program of professional education of teachers is essential for the qualitative improvement of education. Investment in teacher education can yield very rich dividends because the financial resources required are small when measures against the resulting improvements in the education of millions. This necessarily makes the teacher to perceive that the course in teacher education would help him minimize his trouble, and to appreciate that it would save the children from much of the painful process through which he himself has passed. Teacher education is needed for developing a purpose and formation of a positive attitude for the profession simply because teachers are key actors

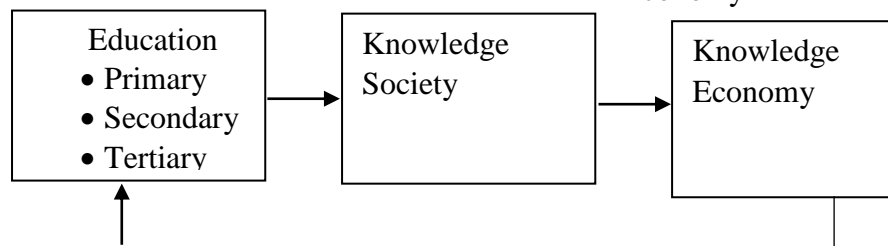
in the education process and every meaningful reform of education should always pay due attention to the teacher factor.

Importantly, we must demand that our schools increase not only in quantity but also in quality, for there is need for us to recognize that nuclear age problems cannot be solved with horse and buggy learning. The 3R's of our school system must be supported by the 3T, that is teachers who are superior, techniques of instruction that are modern and thinking about education for knowledge economy which place it first in all our plans and hopes. As noted by Aggrawal (2018) the characteristics of the philosophy of education for the twenty first century includes (i) a new view of knowledge, (ii) a greater integration of knowledge and a renewed commitment to life-long learning. For the realization of those objectives, proper education of teachers is the first requisite. If our nation is to remain in the world markets, then we must dedicate ourselves to the reform, keeping in view the important role of the teacher on the re-orientation and vitalization of education with a view to preparing quality required of education for young people in order to meet the foreseeable demands in the twenty-century.

The quality of education must necessarily depend on the quality of teachers and it is simply not possible to get the right type of teachers in sufficient numbers if they continue to be paid miserably low salaries. Teachers must be seen enjoying the same social status and prestige as all those who eminently serve society, today's or tomorrow's teachers must be a professional, where educational programme and level should be more and more comparable with the physician's education".

Conceptual Framework

Fig 1: Model Showing the Nature of Education in the Development of Knowledge Economy



Knowledge capital is made up of human capital, structural capital and customer capital. Human capital is a composition of great minds with potential brainpower and proprietary skills or talents around which business is built. It has now become a common knowledge that there is a direct positive relationship between knowledge economy index (KEI) and economic growth measured in terms of GDP per capita. This implies that countries with low KEI also have low GDP per capita and vice versa.

A knowledge society comprises of those who live in a knowledge economy, Wikipedia (2009) described a knowledge economy as one that comprises a range of strategies and practices used in an organization to identify, create, present, enable adoption of insights and experiences. In line with the forgoing, Danlman and Albert (2001) asserted that "a key aspect of the knowledge economy is greater investment in education. The key role of teacher education for this initiative is recognized in the implementation strategy, the main point here is that teacher education programmes must fit the environmental, social and economic conditions of the regions and nations (UNESCO, 2005).

Nature and Concept of Teacher Education

Teacher education is a programme that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein. In other words, teacher education is all formal and informal activities and experiences that help to qualify a person to assume responsibility as a member of the educational profession to discharge his/her responsibility most effectively.

According to Aggarwal (2006) the function of teacher education is to produce good teachers. The good teacher is one who produces good results in meeting central, pressing needs of life in whatever social context. Also, teacher education programmes need to acknowledge that in today's highly interrelated society, everyone's self-interest is best served when the well-being of the whole society is considered (Finn and Finn, 2007). The Finns are of the belief that we can prepare teachers with the attitude that all children can acquire powerful literacy in their collective self-interest. Such collective interest is hinged on people-centred development.

According to Goods Dictionary of Education, teacher education means that formal and non-formal activities and experiences that help to qualify a person to assume responsibilities of a member of the educational profession to discharge his responsibilities more effectively. Teacher education encompasses teaching staffs, sound pedagogical theory and professional skills. However, Aggarwal (2018) submitted that teacher education is that knowledge, skill, and ability which is relevant to the life of a teacher. A course in teacher education should seek to reshape the attitudes, remodel the habits and in a way to reconstitute the personality of a teacher. It is to kindle his initiatives to keep it alive and to save time, money and trouble of the teacher and the taught.

Teacher education is needed for developing a purpose and for formation of a positive attitude for the profession. Consequently there is urgent need for us to recognize that nuclear age problems cannot be solved with horse and buggy learning. The 3R's of our school system must be supported by the 3Ts- teachers who are superior, techniques of instructions that are modern and thinking about education which places it first in all our plans and hopes. The National Council of Teacher Education has conceptualized teacher education as a programme of education, research and training of persons, to teach from pre-primary to higher education level. It is a programme that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein. Teacher education is a continuous process and its pre-service and in-service components are complimentary to each other. (Studocu, 2012, Eva & Penelope, 2010).

Teacher education can be considered in three phases; Pre-service, Induction and In-service. The three phases are considered as part of continuous process. Teacher education is based on the theory that "Teachers are made, not born", in contrary to the assumption "teachers are born not made". Since teaching is considered as an art and a science, the teacher has to acquire not only knowledge, but also skills that are called "tricks of the trade".

Concept of Knowledge and Knowledge Economy

Active transition to a knowledge society coincides with the dawn of a new millennium. The essence of this transition is that knowledge and ideas must be seen as resources, raw materials, and other fundamental assets. For the first time in history, knowledge is important, unique, and newsworthy. The essence of knowledge management is that greater emphasis should be placed on people than in technologies (Akinboye, 2003). Knowledge is increasingly becoming more and more recognized as the key driver of productivity and economic growth, given rise to what is now referred to as knowledge-based economy. Knowledge-based economy is an economy powered by knowledge. The society has developed from industrial era when machine replaced manual labour. There is a growing codification knowledge and its transmission through communication and computer networks. Davenport and Prusak (2008) defined knowledge as a fluid of framed experience, contextual information, values, and expert insight that provides a framework for evaluation and incorporating new experiences and information.

Coincidentally, Lucey (2015) perception of knowledge corroborates the concept of knowledge as viewed by Davenport and Prusak (2008). This implies that knowledge emanating from within the individual in form of experience, value, or motivation is applied in decision making. On the other hand, knowledge management refers to the tools and techniques for collecting, managing, and disseminating knowledge/within an organization. Thus knowledge and knowledge management has become a great asset in today's world of work, with knowledge workers operating from anywhere using the computer to carry out business, attend conferences, study in any part of the world.

The concept of knowledge economy was first popularized by Peter Drucker in 1969 in his book "The age of discontinuity". Drucker envisaged a knowledge society where knowledge would be the key resource and knowledge workers would dominate the workforce (Lingenfeller, 2012). Knowledge economy has been conceived differently by various school of thought. It is evident however, that the knowledge economy is everywhere clear. Mba (2011) conceptualise knowledge economy as the economy of knowledge focused on the production and management of knowledge in the frame of economic constraints on one hand, and a knowledge-based economy on the other hand. Mba further described knowledge economy as one where organizations and people acquire, create, disseminate, and use knowledge more effectively for greater economic and social development.

Obanya (2013) described knowledge economy as the production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advancement as well as rapid obsolesce, with greater reliance on intellectual capabilities than on physical inputs or natural resources. Obayan (2013) noted that the natural worker works with hand and produces goods and services, but the knowledge worker works with his head and produces ideas, knowledge and information.

Need for Reorientation

Research findings have shown that countries with the most highly educated citizens are also the wealthiest in the world and they are equally the countries dominating the global market in knowledge-based society. Ezekwesili (2013) established that countries like the United States of America, Canada, Japan, Finland, Norway, South Korea, United

Kingdom, New Zealand, and Australia. Occupy the second and sixth largest Gross Domestic Product (GDPs) and per capital, and this is attributable to their aggressive investment in education. It is obvious from research findings that the key variable that determines how fast nations outgrow others is the speed of accumulation of human capital. The discussion here takes on the issue of the teacher factor as a fundamental issue in education reform. However a more fundamental issue is the one that deals with the making of teachers. Teaching can be said to have taken place only when the learner has learned something that can transform intellect, emotions, and skills. The world is changing fast and today's changes are propelled by three major phenomenon viz-a-viz Collaboration, ICT, (Information and Communications Technologies revolution, and the knowledge economy.

Globalisation is seen as the process of the world getting smaller. Products, designs, ideas and services now move fast from one point of globe to another. The ICT revolution can be seen and felt everywhere around s. The computer is penetrating all spheres of activity. The internet and the worldwide web are now part of our active vocabulary. Tele-conferencing is gradually becoming a medium of learning and exchange of ideas, as we live in a world of e-Everything (e-learning, e-banking, e-government, etc.). Today's world has also gone virtual, as we begin to operate from virtual offices.

The knowledge economy is yet another revolution in our thinking of what constitutes wealth and power and the skills needed to create and sustain these. What is perhaps most important message here is that natural resources are less important (in considering the wealth of a nation) than human endowments. In the face of global competition, therefore knowledge and skills are a core asset (Obanya, 2013; Okotie, 2019).

This implies that knowledge generation, knowledge transmission, and knowledge application (sharing) will necessarily become the prime preoccupations of institutions and organisations. Faculties of education and colleges are therefore faced with the challenges of how to make their graduates function, relevant and responsive to the requirement of the work force needed to drive the knowledge economy. One of the most prevalent manifestations of these challenges is the high rate of unemployment among graduates of higher institutions. Mba (2012) established that about 50% percent of Nigerian youths are unemployed. The National Bureau of Statistics (NBS) official report in Mordi (2018) revealed that Nigerian unemployment figure stood at 14.44 million in 2015, rose to 15.9 million in 2016, further rose to 16.74 million in 2017. This phenomenon has persistently raised the question of preparedness of faculties of education and other allied colleges in Nigeria to fit into a knowledge driven economy.

Constraints and Implications Associated with Teacher Preparation in a Knowledge Economy

The emergence of knowledge economy has changed the concept of the labour market and the relationship between employers and employees. The knowledge economy has created the demand for knowledge workers and consequently transformed the demands of the world of work (Obanya, 2013). Therefore it is imperative that teachers who are facilitators, mentors, and educators in the process of knowledge acquisitions must be adequately prepared through continuous professional development. Professional development of teachers involve the pragmatic process of knowledge update with a view to improving the job-related knowledge, skills and attitudes of the educators in order to

make them more adaptable to changing work environment. This necessarily implies that the prosperity of nations depends in their ability to generate and apply innovative ideas. This view is buttressed by Mba (2011), who cited the UNDP Human Development Report, stressed that the real wealth of a nation is its people.

As noted by Okute and Chukwurah (2011), higher education play a vital role in inculcating knowledge and skills as well as developing talents in individuals for the emerging knowledge economy. This implies that teacher preparation and continuous professional development must be given prominence. Therefore, there is greater demand on higher education to pay particular attention not only to the development of such programmes that will equip product with transversal skills, solve problems, and work collaboratively, but also the professional development of teachers to facilitate the acquisition of such knowledge and skills. These skills will prepare the individuals for the various career paths charted by the knowledge economy. Knowledge economy will require high quality labour, therefore higher education should be alert to the needs of the society in terms of high-quality labour, and should vigorously pursue lifelong education which requires people to improve their knowledge. The implication is that Faculties of Education specifically needs to redefine their goals through effective knowledge management to produce intellectually competent graduate teachers.

According to Hargreav (2013) the role of the teacher in the era of knowledge economy could be summarized by two things: to make sure that the student acquires the knowledge which means developing students' abilities to enable him to get involved in different patterns of knowledge. The other one is the necessity to have the teacher as the effect factor in the teaching and learning process, this necessarily implies that the teacher has to develop rapidly the patterns of knowledge that he specialized in and to be qualified for teaching them as well.

Suggestions

Ministry of education must ensure appropriate continuous development of teachers. Teachers must be regularly placed on seminars, conferences, and workshops so as to develop their competencies and to improve their cognitive domain, especially in the area of knowledge creation, preservation, distribution and utilisation.

Greater attention should be paid to research and development in teacher education, while Information Technology (IT) compliance must be mandated. Promote excellence by encouraging and rewarding young innovative and creative graduates of teacher education with potentials, knowledge and skills to invest their wealth of potentials for the transformation of nation's economy.

It is an established fact that only quality education can guarantee knowledge economy, therefore supervisory agencies and stakeholders such as National Universities Commission (NUC) and National Board for Technical Education (NBTE). These bodies should emphasize quality assurance in education by assuring quality inputs and processing and consequently quality outputs. This implies admission of qualified students, recruitment of qualified personnel, availability of functional equipment and instructional materials and others.

Knowledge economy is powered by a pool of intellectuals who can apply knowledge creatively to bring about innovations in the production, distribution and utilisation of resources. In order to catch up with this new development and since education has been adopted as an instrument 'par excellence' for development, more emphasis should be placed on investing more on education through improved funding. This necessarily implies that the government should as a matter of urgency improve budgetary allocation to education to a reasonable standard.

Conclusion

Educational institutions are faced with the challenge of producing graduates who will be intellectually competent and flexible enough to compete favourably in the knowledge economy. Therefore there is a great demand for teachers in educational institutions to be systematically exposed to knowledge and skills, updates through continuous professional development so that they can exert positive influence on students for quality learning. Teachers need to keep pace with the requirements of the twenty-first century, that is the era of knowledge economy. The emergence of knowledge economy has created a new work-place demand for new skills, ability to work with ideas rather than with tools. Knowledge economy requires knowledge workers who can adapt their skills and work elsewhere from anywhere. The ability to rise up to these challenges confers economic power and wealth creation particularly for developing nations.

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EFFECT OF DIFFERENTIATED INSTRUCTION IN TEACHING ANTI-DERIVATIVE FUNCTIONS CONCEPT ON POLYTECHNIC STUDENTS' ACADEMIC PERFORMANCE

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Abstract

The concept of anti-derivative function is used in many areas including applied problems in different disciplines. One of the most important approaches for anti-derivative teaching is differentiated instruction (DI) because it makes teachers to proactively modify curricula, teaching methods, resources, and learning activities in order to maximize the learning opportunities as well as address student diversity. A quasi-experimental design was used in which all ND II students offering Calculus for Science (STP 213) constituted this study's population with 100 students randomly sampled. A self-developed pre-test and post-test were used as the research instrument which are validated by experts. The instruments were pilot tested and were found reliable using Cronbach's alpha ($\alpha = 0.69$). Mean, SD, and t-test were used to statistically analyze the results. The findings revealed that polytechnic students' understanding of the concepts of anti-derivative functions can be improved through differentiated instruction. Furthermore, gender was discovered to have a significant impact on polytechnic students regarding their post-test scores. It is recommended among other things that teachers should explore the use of differentiated instruction frequently.

Keywords: Anti-derivative functions, differentiated instruction, polytechnic students

Introduction

The polytechnic was designed to institute the promotion of industrial technology, technological development and transformation to serve as a change agent for both technical system and societal changes. Putting the nature of the polytechnic system in mind, it is designed to catalyze economic transformation and can be used to address the challenges of the rising unemployment and societal crises. This can be actualized by expanding the horizon of employment opportunities activities, especially where the potentials remain large and greatly unexploited (Kamoru, 2021; Muhammad, Mukhtar, Abdullahi & Hassan, 2022). It is very obvious that without a proper policy on polytechnic or technical education and training there cannot be sustainable economic development in Nigeria. Government should ensure increased productivity and output, economic diversification, value addition and self-sustenance which are needed by the polytechnics (Baba, 2021). The output of the education acquired in polytechnics is visible to such an extent that uneducated could see if a failure occur. Polytechnic graduates are supposed to solve social and economic problems sustainably. In order to do this, they need to be sufficiently equipped and informed in technical education concepts and the application of its theoretical principles in solving practical problems (Muhammad, Abdullah, Osman, Ali, Abu-Samah, Jumaat, Ashari & Umar, 2020). In order to promote technology in Nigeria, there is the need to upgrade the standard of educational practice in all the polytechnics because the needs of the industrial sector are on the increase (Kamoru,

2021). Manpower supply is one of the greatest assets a country could have in order to develop and reviewing the curriculum to meet this need becomes paramount as the level of technical demand had greatly increased with time.

The derivative of a function is a fundamental concept for the basis of calculus (Garcia, Llinares & Sánchez-Matamoros, 2011; Muhammad et al. 2022) and is used in many areas including mathematical modelling of several situations in different disciplines such as engineering, physics, economics, etc. Anti-derivative functions is a branch of calculus that is referred to as *anti-derivative* (i.e. a function whose derivative is the given function) which serves as fundamental, essential operation of calculus, and also as a tool to solve problems in mathematics and physics involving the area of an arbitrary shape, the length of a curve, and the volume of a solid, among others (Borji, Alamolhodaei & Radmehr, 2018; Jones & Watson, 2018; Muhammad et al., 2022). Integrals are the values of the function found by the process of integration. The process of getting $f(x)$ from $f'(x)$ is called integration. Integrals assign numbers to functions in a way that describe displacement and motion problems, area and volume problems, and so on that arise by combining all the small data (Weber, Tallman, Byerley & Thompson, 2012). According to Stroud (2007), $\int f(x) dx$ denoted the integral of $f(x)$ with respect to the variable x ; the symbol \int is the integral sign, $f(x)$ is the expression to be integrated, and dx is the differential that assist in evaluating of certain integrals.

Understanding how things relate to and work in relation to other things is aided by conceptual definitions. To express abstract concepts with descriptive terms such as differentiated instruction (DI), definitions must be carefully constructed and understood rather than relying on common sense, which results in imprecise representations (Prast, Van de Weijer-Bergsma, Kroesbergen & Van Luit, 2018). Because DI is not a single arena, but a combination of both conceptual orientation and practical application, it is important for teachers to have a thorough understanding of the concept with its specific strategies in order to apply differentiation into professional practice (Prast et al., 2018). Many experts recommend DI to instructors as it is a successful method. It is known as student-aware teaching because it recognizes and teaches learners differently (Garba & Muhammad, 2015). DI is described in this study as a method of teaching that allows students to learn while taking into account their individual differences and needs. Despite its usefulness, DI implementation is sometimes found to be difficult and impractical in most circumstances (Tomlinson, 2014). This is because DI methods appear promising due to its indistinctness of the concept and in what form differentiation is successful for all ability levels (Garba & Muhammad, 2015). As a result, many educational settings have infrequent and inconsistent approaches (Alice, 2011).

The model of DI, as described by Tomlinson (2014) and Tomlinson and Imbeau (2010), provides a synthesised framework to promote the standards of inclusion and customized learning. Differentiation of instructional strategies can be grouped into four components: content, process, product, and learning environments. The content refers to what the instructor wants his/her students to learn as well as the materials or procedures through which they will learn it. Products are the means by which students demonstrate what they have learned in the lesson. Process describes learning activities designed to ensure that students use key skills required to make sense of essential ideas and information. Finally, the environment is one in which the instructor and students continue to grow in mutual respect and care while establishing a true conducive learning atmosphere (Tomlinson, 2014; Tomlinson & Imbeau, 2010). Teachers' knowledge of students' levels of readiness,

interests, and learning profiles is essential to support successful and appropriate differentiation of the above factors (Garba & Muhammad, 2015). It necessitates teachers getting to know each of their students on a personal basis and must understand how each child receives classroom activities and tailor the experiences to his or her specific needs so that understanding takes place. In other words, teachers must be well aware of who and what they are teaching (Garba & Muhammad, 2015). As a result, teachers must engage students in education by using a diversity of modalities and different forms of instruction with varying degrees of complexity.

Understanding the derivative requires a wide intuitive base of examples and related perceptions, especially concerning the concept of the rate of change in real-life problems (Weigand, 2014). Researches have shown that most students in Nigerian higher institutions view Anti-derivative functions as problematic and abstract; possibly because they have a negative attitude towards it and find it hard to comprehend, assimilate and retain. It is noted that in our tertiary institutions, calculus is one of the most poorly taught and misunderstood subjects that causes students to run away from it (Muhammad et al., 2022). The differential scholastic achievements of students in Nigeria have been and are still a source of concern and research interest to educators, government and parents. This is so because of the great importance that education has on the national development of the country. All over the country, there is a consensus of opinion about the fallen standard of education in Nigeria (Muhammad & Madugu, 2014). Parents and government are in total agreement that their huge investment on education is not yielding the desired dividend. It is against this background that this study tries to see the effect of differentiated instruction in understanding the concepts of anti-derivative functions among polytechnic students.

Objectives of the Study

The study intends to achieve the following objectives:

- i. Determine the effect of differentiated instruction (DI) in understanding the concepts of anti-derivative functions among polytechnic students.
- ii. Investigate the effect of DI on gender in understanding the concepts of anti-derivative functions among polytechnic students.

Research Questions

In line with the objectives of the study, the following research questions were raised in this study:

- i. Does DI affect polytechnic students' academic performance in understanding the concepts of anti-derivative functions?
- ii. How does DI affect both male and female students in understanding the concepts of anti-derivative functions?

Research Hypotheses

From the research questions, the following null hypotheses were formulated and tested at 0.05 level of significance.

Ho₁: There is no significant difference between the academic performance of students taught anti-derivative functions using DI and those taught using conventional approach.

Ho₂: There is no significant difference between the mean scores of male and female students in anti-derivative functions using DI.

Methodology

A quasi-experimental design was used to test the effectiveness of the differentiated instruction (DI) using two groups (experimental and control) as the research samples were randomly distributed (Muhammad et al., 2021; White & McBurney, 2010). In this type of design, the groups were observed and analysed before and after being exposed to a treatment (Sani, 2017). This study took place in a polytechnic, targeting all National Diploma II (ND II) students offering the course of calculus for science (STP 213). Using simple balloting methods, two ND II classes were randomly selected as the study samples from the three collages of the institution. In addition, a hat-draw sampling technique was used to assign experimental and control groups to the selected classes. The total number of students involved in this study was 100 (56 and 44 for both experimental and control groups respectively). This number of students is adequate for the collection and analysis of quantitative and qualitative data (Nieuwenhuis, 2013; Seabi, 2012). Table 1 shows the samples that are selected for the study.

Table 1: Samples selected for the study

S/N	Group	Program	Males	Females	Total
1	Experimental	ND 2 Regular program	31	25	56
2	Control	ND 2 Evening program	24	20	44
		Total	55	45	100

The research instrument used in this research was a self-developed test (pretest & posttest). This is to determine the level of homogeneity and understanding in the subject area. The two groups were given a pre-test before administering the treatment. The groups were separately instructed, meeting once a week for a minimum of two hours over a period of seven weeks and were given the same post-test. The research instruments were validated by experts and adjustments were made in order to consider the instruments valid. Pilot tests of the instruments were conducted among students who were not part of the study sample but part of the population. The instrument was found to be acceptable and reliable as the reliability coefficient of 0.69 was achieved using internal consistency of Cronbach's alpha reliability value. Thus, any inferences made from the result of this instrument are valid inferences (Muhammad *et al.*, 2021; Sani, 2017).

Results and Analysis

Data in this study were collected through pre-test and post-test and also analysis of the students' scores were measured by comparing the results of the pre-test and post-test. The result of the tests were analyzed statistically using mean, SD and independent t-test in order to determine the effectiveness of differentiated instruction among polytechnic students in anti-derivative functions.

Pre-Test

Both groups were given the same pre-test prior to the intervention process in order to determine their level of homogeneity. Independent sampled t-test statistic was used to confirm whether or not the mean pre-test scores were statistically significant as shown in Table 2.

Table 2: T-test comparison for both experimental and control groups on pre-test

Group	N	\bar{X}	SD	SE _M	df	t-val.	p-value	Remark
Experimental	56	33.21	3.26	0.69	98	0.196	0.641	Not Sig.
Control	44	32.75	3.09	0.51				

Table 2 shows the independent sample t-test statistic of both experimental and control groups on their pre-test, a significance level of $\alpha=0.05$ was used in comparing the pre-test scores of both experimental ($M=33.21$, $SD=3.26$) and control ($M=32.75$, $SD=3.09$) groups with a difference in mean of 0.46. This difference was found to be statistically non-significant at $t(98)=0.196$ and $p>0.001$. For this test, Cohen's d was 0.039, which can be described as a very small effect size in the mean difference (Cohen, Manion & Morrison, 2017).

Post-Test

After the intervention process, the groups were given the same post-test to see the effect of the intervention. Independent sampled t-test statistic is used to confirm whether or not the mean post-test scores are statistically significant as shown in Table 3.

Table 3: T-test comparison for both experimental and control groups on post-test

Group	N	\bar{X}	SD	SE _M	df	t-val.	p-value	Remark
Experimental	56	50.89	4.51	0.85	98	13.546	0.000	Sig.
Control	44	37.62	4.93	0.91				

Table 3 shows the independent sample t-test statistic of both experimental and control groups on their post-test, a significance level of $\alpha=0.05$ was used in comparing the post-test scores of both experimental ($M=50.89$, $SD=4.51$) and control ($M=37.62$, $SD=4.93$) groups with a difference in mean of 13.27. This difference was found to be statistically significant at $t(98)=13.546$ and $p<0.001$. For this test, Cohen's d was 3.74, which can be described as a large effect size in the mean difference (Cohen et al., 2017).

Table 4: T-test comparison for gender in anti-derivative functions scores on post-test

Gender	N	\bar{X}	SD	SE _M	df	t-val.	p-value	Remark
Male	55	52.16	3.99	0.95	98	12.874	0.000	Sig.
Female	45	43.72	3.67	0.89				

Table 4 shows the independent sample t-test statistic of both gender on their post-test, a significance level of $\alpha=0.05$ was used in comparing the post-test scores of both male ($M=52.16$, $SD=3.99$) and female ($M=43.72$, $SD=3.67$) gender with a difference in mean of 8.44. This difference was found to be statistically significant at $t(98)=12.874$ and

$p < 0.001$. For this test, Cohen's d was 2.31, which can be described as a large effect size in the mean difference (Cohen et al., 2017).

Discussion

The differentiated instruction (DI) was found to have a significant effect on students' understanding of the concepts of anti-derivative functions among polytechnic students based on the findings of the independent sampled t-test in Table 3. The result indicates that the performance of the experimental group whom are taught with DI method is greater than the control group who were taught with conventional method. The result showed that learning via DI significantly improves students' performance because teachers proactively modify curricula, teaching methods, resources, learning activities and it also address the diverse needs of students either in small groups or individually within the classroom. Though in the use of the DI, it was discovered that polytechnic students have been able to demonstrate differential effects on productive disposition, conceptual understanding, strategic competence and adaptive reasoning. Students' cognitive skills can as well be motivated in DI since they are encouraged to develop their knowledge and explore beyond what the teacher provided. This finding is in agreement with the findings of Abdurrahman and Garba (2014), Beecher and Sweeny (2008), Castle, Deniz and Tortora (2005), Garba and Muhammad (2015), who asserted that new approach to mathematics teaching will provide opportunity for better achievement.

Based on the findings of independent sampled t-test statistic from Table 4, gender was discovered to have a significant impact on polytechnic students regarding their post-test scores. The result indicates that male students performed better than their female counterparts in anti-derivative functions with a mean difference of 8.44 in their post-test scores. This is because, after learning through DI, students can grasp and apply basic anti-derivative functions principles in a variety of situations. According to Castle, Deniz and Tortora (2005), Garba and Muhammad (2015), DI allows students to actively participate in observations, identifying trends and drawing conclusions based on the collected information. On one hand, the study's finding agreed to the findings of Abdurrahman and Garba (2014), Beecher and Sweeny (2008), Castle et al. (2005), Garba and Muhammad (2015), whereas on the other hand it contradicts that of Preckel and Brull (2008) who found no difference among gender using DI.

Conclusion

Polytechnic students' understanding in the concepts of anti-derivative functions can be improved through differentiated instruction (DI) according to the findings of this study. The results show that through DI, the performance of the experimental group is greater than that of the control group (i.e. learning via DI significantly improves students' performance). Nevertheless, previous studies have shown that it is difficult for students to understand certain anti-derivative functions units because the concept appeared a bit abstract. This can be tackled by applying DI as it proves to be effective in understanding the concepts of anti-derivative functions. Furthermore, gender was discovered to have a significant impact on polytechnic students regarding their post-test scores. This is to say that male students performed better than their female counterparts in anti-derivative functions.

Recommendations

The following recommendations were made based on the findings of this research:

- i. Teachers should explore the use of differentiated instruction (DI) frequently as the findings revealed that the concepts of anti-derivative functions can be improved when differentiated instruction is adequately utilized.
- ii. Polytechnic students should be given proper orientation about the course of anti-derivative functions as the findings reveal that gender has significant impact on the performance of male students.

Suggestions for Further Studies

The following suggestions were made for further studies:

- i. The findings of this research show the need for more research on the use of DI in teaching anti-derivative functions concept on polytechnic students' academic performance. This study was conducted with 100 ND II students (56 and 44 for both experimental and control groups respectively) for a period of 7 weeks in only one polytechnic. It would be of great interest and provide deeper insight if several polytechnics and a wider range of participants from the same program level is used over a longer period of time. This may lead to the achievement of a more robust result with regards to teaching anti-derivative functions concept.
- ii. The main purpose of polytechnic education is to train students in technical and vocational fields to provide middle-level workers with the required manpower in a country's industrial and technological growth. It would be of great opportunity to achieve this if a closer alliance is made with regards to the application of anti-derivative functions concept to real life situation (like traffic flow, electrical network, and stress analysis of a truss). This indicates that more research needs to be done to help bridge this gap between the anti-derivative functions taught in our polytechnic classrooms and the real-life scenario.
- iii. Results from the research have shown that DI has the potential to develop students' thinking skills in anti-derivative functions concept. Therefore, more research should be conducted on the use of other students' centred leaning approach in order to respond to the learning environment of the 21st century.

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SOCIO-ECONOMIC STATUS, STUDENT ATTITUDE TO SCHOOL AND ACADEMIC SUCCESS AMONG SECONDARY SCHOOL STUDENTS IN SOKOTO METROPOLIS

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Abstract

This study examined the relationship among socio-economic status, student attitude to school and academic success among secondary school student in Sokoto Metropolis. Three objectives, and three hypotheses guided the study. The population of the study was nine thousand six hundred and forty eight (9,648) students while three hundred and six (306) students were selected as sample size. A validated instrument were used for collecting data; Adopted version of Bala (2011) Socio-economic Status, Attitude to School and Academic Success Inventory SESASI). The instrument with reliability index of 0.82 were used in collecting relevant data. Pearson Product Moment Correlation Coefficient (PPMC) was used to analyze hypotheses I and II. And multiple regression analysis was applied to test hypothesis III. The result of the Pearson Product Moment Correlation shows that there is a negative significant relationship between socio-economic status and academic success of senior secondary school students in Sokoto metropolis. Based on the findings, recommendations were made these include, secondary school teachers should advice students about their attitude to school in order to improve for better academic success.

Key Note: Socio-economic Status, Attitude to School and Academic Success

Introduction

Family background is key to students' educational development. This is buttressed by the fact that home environment is a primary socialization agent and influences a child's future aspirations. In any family setup, the responsibility of training a child always lies in the hands of the parents. The common assertion by sociologists that education can be an instrument of cultural change which is being taught from home is relevant in this discussion. It is not out of place to imagine that parental socio-economic background can have possible effects on the academic performance of children in school. Whatsoever affect the development environment of children would possibly affect their education or disposition to it. Parental socio-economic status is one of such variables. When a woman's nutritional status improves, so too does the nutrition of her young children. Parents of different occupation classes often have different styles of child upbringing, different ways of disciplining their children and different ways of reacting to their children. These differences do not express themselves consistently as expected in the case of every family; rather they influence the average tendencies of families for different occupational classes (Gupa, 2019).

In line with the above assertion, Abdu, Babakura and Tela (2020) had also argued that socio-economic status of parents does not only affect the academic success but also makes it possible for children from low background to compete well with their counterparts from high socio-economic background under the same academic environment. Moreover, Smith, Fagan and Ulvund in Nuhu, (2018) had asserted that significant predictors of intellectual performance in school included parental socio-economic status (SES). In the same vein, other researchers had posited that parental SES could affect school children to bring about flexibility to adjust to the different school schedules (Guerin, Reinberg Testu, Boulenguiez, Mechkouri & Touitou in Nuhu, 2018). In a previous local finding in Nigeria, Aliyu (2016) and Al-Matalka (2014) had averred that there is a significant difference between the rates of deviant behaviour among students from high and low socio-economic statuses. The health status of the children could also be traceable to parental socio-economic status has effects on children' academic performance.

Students' attitude to school is another factor that could affect the academic success of students in school. Attitude is a very strong variable in learning as it determines the success or failure of a child. Attitude is a correlation of students' performance in any teaching-learning subject. It is believed that learning occurs in three domains; affective, cognitive and psychomotor domains. According to Asiegbu and Ezeugbor (2018), affective characteristics are now being recognized for the significant interaction they have with academic performance. And so, attitude, one of the affective characteristics is the general evaluation of people about themselves, others, other objects, events or problems. Students' attitude to school, therefore, affects learning. In addition, Bhat, Joshi and Wani (2016) suggest that the attitude of students is likely to play a significant role in any satisfactory explanation of variable level of academic performance shown by students in studies.

Dudaite (2016) in his finding reports that many students developed negative attitudes to school, probably due to the fact that teachers are unable to satisfy their aspirations or goals. It is well known that negative attitude in school toward a certain subject makes learning or what to be learned in the future difficult. That is, if a student has a negative attitude towards schooling, it makes learning difficult. Therefore developing students' positive attitudes towards schooling should be the most important purpose of teaching. The construct of students' attitude to school was defined by Dudaite (2016) as being the subject's behaviours, the expression of their feelings regarding affection and judgements, favourable or unfavourable, for the school and school experiences. The affective characteristics of it may be an important explanatory element of quality education and investment of individual actors in the different dimensions that make up the school (Eshetu, 2015)). This construct is intrinsically related to other constructs, such as students' perceptions and interest in learning, their competence (Perceived and as result of academic performance) and motivation. As it appends with other constructs, also with attitudes there is differences regarding gender. Where girls seem to have more positive attitudes to school, while boys are less motivated and have more negative attitudes toward school (Esther, Ruffina & Anastecia, 2018). In general, results show that girls do not require more time to study, engage less in cases of misconduct and behaviour, have less absenteeism, and also have more expectations about future and are more enthusiastic about further studies and give up more easily (Esther, Ruffina & Anastecia, 2018).

On the other hand, boys are less committed to studies and give up more easily (Esther, Ruffina & Anastecia, 2018), once their representation of popular teens does not require having good grades and being committed to the school. Also, there is evidence that cognitive variables such as ability-related and expectancy beliefs, general attitudes toward school, and attitudes toward specific academic subjects are related to academic performance and that these can differ across gender and racial groups (Linnehan in Esther, Ruffina & Anastecia, 2018). On the relation between students' success in school and parental socio-economic level, the results of previous studies had shown that boys with higher levels appear to be more satisfied with school and that students from lower socio-economic status and who have less access to school resources and computers express more negative attitudes toward school. According to Popham (2005), students' attitudes to school should be enormously important to educators, because affective dispositions were seen as powerful predictors of students' subsequent behaviour. Academic activities accompanied with the use of modern technologies positively increase student attachment to school. There is a strong association between individuals' attitudes to school and their academic performance and commitment. Students who have negative attitudes towards school activities are found to exhibit challenging behaviour including anti-social and off-task behaviour (Fekadu, Negassa & Tegegne, 2019)).

Apart from students teachers' attitudes towards teaching are also important, this is because the role of the teacher as facilitator of learning and the contributions to students' academic performance is enormous. For example, the classroom teacher is the one that is saddled with the responsibility of translating the learner's thought into action. In other words, teachers' experiences and behaviours towards the teaching-learning process in the classroom contribute greatly to students' attitudes towards their teachers, the subject being taught and the school at large. This in turn will affect the students' academic success. Evans; Gibson cited in Fekadu, Negassa and Tegegne (2019) were of the opinion that students taught by more experienced teachers tend to have favourable attitude towards the school, school and perform at a higher level because their teachers have mastered the content and acquired classroom management skills to deal with different types of classroom problems.

Evidence shows had suggested that how a student performs in school is influenced by his concept of self. By self, we generally mean the conscious reflection of one's own being or identity, as an object separate from others or the environment. There are a variety of ways to think about the self. Two of the most widely used terms are self-concept and self-esteem. Self-concept is the cognitive or thinking aspect of self (related to one's self-image) and generally refers to the totality of a complex, organized, and dynamic system of learned beliefs, attitudes and opinions that each person holds to be true about his or her existence.

According to Abubakar in Li and Qui (2018), there is a great deal of research that shows that self-concept is, perhaps, the basis for all motivated behaviour. It is the self-concept that gives rise to possible selves, and it is possible selves that create the motivation for behaviour. Self-concept and academic performance are dynamically interactive and reciprocal, each is mutually reinforcing to the extent that a positive (or negative) change in one facilitates a commensurate change in the other and academic self-concept is more highly correlated with academic performance than general self-concept. Students with high self-concept tend to approach school related tasks with confidence and success of those tasks reinforces this confidence. The opposite pattern is likely to occur for children

with low academic self-concept. A positive self-concept is valued as a desirable outcome in many disciplines of psychology as well as an important mediator to other outcomes. According to the research and a comprehensive meta-analysis conducted by (Maghra, Galadima & Rufus, 2019), self-concept has a direct and indirect effect on subsequent academic performance. Not only is self-concept an important outcome lent support to this when he found that low self-concept affects academic success in a study of some psychological correlates of academic success and failure.

Academic success is the amount of knowledge derived from learning. The children gain knowledge by instructions received at school and are organized around a set of core activities in which a teacher assigns tasks to students and evaluates and compares the quality of their work. The school provides a wide variety of achievement experiences than does the family. The concept of academic performance has several references. It usually denotes activity and mastery, making an impact on the environment and competing against some standard of excellence. A child with poor academic performance is one whose actual success, as indicated by his scholastic performance in school, does not measure up to his potential performance as indicated by his abilities. Mwariri, Marete and Mwenda (2017), also defined students with good academic performance as those whose school academic success is above expectations formed based on their activities. Academic performance is based on the number of factors, such as children's attitudes, interests, personality characteristics and social class in addition to learning. Therefore, the main thrust of the study is to examine relationship between parental socioeconomic status, students' attitude to school, self-concept and academic performance among senior secondary school students in Sokoto Metropolis.

The theoretical framework that guided this study is Operant Conditioning Theory (E.L. Thorndike, 1874-1948) was the first American psychologist in stimulus response theories who conducted a series of experiments on learning with animals. His experiments involved the use of cats, dogs, and chickens. He devised experiments in which an animal was placed in a cage from which it could escape to reach food. The food was visible but not accessible from the cage and the hungry animal soon began to seek a lure. Only pulling a cord hanging within reach outside the cage could open the door of the cage. In an attempt to reach the food, the animal clawed, banged and prowled around the cage, occasionally touching the release cord. In this trial and error fashion, some animals hit on the solution to their problems. Successive attempts by the same successful animals took shorter periods by cutting out the useless activities. From his experiments, Thorndike (1911) derived three laws and five principles. He holds the view that we stamp in effective stimulus-response (S-R) connections and stamps out those responses that are useless. He formulated several laws of learning and classified them as either primary or secondary. His primary laws he expressed by the terms readiness, exercise, and effect. He identified five secondary principles, namely multiple response, mental set, partial activity, response by analogue or assimilation, and associative shifting. According to Mukherjee in Onwukwe, Anyanwu and Agommuoh (2017), the law of effect was the most important of Thorndike's laws of learning. This implies that only those responses of the organism followed by reward and satisfaction would be learnt. Also those unsuccessful responses followed by punishment and annoyance would be eliminated from the behaviour repertoire of the organism.

Some empirical studies related study were reviewed like the study conducted by Bakori in Onyanacha, Njoroge and Newton (2015), the relationship between secondary school

students' attitudes to academic subjects, locus of control and their Academic Achievement in Sokoto State. He infers that there is a significant relationship between attitude to school and academic performance. Also Tambawal cited in Ovansa (2017), on locus of control and attitude to school as correlates of academic performance of secondary school students' of Sokoto State based on finding agreed that attitude, is a determinant in learning achievement. However, Ovansa (2017) identify other related significant factors such as teacher related factors and parents' attitude towards school.

Stakeholders in childrens' education such as parents, teachers, government, and non-government agencies are disturbed about the mass failure of students, especially in WAEC and NECO examinations. Some parents and even school authorities to win the battle against students' mass failure in external examination, are engaging in examinations malpractices just to make sure their children/students passed the external examination.

The situation is worst in most government schools to such an extent that, answers to question are written for students or sent to their handset to copy inside their answer booklets to pass the external examination. In private schools, questions will be answered on a sheet of paper and photocopies would be made for each student to copy. These trends have been happening for decades without adequate moves or intervention to stop it either from the government or private authorities. The end product of these examination malpractices is that student would graduate from secondary school with all the required number of subjects but they would not be able to defend their qualification. Despite the prevalence of examination malpractices in most the senior secondary schools today, students' performance in both WAEC and NECO is still poor. In the year 2018, out of the 1,579,172 candidates that wrote the examinations, only 197,459 got the mandatory 5 credits and above, including English and Mathematics. This implies that only 21% of the students who sat for the examination passed while 79% failed. Likewise, the WAEC result released in the year 2019 indicated that only 356,981 (25.99%) out of 1,373,090 candidates obtained five credits, including English and Mathematics. Labelling of students based on their school academic performance as successful or failure tends to suggest that intelligence and hardworking are not the sole basis for predicting good academic performance as revealed by some studies. This means that there are many variables influencing students' academic performance.

Furthermore, few of the earlier studies have taken a thorough approach to examine many other variables that affect students' academic performance in their studies. Moreover, if this poor student's academic success is not stopped or ameliorated, it would have an adverse consequence on national development. Therefore, to close the gap created because of poor students' academic success in their studies, the present study examined the relationship between socio-economic status and academic success among senior secondary school students in Sokoto Metropolis.

Objectives of the Study

The objectives of the research are:

- i. To find out if there is any relationship between socio-economic status and academic Success of senior secondary school students in Sokoto metropolis.

- ii. To find out if there is any relationship between attitude to school and academic success of senior secondary school students in Sokoto metropolis.
- iii. To find out if there is any relationship among socio-economic status and attitude to school is more-related to academic success of senior secondary school students in Sokoto metropolis.

Research Hypotheses

In order to find the relationship between the variables involved in the research, the following null hypotheses were formulated

- Ho₁. There is no significant relationship between socio-economic status and academic success of senior secondary school students in Sokoto metropolis
- Ho₂. There is no significant relationship between attitude to school and academic success of senior secondary school students in Sokoto metropolis.
- Ho₃. There is no significant relationship among socio-economic status and attitude to school is more-related to academic success of senior secondary school students in Sokoto metropolis.

Methodology

The study adopted a descriptive survey design. This descriptive survey involves direct contact with a population or sample that has characteristics, personality among other, which is relevant to a specific investigation. Descriptive survey method enables the researcher to obtain the view of the representative sample of the target population as to be able to infer the perception of the entire population. The population of the study comprises all the senior secondary school students SS II in Sokoto Metropolis, Sokoto State, as of January 2022, there were 32 Public Secondary Schools in Sokoto Metropolis Sokoto State Nigeria, with total population 9,648 of SS II students in Sokoto Metropolis. Data collected from Sokoto State Ministry of Education, Sokoto (January, 2022) revealed that the Sokoto Metropolis has a total 32 public Secondary Schools of this population, 7 public secondary schools were randomly selected. For these reasons a representative sample was selected using Research Advisor's (2006) table for sample size determination, 306 respondents were selected purposively out of 9,648 senior secondary school SS II students from 7 selected secondary schools to represent the entire population.

The researcher used all the senior secondary students SS II in the selected secondary schools in order to represent the whole population and the opinion of the respondents were reflects the feelings of the entire population. Schools and students therein were purposively selected because of the qualities that satisfied the interest of the researcher such as mixed schools (boys and girls), girls only, boys only, day and boarding schools. The reason of adopting purposive sampling techniques in the selection is that, both male and female students were involve because they are the target of the researcher. It also involves identifying and selecting individual or group of individuals that are essentially knowledgeable about or experienced with a phenomenon of interest as well as willingness to participate and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner. A total of 306 secondary school students SS II were randomly selected in ballot form using yes or no.

The instrument for data collection was an adopted questionnaire by Bala, (2011); titled Socio-Economic Status, Attitude to school and Academic Success Inventory (SESASI). The instrument was subjected to face and content validity by two educational professors from the Department of Educational Foundations in the field of sociology, measurement and evaluation. They pointed out corrections, and the researchers used these in adjusting and instrument accordingly. The reliability and interval consistency of the tests were established through test-re-test method was employed on 40 students from public secondary school in another Local Government Area of Sokoto State that are not part of the study area. Pearson Product Moment Correlation Coefficient was used, and it yielded a value of 0.82. A modified Likert scale response pattern was used to obtain respondents' attitudes toward the content of each item in the questionnaire. The responses were given the following:

Strongly Agree = 4; Agree = 3; Disagree = 2; and Strongly Disagree = 1

Questionnaires were administered to the respondents with help of two trained research assistances who had the purposes of the study and the content of the questionnaire explained to them. The data was further collected, collated, scored and three research hypotheses one and two were analyzed using Pearson Product Moment Correlation Coefficient (PPMCC) to find relationship between socio-economic status and academic success among senior secondary school students, also to find relationship between attitude to school and academic success among secondary school students inn Sokoto Metropolis, while hypothesis three were analysed used regression analysis to find relationship among three variable that's socio-economic status, attitude to school and academic success among using analysis Statistical tools at 0.05 significance level.

Findings

Hypotheses Testing

Ho₁: There is no significant relationship between socio-economic status and academic success of senior secondary school students in Sokoto Metropolis

Table 1: Relationship between socio-economic status and academic success of senior secondary school students in Sokoto Metropolis

Variables	N	Mean	SD	r-cal	p-value	Decision
Socio-economic Status	346	13.4	1.1	-.46	.00	Ho Rejected
Academic Success	346	22.5	6.4			

Sources: SPSS 21.0 version

From the result of table 1, students' socio-economic status recorded a mean of 13.41 (SD=1.14) and students' academic performance recorded a mean of 22.56 (SD= 6.44) at Pearson's r (315) =-.469, p= .000. This indicates a negative and significant relationship between socio-economic status and academic performance of senior secondary school students because of the p-value < .05 level of significance. Although negatively related, therefore, Hoi which states that there is no significant relationship between socio-economic status and academic performance of senior secondary school students in Sokoto metropolis was rejected. This implies that socio-economic status is negatively related to academic performance of students.

Ho₂: There is no significant relationship between Attitude to school and academic success of senior secondary school students in Sokoto Metropolis

Table 2: Relationship between Attitude to school and academic success of senior secondary school students in Sokoto Metropolis

Variables	N	Mean	SD	r-cal	p-value	Decision
Socio-economic Status	346	3.7	.42	.416	.000	Ho Rejected
Academic Success	346	22.5	6.4			

Sources: SPSS 21.0 version

From the result of table 3, students' attitudes to school recorded a mean of 3.78 (SD=.428) and students' academic performance recorded a mean of 22.56 (SD= 6.44) at Pearson's $r(317) = .416, p = .000$. This indicates a significant relationship between attitude to school and academic performance among senior secondary school students because of the p -value $< .05$ level of significance. Although positively related, therefore, H₀₂ which states that there is no significant relationship between attitude to school and academic performance among senior secondary school students in Sokoto metropolis was rejected. This implies that attitude to school is related to academic performance of students.

Ho₃: Socio-economic status and attitude to school are not better predictor of academic success of senior secondary school student in Sokoto Metropolis.

Table 3: Regression Analysis on Students' Academic Success

Variables	R	R ²	Adjusted R ²	SE	F	B	T	P.value
SES	.033	.001	-.003	.137	.298	.345	2.51	.676
ATS	.003	.000	-.004	.079	.002	.010	.123	.902

Dependant Variable: Academic Success

A look at the squared part correlations revealed that Socio-economic status accounted for 0.3% of the variance in academic success $R^2_{adj} = -.003, F(1, 344) = .298, p > .05$ and attitude to school accounted for 0.003% of the variance in academic success $R^2_{adj} = -.004, F(2, 344) = .002, p > .05$. Thus, the significant results of the procedure indicated that the predictor variables were able to account for a significant amount of variance in the dependent variable. Although socio-economic and attitude to school were explanatory variables of academic success, analysis of regression coefficients indicated that attitude to school, $-.004, t = .902, p < .05$ emerged as the significant predictor when all variables were in the model. This indicated that attitude to school is better related to students' academic success than socio-economic. Thus, it was concluded that attitude to school was more related to academic success than socioeconomic.

Discussion

Hypothesis one stated that there is no significant relationship between socio-economic status and academic success of senior secondary school students in Sokoto metropolis. The finding of this hypothesis revealed that there is a significant relationship between socio-economic status and academic success. This finding is following the study of Osei-Owusu, Ampofo, Akyina, Ampomah and Osei-Owusu (2018), they think that parents have a profound influence on whether a home provides intellectual stimulation, physical

and psychological safety, an appropriate degree of structure and supportive relationships. Children with more opportunities at home to build academic skills tend to be better. The argument was that students with higher socio-economic status possess materials that aid their academic success more than students with lower socio-economic status.

Hypothesis two stated there is no significant relationship between attitude to school and academic success of senior secondary school students in Sokoto metropolis. The finding of this hypothesis revealed that there was a significant relationship between attitude to school and academic success of students. This finding concurs with the study of Pant (2020), who infers that there is a significant relationship between attitude to school and academic success. This is consistent with the findings of Tambawal in Ovansa (2017), who agreed that attitude, is a determinant of learning achievement. However, Ovansa (2017) identify other related significant factors such as teacher related factors' and parents attitude towards school. Ovansa (2017) notes that attitude is a basis for motivation in academic achievements. Therefore, a desirable attitude which enhances students' academic success should be reinforced by teachers in the classroom and parents at home.

Hypothesis three stated that socio-economic status and attitude to school are not a better predictor of academic success of senior secondary school students in Sokoto metropolis. The result of multiple regression analysis of socio-economic status and attitude to school shows that attitude to school has a beta value than socio-economic status. This indicated that attitude to school is better related to students' academic success than socio-economic status. This supported the findings of Abubakar, Mustapha and Abdullahi in Qasem (2018) which showed that student's self-concept was a better predictor of academic performance. This finding did not agree with that of Miftahu and Melaiye (2021), who reported that socioeconomic status of parents influence the academic performance of their children in senior secondary schools.

Because of the above findings, it is recommended among other things that Parents and teachers need to encourage students on how to improve their intrapersonal and interpersonal relationship in school regardless of their parental socio-economic status as this could improve their academic performance. Students should be encouraged by teachers and sociologist to develop a healthy attitude to school and school activities through motivation, as this can enhance students' academic performance. Also, teachers should assist students to gain self-awareness which can enhance their ability academically and affective components of learning should also be incorporated into school curriculum by curriculum developers since it is indicated from the research finding that attitude to school is related to academic success.

Conclusion

From the findings of this study, it was concluded that socio-economic status was negatively related to students' academic success, attitude to school was significantly related to student academic success while attitude to school was more related to academic success than socio-economic status of senior secondary school students in Sokoto metropolis.

Recommendations

- i. There is need for counsellors to interact with students about the academic success in which has attributed to their socio-economic status.
- ii. Secondary school teachers should advice students about their attitude to school in order to improve for better academic success.
- iii. Students should be encouraged to design better attitude to school in order to have better academic success since attitude to school is a better predictor of academic success than socio-economic status.

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EFFECTS OF IN-SERVICE-TEACHER-DEVELOPMENT-PROGRAMME ON PUPILS' INTEREST IN LOWER BASIC MATHEMATICS IN KATSINA STATE, NIGERIA

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Abstract

This study was carried out to evaluate the effects of in-service-teacher-development-programme on pupils' interest in lower basic mathematics in Katsina state, Nigeria. The study adopted sample cross sectional survey design. The sample for the study was 700 pupils comprising 358 and 342 male and female pupils selected from a population of 45,746 primary five pupils from six Local Government Education Authorities (LGEAs) in Katsina Education Zone – three LGEAs were in the programme (ITDP) involving 361 pupils and the other three were not (Non-ITDP) with 312 pupils. Data collection was accomplished through the use of Primary Mathematics Interest Inventory (PMII). The PMII consisted of 40 items and was adapted from Haun (2016). The instrument was validated by experts and reliability coefficient was computed and found to be 0.78 Mann-Whitney U test was used to analyse the data. Findings showed that pupils from ITDP schools exhibited positive` effect on interest in comparison to their counterparts from Non-ITDP schools and the effect of the intervention was gender neutral on interest within ITDP schools. Based on the findings of the study, it was recommended that Katsina state government need to consider replicating the programme in LGEAs where it was not conducted and professional bodies popularise strategies of the programme through series of workshops and conferences.

Keywords: In-Service-Teacher-Development-Programme, Interest, Basic Arithmetic Operations

Introduction

In most countries primary education has been regarded as the most important as well as the most patronized by people (Lawrence, 2018). As primary education is the pivot of the educational edifice that is expected to provide literacy and enlightenment to citizens as well as the key to the success or failure of the whole system. A careful perusal of the goals of primary education reveals that mathematics is *sine qua non* for the achievement of most of them. Sample cut-off marks for admission into Federal Unity Schools in respect of male and female candidates for the years 2017 and 2018 from the six geographical zones of Nigeria revealed Katsina state as the least and consistently below the national merit cut-off marks. Similarly, the outcome of a baseline line survey on Teacher Development Needs Assessment (TDNA) of Teacher Development Programme (TDP) phase 1 states (that include Katsina) found vast majority of pupils were considerably

behind curriculum expectations in numeracy. It was no surprise that the same survey revealed that about 8% of teachers had sufficient professional knowledge of mathematics (scored 75% and above) to be considered effective in the classroom when tested on their knowledge of topics covered by class 4 pupils. Though there are several factors that directly affect learning, teacher quality and effectiveness are crucial to learner success. Fortuitously Katsina state was included among phase 1 states of United Kingdom's Department for International Development teacher development programme. The Programme was a six-year (2013–19) funded education programme with a total budget of £34 million (approximately N 15.64 billion) seeking to improve the quality of teaching in primary and junior secondary schools (JSSs) and in Colleges of Education in six states in northern Nigeria, Oxford Policy Management Nigeria (OPMN, 2017). The programme was in two components, namely pre-service and in-service. The objective of the in-service teacher development programme (ITDP) component was to improve the capability of teachers already in service to deliver quality learning to pupils in primary schools in target locations. About 80% of the budget of the programme was dedicated for the in-service-teacher-development component of the programme.

It is often said interest is the mother of attention and once interest is stimulated and sustained attention is guaranteed and learning is assured. In the view of Harackiewicz, Smith and Priniski (2016) interest is a powerful motivational process that energizes learning, guides academic and career development, and is essential to academic success. Also, Alio and Okafor (2018) opined that lack of interest is seen as an inhibiting factor to mathematics achievement among pupils. For mathematics achievement to be awakened in children, they must have interest in the subject.

There seems to be a universal consensus on the utility of mathematics in laying foundation for pupils' level of thinking, skill development, problem solving and facilitation of the learning of other subjects especially sciences such that it has been made a core subject in school curriculum at the primary level in Nigeria and the world over. However, in spite of the important role mathematics plays in the achievement of the goals of primary education, most pupils find the subject difficult either to study or write examination and pass. For instance, sampled cut-off marks for admission into Federal Unity Schools in respect of male and female candidates for the years 2017 and 2018 from the six geo-political zones of Nigeria revealed Katsina state as the least and consistently below the national merit cut-off marks.

Similarly, the outcome of a baseline line survey of TDP phase 1 states (that include Katsina) found vast majority of pupils were considerably behind curriculum expectations in numeracy. Also, Oxford Poverty and Human Development Initiative report (2017) ranked Katsina state the 6th poorest in Nigeria in terms of multidimensional poverty – which measures poverty based on the incidence and intensity of deprivation in education, health and living standard. TDP's operational context included some of the 'poorest' states in Nigeria as Katsina is among states with the highest incidence of income poverty in Nigeria, Nigerian Bureau of Statistics (NBS, 2012). In addition, the Executive Secretary of Universal Basic Education Commission (2017) observed that one of the biggest challenges Nigeria faces is how to ensure that the tuition provided in schools is of good quality to ensure learning outcomes improve significantly as mean score in English, Mathematics, and Life Skills is only 30%-40%. Thus, the chilling blend of pupils' poor performance, teachers' incompetence and poverty rating informed the inclusion of the state in the first phase of the Teacher Development Programme.. Thus, the researchers

were motivated to conduct the study to evaluate the effects of In-service-Teacher-Development-Programme on pupils' interest in basic arithmetic operations among pupils in Katsina State. This was intended to establish whether the conduct of professional development programme had trickled down and filled gaps in learners' interest levels. Objectives of carrying out the study are listed below.

Objectives of the Study

The study was guided by the following objectives:

- i. Find out the effect of in-service-teacher-development-programme on pupils' interest in mathematics in Katsina state.
- ii. Investigate the gender friendliness of in-service-teacher-development-programme on pupils' interest in mathematics in Katsina state.

Research Questions

The study posed the following questions for answers:.,

Are there differences in the interest levels of pupils taught by teachers in ITDP and Non-ITDP schools in Katsina state?

Is there difference in the interest level of male and female pupils whose teachers had in-service-teacher-development-programme in Katsina state?

Null Hypotheses

The following null hypotheses were formulated for testing at $p \leq 0.05$.

Ho₁: There is no significant difference between the interest levels in mathematics of pupils taught by teachers in ITDP and Non-ITDP schools in Katsina state.

Ho₂: There is no significant difference between the interest levels in mathematics of male and female pupils whose teachers had in-service teacher development programme in Katsina state.

Methodology

The study adopted simple cross sectional survey design and the population of this study consisted of forty five thousand seven hundred and forty six (45,746) primary five pupils from six Local Government Education Authorities (LGEAs) in Katsina Education Zone. Three LGEAs were involved in the programme and the other three were not. Proportional stratified sampling procedure was used to select a sample of 673 pupils with 361 and 312 pupils from ITDP and Non-ITDP schools respectively. In addition 343 and 330 of the sampled pupils were male and female respectively. This study used stratified random sampling technique in which a sample 700 was selected. Primary Mathematics Interest Inventory (PMII) adapted from Laura Haun (2016) was used to determine pupils' interest in mathematics. For the purpose of ensuring validity the instrument was subjected to the scrutiny of experts in mathematics education and psychology. The reliability of PMII was determined by single administration and Cronbach's alpha (1951) was computed and found to be 0.78 sequel to a pilot test.

Results

The results of the study were obtained from research questions answered and hypotheses tested through analysis of 673 out of 700 questionnaires.

Research Question 1: Are there differences in the interest levels of pupils taught by teachers in ITDP and Non- ITDP schools in Katsina state?

Table 1: Summary of Interest Mean Rank Levels for ITDP and Non-ITDP Groups

Group	N	Mean Rank	Sums of Ranks	Mean Rank Diff.
ITDP	361	408.50	147469.50	
Non-ITDP	312	254.27	79331.50	153.8
Total	673	662.77	226801.00	

Source: SPSS Analysis Output

Table 1 shows that pupils in the Non-ITDP group expressed a relatively lower interest mean rank (254.27) in mathematics compared with pupils whose teachers were involved in the in-service-teacher-development-programme (408.50). This development was attributed to the effect of the in-service-teacher-development-programme to which teachers in ITDP group were exposed. To establish if the difference in the mean ranks is statistically significant, the Mann Whitney U test was used to test the first null hypothesis.

Null hypothesis One

There is no significant difference between the interest levels in mathematics of pupils taught by teachers in ITDP and Non-ITDP schools in Katsina state.

To test this hypothesis, summated pupils' interest scores of ITDP and Non-ITDP schools were compared using Mann-Whitney U test statistic. Summary of the results are presented in Table 2

Table 2: Summary of Mann-Whitney U Test on Interest Levels of ITDP and Non-ITDP Groups

Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z-Value	P-Value	Effect Size (d)
ITDP	361	408.50	147469.50	30503.500	-11.644	0.000	0.861
Non-ITDP	312	254.27	79331.50				
Total	673	662.77	177973.00				

Source: SPSS Analysis Output

Table 2 reveals that there was significant difference in interest levels in mathematics between pupils taught by teachers who participated in the in-service-teacher-development-programme compared with those taught by teachers in Non-ITDP schools. The Mann-Whitney U value for the test was 30503.000 with a Z-value of -11.644 and a p-value of 0.000 ($p < 0.05$). Therefore, null hypothesis one was rejected and it was concluded that teachers' participation in in-service-teacher-development-programme significantly improved pupils' interest in mathematics. Moreover, the effect size (d) is 0.86 that indicated large effect size as recommended by Cohen (1988) criteria.

Research Question 2: Is there difference in the interest level of male and female pupils whose teachers had in-service-teacher-development-programme in Katsina state?

Regarding descriptive statistics on interest levels of male and female pupils taught by teachers in ITDP schools, summary of the results are presented in Table 3.

Table 3: Interest Mean Rank Levels Based on Gender in ITDP Group

Group	N	Mean Rank	Sum of Ranks	Mean Rank Diff.
Male	186	182.02	33856.50	2.11
Female	175	179.91	31484.50	
Total	361	361.93	65341.00	

Source: SPSS Analysis Output

Table 3 reveals that male and female pupils whose teachers were exposed to in-service-teacher-development-programme in the ITDP group differed slightly in their interest mean ranks in mathematics. From the table, male and female pupils had 182.02 and 179.91 as mean ranks respectively that differed by 2.11 in favour of male pupils. However, to establish the statistical significance of the difference of the mean ranks, Mann-Whitney U test was used to test the second null hypothesis.

Null Hypothesis Two

There is no significant difference between the interest levels in mathematics of male and female pupils taught by teachers in in-service-teacher-development-programme schools in Katsina state.

The summary of the results are presented in Table 4

Table 4: Summary of Mann-Whitney U Test on Interest Level of Pupils by Gender in ITDP Group

Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z-value	P-value	Effect Size (d)
Male	186	182.02	33856.50	16084.500	-0.224	0.823	0.02
Female	175	179.91	31484.50				
Total	361	361.93	65341.00				

Source: SPSS Analysis Output

Table 4 reveals a P-value (0.823) that is greater than the set P-value (0.05). This suggested that there was no significantly difference in the interest mean ranks of male and female pupils taught by teachers who participated in in-service-teacher-development-programme in Katsina state. The null hypothesis was therefore retained and hence it was concluded that male and female pupils expressed similar interest towards mathematics in ITDP schools.

Discussions

The result of the analysis of data regarding null hypothesis one showed there was significant difference in interest levels between pupils taught by teachers in ITDP schools compared to those in Non-ITDP schools. The positive effect of the programme is in

agreement with Wong and Wong (2019) who in a study on 'The Relationship between Interest and Mathematics Performance in a Technology-Enhanced Learning Context in Malaysia' involving 40 students reported that the students showed more interest in mathematics. Similarly, Onyiyechi (2019) who conducted a study on 'The Effect of Dart Game on Secondary School Students' Interest in Algebra in Enugu Education Zone' reported that that students taught with the game showed more interest in algebra than their counterparts taught with expository method.

Outcome of the second test of null hypothesis showed there was no significant difference between the interest levels of male and female pupils taught by teachers who participated in ITDP. This result is in tandem with the findings of Alio and Okafor (2018) who reported there was no significant difference between the interest levels of male and female pupils taught with mathematical games. However, Oluyemo, Musbahu, Kukwil, Anikweze and Shaluko (2020) in a study on 'Gender Differences in Mathematics Interest and Achievement in Junior Secondary School Students, Niger State, Nigeria' revealed that female students showed more interest in mathematics than their male counterparts.

Conclusion

The outcome of the study indicated that pupils taught by teachers in ITDP schools exhibited positive interest levels compared to their counterparts in Non-ITDP schools. In addition, in-service-teacher-development-programme instilled even effects on gender regarding interest.

Recommendations

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

- i. Following the positive effects of ITDP, the Katsina state government needs to institutionalise the programme in all treatment LGEAs and replicate same in control LGEAs.
- ii. As competence and experience were factored in selecting ITDP teachers, the state government is required to employ teachers on merit, retain and incentivize them for effective teaching.
- iii. Professional bodies like Mathematical Association of Nigeria (MAN) and Mathematics Panel of Science Teachers Association of Nigeria (STAN) ought to promote approaches of ITDP in conferences, workshops and publication in their journals.

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IMPACT OF CLASS SIZE ON STUDENTS' ACADEMIC PERFORMANCE IN CHEMISTRY AMONG SELECTED PUBLIC SENIOR SECONDARY SCHOOLS IN SABON GARI LOCAL GOVERNMENT AREA OF KADUNA STATE

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Abstract

The main purpose of this study is to examine the impact of class size on students' academic performance in selected public senior secondary schools in Sabon Gari Local Government Area of Kaduna State. In this study, the effect of class size on students' academic performance and instructional strategies were analyzed. Self-administered questionnaire was used as instrument of data collection for the study. A sample of two hundred (200) students in four selected public secondary schools was used. Senior secondary two (SS2) and three (SS3) students were used for the study. The students were selected randomly and one hundred and seventy (170) questionnaires were correctly filled and collected, thirty (30) questionnaires were either not collected or wrongly filled. The analysis was done using descriptive statistics, percentage and frequencies. It was found that large class size has negative effect on students' academic performance in chemistry. It was also observed that class size has implications on instructional strategy and students' academic performance. It is recommended that the class must be sizeable to encourage teacher-students interaction for effective teaching and learning, policy makers should consider as a matter of priority the issue of increased funding of secondary school education in Nigeria and also school supervisors and inspectors should concentrate more on the number of students in each class and avoid overcrowding in classes.

Introduction

As the world population continues to increase, the class sizes are also affected. Class size are often mentioned by experts in the educational literature as having effects on students' feelings and performance, quality of school budgets and administration as well (Ruffinn, *et al.*, 2018). It is considered as one of the important determinants of academic performance over which teachers in schools have little or no control. Class size may be defined as the number of students per teacher in a given class or the population of a class (Ajayi, *et al.*, 2017). The duo of chemistry and science are two areas, each requiring attention for its teaching and learning and the proper dissemination of the knowledge for the advantage of humanities and society at large. Teachers of chemistry who are the epicenter in the dissemination of the knowledge tend to find it uncomfortable in the process; which is attributed to a number of factors, emphasis had been made on class size especially because of the role it play in the process of teaching and learning chemistry because of the bearing to life entirely (Tsafe, 2014). Science teaching and learning in schools was in fact, a privilege. These laudable objective teachers who could not properly and adequately disseminate the concept to the students, chemistry is one of pivotal subjects in technology, its effective teaching must be handle with all seriousness (Hadiza, *et al.*, 2021).

Chemistry is a science that involves a lot of practical activities Akanbi et al (2018) observed that the most important feature of effective chemistry teaching is to support

theoretical explanations with actual practices in the laboratory. It thus requires that adequate laboratory facilities needed to be provided for effective teaching and learning of practical chemistry but due to the class size many chemistry teachers abandon practical's but rather concentrate on theoretical explanations. Chemistry teachers have applied several instructional approaches in teaching chemistry yet the derive result in students' performance has not been achieved (Eriba, 2013). Hadiza *et al* (2021) further reported that poor performance of students in chemistry among others include teachers inadequate preparations, methods adopted in teaching this subject and class size, the pursuance of how improve the performance of the student in chemistry is concern for this investigation. In spite of all these benefits, large class size may generate a lot of controversy due to the difficulty of teachers to work with large class size. These controversies may serve as thorns that crumble the performance of students in chemistry at the senior secondary school level. Some of these problems may be; teachers may find it difficult to use varied teaching methodology in teaching, students may find it difficult to concentrate in the class, teachers may find it difficult to control the students in class and there may be insufficient teaching and learning resources. Hence the quality of teaching, assessment of students and quality of learning may be affected. Basically, earlier one of the subjects in the Nigerian public senior secondary schools which requires demonstrations and much student attention is chemistry. Therefore, the present study seeks to use chemistry as baseline to revisit the issue of class size implications on quality of teaching and learning. Findings from this study would not only contribute to the educational literature but also educational planning and policy towards school infrastructure. The study focuses on two effects of class size: academic performance in chemistry and instructional impact of class size on students' performance in chemistry at public senior secondary schools in Sabon gari Local Government Area of Kaduna state.

In most of our secondary schools in Kaduna and Nigeria today, the teacher-student ration has gone far beyond the stipulation of the National Policy on Education. Students stay more than fifty in each class, seating arrangement are altered, thereby making teaching and learning more difficult. Educational planners in Nigeria have attributed the over bloated class size due to the explosion of population of children of school age.

Akiri and Nkechi (2009) are of the opinion that ineffectiveness of teachers in classroom interaction with the learners could be responsible for the observed poor performance of learners and the widely acclaimed fallen standard of education poor academic performance of learners can be linked to poor teachers' performance in terms of accomplishing the teaching task, negative attitude to work and poor teaching habit which have attribute to poor inactivation (Akiri & Nkechi, 2009).

However, in most schools, ineffective teaching is due to conditions such as lack of resources facilitating teaching and alarming and overcrowded classrooms (class size). That resulted in to negative influence on the instructional quality in schools, translated in to poor academic performance, attitude and values. The ways learners learn affect their academic performance.

The question therefore is does class size determine the academic performance of students in Chemistry? Is the fault entirely that of teachers or students or both of them? Or is it that students of today are non-achievers because they have low intelligent quotient and a good neutral mechanism to e babel to act purposefully, think rationally and deal effectively

with academic tasks. This problem as a phenomenon, calls for intensive investigation to know the root causes of this abysmal performance as to proffer a lasting solution to it.

Purpose of the Study

This study determines the impact of class size on students' academic performance in chemistry. The following specific objectives are the main issues of the study:

- i. to determine the impact of class size on students' academic performance in chemistry;
- ii. to find out how class size affect instructional strategies; and

Research Questions

- i. To what extent does class size affect student on academic performance in chemistry?
- ii. What is the effect of class size on instructional strategy in chemistry class room?

Literature Review

Academic achievement of students especially at the secondary school level is not only a pointer to the effectiveness of schools but a major determinant of the future of youths in particular and the nation in general. The medium through which the attainment of individuals and the nation's educational goals can be achieved is learning. Learning outcomes have become a phenomenon of interest to all and this account for the reason why scholars have been working hard to unravel factors that militate against good academic performance Nwankwo, (2019). The evident recurring failures in external examinations conducted by National Examination Council (NECO) and West African examinations Council (WAEC) and subsequent low performance of undergraduates in universities in Nigeria and West Africa in general are largely traced back to poor attitudes of the secondary school students. Various factors are suspected to be responsible for these ugly developments, one of such factors is class size.

Class size as defined by Adeyemi (2018), is an educational tool that can be described as an average number of students per class in a school, while Hoffman (2010) described it as the number of students per teacher in a class. Ogbu (2019) described it as a tool that can be used to measure performance of the education system. A lot of argument has gone on the impact of class size on performance, some fingering over-bloated class size as the main factor responsible for falling standard of education, most especially in the elementary or secondary level of education in Nigeria, however others see this as mere coincidence seeing other factors as being responsible. Effect of class size on the students' academic performance has been reported. However, it is expected that a strong relationship exists between students' attitudes and performance but the impact of class size on the former has not much been investigated hence, the purpose of this research.

Understanding if there is a relationship between the number of students in a classroom and the academic achievement of the students is vital to educators. Providing the best possible learning environment for all students while making informed decisions about how to best utilize limited funding is at the center of the class size debate (Gilman & Kiger, 2013). Stakeholders at all levels of education need empirical data regarding the

significance of the relationship between class size and academic achievement. This is especially true in rural, economically disadvantaged areas where funding is even more limited than in more affluent areas. Unfortunately, making the decision of whether or not to decrease the number of students within the classroom to increase academic achievement is one that is only confounded by the abundance of contradictory studies into the topic (Addonizio & Phelps, 2010; Biddle & Berliner, 2012; Milesi & Gamoran, 2016; Slavin, 1989). To provide a baseline understanding of the research that has been conducted regarding class size and academic achievement, historical data as well as a review of the major educational studies will follow.

Class Size and Classroom Management

Historical information about class size in this country helps educational leaders understand why the need to justify per-pupil expenditures became an issue. Previous research regarding class size focused on the relationship between class size and the instructional technique utilized by teachers within differing class sizes and provided data regarding how class size affects the instructional practices of teachers. To really understand how class size affects the instructional environment, educational leaders must also analyze the amount of time teachers have to spend on classroom management as this directly affects the amount of time teachers are able to devote to instruction.

From teacher survey and interview data, Blatchford, et al. (2017) and Cakmak (2019) found that larger classes are often cited as being harder for the teachers to maintain student discipline, resulting in the focus of the classroom environment being more on student behavior than on student academic achievement. Blatchford, Edmonds, and Martin (2013) observed that students in smaller classes (average of 19 students per class) exhibited more time being utilized for instructional purposes and less time being utilized for non-instructional purposes, such as talking to one's peers about non-academic topics, than students in larger classes (average of 32 students per class). Halbach, Ehrle, Zahorik, and Molnar (2011) found that larger classes prevented teachers from being able to provide in-depth content coverage due to the loss of instructional time occurring since the teachers were spending more time handling student behavior issues. Not only do teachers cite smaller classes as having less discipline problems than larger classes, but they also stated that the more intimate environment of smaller classes enabled them to prevent behavior management issues from developing through the personal relationships they were able to develop with their students (Egelson, Harman, & Achilles, 1996; Halback *et al.*, 2011).

Methodology

Descriptive survey design was used in this study. The descriptive survey was used because it aims at primarily describing, observing and documenting a situation as they occur rather than explaining them. The design has the advantage of producing a good amount of responses from a wide range of people and it involves extracting information from a large number of individual using the same set of questions through personal contact, electronic mails and the phones. The target population was public senior secondary school students in Sabon gari Local Government Area of Kaduna state. The instrument used in this study was questionnaire. Two hundred (200) questionnaires were distributed to students in four selected public senior secondary schools. Senior secondary two (SS2) and three (SS3) students were used for the study since they have had a year or

two respectively of learning experience in secondary school studying chemistry, they will therefore be in the position to answer the questions accordingly. The schools were purposely selected based on the students population and secondly the accessibility. The students were however selected randomly and one hundred and seventy (170) questionnaires was correctly filled and collected, thirty (30) questionnaires was either not collected or wrongly filled and thereby rendered invalid by the respondent.

The questionnaire was developed based on the concerns, issues and arguments raised in previous literatures about the topic. The questionnaire was structured into four parts with close-ended questions. Part one was centered on direct impact of class size on students' academic performance, and part two contains questions on the impact of class size on instructional strategies. The questions required the respondents to answer thus; strongly agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD) respectively. The questionnaires were administered personally. Subsequent to the data collection, the data were analyzed using frequency and percentage. Statistical Package and Service Selection (SPSS) was used to analyze the data.

Table 1: Impact Class Size on Students' Academic Performance

Questions	SA S.D	A	U	D	SD	M
Students hardly see writings on the board when seated at the back in a large class?	32((18%) 36(21%)	41(24%) 18.4	12(7%) 6.12		38(22%)	
Students have the opportunity to cheat during class exercises, test and examination in large class size?	62(36%) 24(14%)	31(18%) 24	6(4%) 13.12		36(21%)	
Students can do other things like copying notes in large class when chemistry lesson is going on without the teacher noticing?	37(22%) 44(26	24(14%) 18.8	10(5%) 9.23		46(27%)	
Smaller class sizes allow more time for teachers to help students with practical in chemistry and develop their skills which can increase student's achievement?	54(31%) 20(12%	62(36%) 18.4	10(5%) 14.12		14(8%)	
Students are very active in large class size than in small class?	2(7%) 56(33%)	31(18%) 18.2	18(10%) 10.43		40(23%)	

Decision: Significant

Table 1 presents detailed results on how class size affects the academic performance of the students in chemistry.

Table 2: Impact of Class Size on Instructional Strategies

Questions	SA M	A S.D	U	D	SD
The teaching of practical chemistry skills is neglected in large class size?	25(14%) 32(18%)	38(22%) 18.4	14(8%) 8.3		51(30%)
Teachers are likely to give more class exercise to students in smaller class size than larger class size?	65(38%) 26(15%)	44(25%) 18.6	9(5%) 13.13		18(10%)
The use of audiovisual aids in large class would make lessons more interesting?	15(8%) 62(37%)	41(24%) 17.2	9(5%) 13.22		21(12%)
The atmosphere in large class size is always teacher centered with passive students?	51(30%) 15(8%)	40(23%) 18.4	25(14%) 8.44		29(17%)

Decision: Significant

From Table 2, it could be observed that class size has some relationship with instructional strategy be it positively related or negatively related.

Discussion

The result in Table 1 shows that a good number of the students agree that there is a high possibility of cheating during examination in a large class; this was confirmed by 59 percent of the respondents. This means that the true performance of the students cannot be ascertained since poor students stand to benefit from the act of cheating. Also, 46 percent of the students indicated that they can hardly see the writings on the board in a large class. However, this figure was contradicted by 49% of them who indicate that they can clearly see writings on the board in a large class. Additionally, it can be observed that large class makes it difficult to be active in class. This was revealed from 68 percent of the students. Furthermore, 79 percent of the total respondents agreed that smaller class sizes allow more time for teachers to help students develop appropriate practical skills which can increase student's performance. This means that in large classes it would be difficult for teachers to help students to develop skills to increase their performance. The findings have largely demonstrated that large class size has negative effect on students' performance in chemistry. Surprisingly, 69 percent of the respondents disagreed that they can do other things like copying notes in large class when chemistry lesson is going on without the teacher noticing them. This may be attributed to the fear of being punished when caught and the desire to pay attention in chemistry class due to its perceived ambiguity of the subject.

There is a strong reason to conclude that large class size could negatively affect students' performance. Students are likely to lose concentration, focus and even attention from teachers. This confirms the assertion that some small class pedagogies which could include project work where students are individually monitored and provided with continuous feedback on investigative tasks are designed to develop higher order thinking skills (Altinok and Kingdon 2012; Bosworth, 2014) in Ruffin (2018). Consistent with some earlier studies, it has been established in this study that small class size provides learning experiences that facilitate increased collaboration and communication among students, provide helpful learning opportunities and foster student metacognitive skills through the development of information discovering and help-seeking behaviors, Altinok and Kingdon (2012); Bosworth (2014) in Ruffin (2018), through practical orientation and class participation. The results further confirmed the study by Azigwe et al (2016) which indicated that in a large class teacher find it difficult to teach effectively and efficiently leading to students not being able to also learn effectively since low participation in class activities were possible.

The result from Table 2 shows that teachers do not neglect the practical aspect of chemistry due to large class size. 64 percent of the students disagreed that the teaching of practical skills is neglected in large class size. This is consistent with the findings by Aturupane et al. (2013) in Ruffin (2018) which revealed that teachers are able to use teaching strategies that fit the large class size such as group work and working on projects rather than employing pedagogies like collaborative learning and the systems and structures needed for working effectively within the context of collaborative learning are embedded in the careful sequencing of activities that follow a specific design to promote learning. This means that in terms of instructional practicability and ways of teaching, class size has no significant relationship with respect to instructional strategy. The students revealed further that the use of audio-visual aids in large class size would not be appropriate and could not make lessons interesting and 66 percent of the students held this view.

The findings further showed that 75 percent of respondents held the opinion that teachers are more likely to teach with very little or no class exercise in a large class size. Regular exercise is an important instructional strategy which helps increase academic performance of students (Hattie, 2009) in Ruffin (2018). Also, 62 percent of the total respondents accepted that in large classes, the atmosphere is teacher centered with passive students. This is evidence that class size has implications on instructional strategy and students' academic performance but Stephens et al. (2014) stated that there is no guarantee that smaller classes will automatically lead to more productive works. Similar to the evidences found in this study, Amedahe (2016) noted that discussion time becomes scrappy among students in large classes and instructors may rely on passive lecturing, assign less written homework or fewer problem sets, and may not require written papers.

Conclusion

The study concludes that large class size contributes to poor academic performance, it results to poor teaching methods, instructional materials are not used properly in a large class size because, it is very hard for the teacher to show the students the instructional material especially those at the back. Also most times the teacher always get tired after walking around the class once, Classroom management is always hard, National policy on education approved 40 to 45 students per class, Merging two classes (A and B) is not

good and not be done in anyway, Supervisors are not interested in classroom size and number of students in the class, all they are after is the lesson note, inadequate learning environment and improper class size makes the students to lose concentration from the lesson.

Recommendations

The following recommendations were generated from the findings:

- i. Policy makers in Sabon Gari L.G.A should consider as a matter of priority the issue of increased funding of secondary school education in Nigeria. Increased funding will help to ameliorate problems facing academic performance in secondary schools.
- ii. School supervisors and inspectors in Sabon Gari L.G.A should concentrate more on the number of students in each class and avoid overcrowding in classes.
- iii. The class must be sizeable to encourage teacher-students interaction for effective teaching and learning.

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MOTIVATION, SELF-EFFICACY AND HIGH ACHIEVING PRIMARY SCHOOL PUPILS' ACADEMIC PERFORMANCE IN IBADAN METROPOLIS

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Abstract

This study examined motivation, self-efficacy and high achieving pupils' academic performance. A correlational survey research design, carried out at ex-post 80 high ability pupils were selected using purposive sampling techniques. The instruments used were Intrinsic and Extrinsic Motivation Scale ($\alpha = .73$) Academic Self-Efficacy Scale ($\alpha = .73$) and Pupils Academic Record (PAR). Three null hypotheses were tested at 0.05 level of significance and result obtained revealed that there is a significant relationship between pupils' self-efficacy and academic performance, hence, 0.602 at $p < 0.05$ level of significance. Also, intrinsic motivation and pupil's self-efficacy have significant relationship on the academic performance of pupils (0.225 at $p < 0.05$ level of significance). While extrinsic motivation did not correlate with pupils' academic achievement, hence, (0.021 and $p > 0.05$). Thus, on the basis of this finding the researchers offered appropriate recommendations to teachers, parents and the government.

Key Words: Intrinsic Motivation, Extrinsic Motivation, Self-Efficacy, Academic Performance

Introduction

Research on academic achievement would continue to be unabated as long as the desired outcome of learning performance remains unattainable; hence, there is need for researchers to continue to explore this frontier of knowledge. Ajayi (2017) described the poor academic performance in public examinations as a symptom of pervasive national failure that has affected every facet of our national endeavour. The crux of the matter appears to be the kind of attitude, which the pupils bring to bear on their studies. However, acquiring exquisite academic success at each level of education has always been the goal of every parent. Even the indolent ones among the pupils want to achieve success in any examination. This accounts for why they engage in all forms of examination malpractices. It is on this premise that the need to carry out further research on academic achievement is anchored.

The gifted and talented can only be found among the population of high ability pupils. The gifts and talents that some pupils possess set them apart from their regular counterpart which nurturing and care may blossom into contributions a society value. Pupils who are academically motivated perform better in school, value their schooling and possess the academic confidence and positive feelings of self-worth so necessary to increase academic achievement. A classic distinction in motivation is between intrinsic and extrinsic. Intrinsic motivation is the natural tendency to seek out and conquer challenges as well as pursue personal interests and exercise capabilities (Deci & Ryan, 2012). When we are intrinsically motivated, we do not need incentives or punishment because the activity itself is rewarded. In contrast, when we do something in order to have a grade, avoid punishment, please teachers, or for some other reasons that have very little to do

with the task itself, we experience extrinsic motivation (Woolfolk, and Bulke-Sapero 2015). We are not really interested in the activity for its own sake; we care only about what it will benefit us.

Madrid and Perez Canado (2021) perceived three components in achievement motivation. These are: (a) cognitive drive, which is task oriented in the sense that the enquirer is attempting to satisfy the need to know and understanding and the reward of discovering new knowledge resides in the carrying out of the task; (b) self-enhancement which is ego oriented or self-oriented and represents a desire for increased to prestige and status gained by doing well scholastically, and which leads to feelings of adequacy and self-esteem; and (c) a broader motive of affiliation which is a dependence on others for approval. Satisfaction comes from such approval irrespective of the cause, so the individual uses academic success simply as a means of recognition by those on whom he or she depends for assurances. Parents and later, teachers play active parts in the young child's affiliation needs.

Understanding how to motivate pupils in the classroom continues to be one of the most important unresolved issues in education. Recent studies have demonstrated that praise for academic performance can affect pupils motivation, and lead them to attribute their performance to external or internal causes. Previous research in this area of educational psychology has primarily focused on the effects of praises in controlled settings. Motivating pupils to achieve success in school is of great practical concern to teachers and parents, and of great theoretical concern to researchers. Also, it should be added that one of the greatest challenges and opportunities of the 21st Century will be for schools at all levels to focus more on assisting pupils to become motivated in order that they can succeed in school (Graham and Weiner, 2016).

X-raying the potency of self-efficacy as pointed out in the study of Stajkovic and Luthans (2019) the meta analysis indicated that self-efficacy beliefs accounted for a 28% increase in performance. Pupils who have mastered the process of new venture creation and the running of small business would likely have increased in their self-efficacy. Nicholas and Steffy (2015) also examined an alternative learning programme in a large urban school district in the Midwestern United States to determine if the specific alternative learning programme could have a positive effect on pupils' motivation, goal orientation, self-efficacy, and self-esteem. The study was based on existing research in motivational theory. Data were gathered through pre and post questionnaire administered to 32 pupils who successfully completed the programme and returned to their home school. The results offered guided support for the alternative educational programme. Pupils' motivation and self-esteem appear to be positive outcomes of the programme. However, the positive outcomes were significantly noted only for pupils who successfully completed the programme. Woolfolk, and Burke - Spero (2015) in a large scale study on the teachers' disposition to self-efficacy as a correlate of pupils' performance academically found out a significant performance difference when teachers possessed sense of efficacy rows from real success with pupils.

Norwich (2021) reported a study of 70 primary school female pupils in Mathematics classes over a period of 7 weeks and found that self-efficacy was the best predictor of learning intentions. O'Brien (2021) remarked that 282 (59.7%) female pupils who were attached to their mothers selected careers consistent with their abilities and felt highly efficacious about their career choice while Okolo and Andi (2021) offered

recommendations for enhancing the achievement motivation of elementary pupils with mild disabilities which addresses five areas: learner control, reward, pupils interest, classroom structure, and self-efficacy and attributions.

Pajares and Johnson (2014) had investigated four pupils' perception of the evolution of their efficacy beliefs about writing and of the relationship between these beliefs are strongly predictive of academic performance. Although they tested 'influence of writing, self-efficacy, writing apprehension and writing aptitude on 181 ninth grade pupils. Aptitude and self-efficacy had direct effects on performance. Girls and boys did not differ in aptitude or performance but girls reported lower writing self-efficacy. Native English speaking Hispanic pupils had lower aptitude performance scores, lower self-efficacy and higher apprehension.

Yamauchi and Greene (2020) reported that social cognitive theory suggests that individual's beliefs about their efficacy in specific contexts, such as school, influence their motivation in those settings. The relationship between various socio-cultural factors and the development of pupils' perceived academic self-efficacy are investigated. Participants were 202, drawn from grades 3 and 4 at a rural primary school in an Island Community they completed several measures of self-efficacy. The pupils' responses were compared to those of mainland pupils and analysis suggested that the Island pupils reported lower perceived self-efficacy for academic achievement in all academic domains except Basic Science. This exception could be explained by the fact that the pupils' rural Island lifestyle made them more familiar and thus more comfortable with plants and animals. Results indicated that being male and being a native Islander was associated with lower self-efficacy for self-regulated learning. It is suggested that the socio-regulated context provides different information to native boys and girls regarding their performances at home and at school (Ogundokun, 2016).

A plethora of research findings indicated that self-efficacy correlates with achievement outcomes (Bandura, 2007; Schunk, 2015). Self- efficacy also correlates with indexes of self-regulation, especially use of effective learning strategies. Self-efficacy, self-regulation and cognitive strategy use are positively intercorrelated and predict achievement (Pintrich and De Groot, 2020). Pupils with high self-efficacy for successful problem solving display greater performance monitoring and persist longer than do pupils with lower self-efficacy (Bouffard-Bouchard, Parent and Larivee, 2022). Writing self-efficacy correlates positively with pupils' goals for course achievement, creative product, satisfaction with potential grades and actual achievement (Zimmerman and Bandura, 2014).

The predictive activity of self-efficacy has also been tested using causal models. Schunk (2015) employed path analysis to reproduce the correlation matrix comprising long-division instructional treatment, self-efficacy, persistence and achievement. The most parsimonious model showed a direct effect of treatment on achievement and an indirect effect of self-efficacy on achievement and persistence. Mathematics self-efficacy has been found to be a better predictor of Mathematics performance than Mathematics self-concept, Mathematics anxiety, perceived usefulness of Mathematics, or prior experience and it is as powerful a direct effect on Mathematics performance as does mental ability, a variable often presumed to be the strongest predictor of academic achievement (Pajares and Miller, 2015). Self-efficacy affects achievement directly and indirectly through its influence on goals (Zimmerman and Bandura, 2014).

Instructional variables affect self-efficacy in part through the intervening influence of attributions. Schunk and Gunn (2016) examined the effects on changes in children's division achievement due to use of strategies, attributions, and self-efficacy. Achievement was influenced by use of effective strategies and by self-efficacy. The strongest influences on self-efficacy were ability attributions for success. Research in diverse settings has explored the effects of instructional and other classroom processes on self-efficacy. Processes beneficial for developing self-efficacy include proximal and specific learning goals, strategy instruction and verbalization, social models, performance and attritional feedback, and performance-contingent rewards (Schunk, 2015). These processes inform pupils of their capabilities and progress in learning and this information motivates pupils to continue to perform well.

Leper, Corpus and Iyengar (2015) were of the opinion that extrinsic rewards sometimes can negate the effects of intrinsic motivation. Going by this assertion, extrinsic motivation is seen as a powerful. Influence at determining self-efficiency of high achieving pupils academic performance as opposed to intrinsic motivation.

Ogunniyi (2016) equally explained that school related factors that influence academic performance include the adequacy or inadequacy of the following: physical environment, personnel and learning facilities, workshop and quality of teaching. Other factors are number of the pupils in a classroom, laboratories, instructional materials and library facilities.

Although, many factors contribute to the academic performance of pupils, the role of the parents has consistently been shown to be a factor of great importance, and the environment in which the learner acquires knowledge should be reinforcing and learner friendly. It was also reported that several factors including: teaching method, interpersonal relationships among the school personnel, nature of curriculum and the school topography could influence the academic performance of the learners either positively or negatively depending on the adequacy or inadequacy of such factors, (Ogundokun, 2016).

High achievement is a virtue everyone loves to acquire. However, very few pupils have the ability to perform at the higher level of the echelon. All things being equal, all the efforts being made by the parents, government, school administrators, researchers, teachers and government agencies to ensure high academic performance are yet to yield appreciable result. Thus, the fact that few pupils are academically successful in most public examinations while many of them fail therein makes it highly imperative to study these factors; self-efficacy and motivation as predictors of academic achievement of high achieving pupils.

Certain factors like the individual learning styles, mental ability, psychological factors like self-efficacy and motivation play significant role in the academic performance of pupils. If such factors are identified in individual learners and accordingly facilitated to enhance their performance, the better for such pupils as this will bring about higher academic performance. Hence, this study investigated motivation and self-efficacy and high achieving pupils' academic performance.

Purpose of the Study

Based on the above stated problem, the purpose of the study is:

1. To examine the relationship between academic self-efficacy and academic performance of high achieving pupils
2. To determine the relationship between intrinsic motivation and academic performance of high achieving pupils.
3. To investigate the relationship between extrinsic motivation and academic performance of high achieving pupils.

Hypotheses

- i. There is no significant relationship between self-efficacy and academic performance of the high achieving pupils. .
- ii. There is no significant relationship between the intrinsic motivation and academic performance of the high achieving pupils.
- iii. There is no significant relationship between the extrinsic motivation and academic performance of the high achieving pupils.

Methodology

The study adopted a correlational survey research design using the ex-post facto type. This is because variables to be investigated have already manifested, they could not be subjected to any control or manipulation. The relationship among the variables was examined as they manifested themselves in the field. A total of eighty high academic ability pupils participated in this study from across four public primary schools. The participants were picked from the following schools: Methodist Primary School, Elekuro, Ibadan (20 participants), Public Day School, Orita-Aperin, Ibadan (20 participants), Christ School, Mapo III, Ibadan (20 participants), and Wesley College Practising School, Elekuro, Ibadan (20 participants). The sampling technique that was employed for this study was purposive sampling. The reasons for the choice of this sampling technique were: reduction in sampling costs and the ease of field administration.

The instruments used in carrying out this study included the following:

1. Intrinsic and Extrinsic Motivation Scale - (IEMS)
2. Academic Self-Efficacy Scale (ASES)
3. Pupils Academic Record

Intrinsic and Extrinsic Motivation Scale (IEMS):

Intrinsic and Extrinsic Motivation Scale (IEMS) is an instrument developed by Leper, Corpus and Lyengar (2015) and was adapted for the study to assess continuum of self-regulatory tendencies ranging from external to intrinsic, but also focuses exclusively on autonomy which captures the dimension of extrinsic motivation.

The scale consists of two sections. The first section deals with the items and factor loadings for intrinsic motivation scale with seventeen (17) items which are sub-divided into three. They are challenge, curiosity and independent mastery.

The second section consists of items and factor loadings for extrinsic motivation scale with fourteen items which are also divided into sub-group; easy work, pleasing teacher and dependence on teacher. The test is placed on four point Likert Scale of Strongly Disagree (1); Disagree (2), Agree (3) and Strongly Agree (4).

The reported reliability index for the intrinsic motivation was internally consistent at .90 while that of extrinsic motivation was found to be .77. The instrument reliability was established using Cronbach's Alpha method to arrive at .73.

Academic Self-Efficacy Scale (ASES):

The self-efficacy of the participants were measured by the adapted self- efficacy scale by Jinks and Morgan (1999). The original version is made up of 34 items, out of which 20 items were adapted by the researcher to which the respondents are to indicate the extent of their agreement or otherwise to the scale. The scale is placed on five points Likert type rating scale of Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), Strongly Disagree (1). The individual's rating for the 20 items formed a single self-efficacy score. The reported reliability and validity estimate found by the original author was found to be .82. The Cronbach method was employed to determine the reliability index of this instrument for this particular study was .73.

Pupils' Academic Record:

Results of participating pupils from Primary 4 to Primary 6 on eight subjects were collected from the sampled schools. The researcher thereafter found the mean score for each of the participants.

Results

Hypothesis One: There is no significant relationship between pupils self-efficacy and academic performance among high achieving school pupils.

Table 1: Relationship between pupils' self-efficacy and academic performance

Variables	MEAN	SD	r	P.Value	Decision
Academic performance	3.49	1.17	0.602	0.00	Ho Rejected
Pupils Self-Efficacy	61.65	13.29			

Table 1 reveals that the calculated value of Pearson product moment correlation ($r=.602$ at $p=0.00$). This is significant at $p < 0.05$ level of significance. Thus, hypothesis one is rejected. This indicates that there is a significant relationship between pupils' self-efficacy and academic performance.

Hypothesis Two: There is no significant relationship between pupils' intrinsic motivation and academic performance among high achieving school pupils.

Table 2: Relationship between pupils' intrinsic motivation and academic performance

Variables	MEAN	SD	r	P.Value	Decision
Academic performance	3.49	1.17	0.225	0.00	Ho Rejected
Intrinsic Motivation	54.74	6.59			

In Table 2, the calculated Pearson product moment correlation value ($r = .225$ at $p = 0.000$). This is significant at $p < 0.05$ level of significance. Therefore hypothesis two is rejected. Thus, there is a significant relationship between pupils' intrinsic motivation and academic performance.

Hypothesis Three: There is no significant relationship between pupils extrinsic motivation and academic performance among high achieving primary school pupils.

Table 3: Relationship between Extrinsic Motivation and Academic Performance

Variables	MEAN	SD	r	P.Value	Decision
Academic performance	3.49	1.17	0.221	0.08	Ho Accepted
Extrinsic Motivation	59.375	5.76			

Table 3 shows that the calculated value of Pearson product moment correlation between extrinsic motivation and academic performance among high achieving primary school pupils. It was revealed that the correlation value of 0.221 is significant at $P > 0.05$ level. The null hypothesis is therefore accepted.

Discussion of Findings

The first hypothesis states that there is no significant relationship between pupils' self-efficacy and academic performance among high achieving primary school pupils. The hypothesis was tested and analysed, the result shows that there is a significant relationship between pupils self-efficacy and academic performance as can be seen in Table 1 where the calculated value of Pearson product moment correlation is 0.602 at $p < 0.05$ level of significance. The result is in consonance with the findings of Stajkovic and Luthans (2019) where it was discovered that higher level of self-efficacy is related to higher level of performance in schools.

Also, Norwich (2021) reported a study on Mathematics class and found that self-efficacy was the best predictor of learning intentions. However, Pajares and Johnson (2014) in their findings, negated the present finding discovered a relationship between socio-cultural factors and the development of pupils perceived academic self-efficacy.

The result is in line with the findings of Woolfolk and Burke-Spero (2015) on Teachers' sense of efficacy. The study shows that teachers' sense of efficacy rows from real success with pupils. The teacher's belief that he or she can reach even difficult pupils to help them learn, appears to be one of the few personal characteristics of teachers that correlated with pupils achievement. In the same vein, when pupils are succeeding, they will work harder to achieve more.

The second hypothesis states that there is no significant relationship between pupils intrinsic motivation and academic performance of high achieving primary school pupils. The null hypothesis was rejected as an indication that there is a significant relationship between pupils intrinsic motivation and academic performance. This is in line with Madrid and Perez Conado (2021) research on school learning, as they perceived at least three components in achievement motivation. These are: (a) cognitive drive, which is task oriented in the sense that the enquirer is attempting to satisfy the need to know and understanding and the reward of discovering new knowledge resides in the carrying out of the task; (b) self-enhancement which is ego oriented or self-oriented and represents a desire for increased to prestige and status gained by doing well scholastically, and which leads to feelings of adequacy and self-esteem; and (c) a broader motive of affiliation which is a dependence on others for approval. Satisfaction comes from such approval irrespective of the cause, so the individual uses academic success simply as a means of recognition by those on whom he or she depends for assurances. Parents and later, teachers play active parts in the young child's affiliation needs.

The third hypothesis which states that there is no significant relationship between pupils extrinsic motivation and academic performance of high achieving pupils, the result of the analysis shows that the null hypothesis is accepted. This indicates that there is no significant relationship between pupils extrinsic motivation and academic performance. This is in line with the report of the research by Leper, Corpus and Iyengar, (2015). They suggested that extrinsic rewards can sometimes negate the effects of intrinsic motivation. They refer to this as over justification. If a child is working well at something intrinsically interesting and receives rewards for good performance, there is a possibility that the child will begin to attach more significance to the reward than to satisfying the intrinsic interest.

Deci and Ryan (2012) also pursued the question of teacher praise and found that it does not always work positively, particularly if it is not immediate. He concludes from the research that praise does not correlate highly with achievements and in some circumstances may have a negative correlation.

In summary, it was discovered that in the three hypotheses tested, academic self-efficacy and pupil's intrinsic motivation correlate highly with academic performance, while extrinsic motivation was found to have negative effects on academic performance of the pupils

Conclusion

It was observed that teachers are happy and feel satisfied when their pupils perform well in their academic. Parents also want to see their wards coming home with good results after their terminal examinations. This makes it imperative for both parents and teachers to work harmoniously on what they can do to support their children.

In the light of the above the study has been able to establish that high achieving pupils also need support from both parent and teachers alike, and that, motivation is generally considered desirable for pupils. Although intrinsic motivation is much more beneficial, notwithstanding, parents and teachers are advised to employ extrinsic motivation with caution.

This study was able to establish that high achieving pupils with a strong sense of self-efficacy are more likely to challenge themselves with difficult tasks and be intrinsically motivated as they put forth a high degree of efforts in order to meet their goals and objectives. Hence, academic self-efficacy is found to be a strong predictor of academic success with treatment packages i.e. intrinsic motivation and extrinsic motivation.

Recommendations

1. Parents and teachers have a major stake in discovering, encouraging and advertising each child's capabilities for the enhancement of self-esteem and self-actualization. For example, there is justification in believing that hungry or frightening children are less likely to fulfill the requirement of the school than well-fed and secure children.
2. Parents should show affection at home while teachers should equally show affection at school.
3. Parents should ensure that their children are well fed at home before going to the school.
4. Parents should maintain emotionally well balanced home backgrounds for their children.
5. Teacher and school should do much in identifying any source of difficulty being encountered by high achieving pupils and where possible, seek for remediation of these deprivations.
6. Teachers should also be able to give the learner believable reasons for the need to succeed, and encourage positive attitudes to learning.

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EFFECTS OF GAMIFICATION ON STUDENTS' LEARNING: A SYSTEMATIC MAPPING STUDY

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Abstract

The purpose of this study was to review the directions and tendencies of the conducted research on the application of gamification in education, and more specifically, to provide insight and understanding on which game elements are mostly used, results generated, predominance context, region, and research approach. A total of 43 articles were filtered from three databases: Scopus, Science Direct, and Jstor. Mapped results show that badges, points, levels, and leaderboards are the predominant game mechanics employed by researchers. In addition, the most used game dynamics in educational context are visual status, social engagement, rapid feedback, freedom to choose, and freedom to fail. Further result shows that Information Technology (IT), Engineering and Education were the predominant context in which gamification research is applied. South-East Asia was found to have received many gamification studies. The most used research approach is quantitative study, involving experiments and surveys. Results were generally mixed, but most results were positive, suggesting that gamification improves learning. From these reviews, a number of gaps were found. It is still not clear which game elements are responsible for the positive impact of gamification. Thus, research is needed to compare the impact of various game elements. The review recommends among other things, that game elements should be integrated into the school curriculum as an alternative to learning different topics, there is also the need to conduct more studies on gamification in different settings to come up with more findings.

Keywords: Gamification, Learning, Systematic Mapping

Introduction

Over the last decades, there has been a rapid growth in technological development and innovation (Mitchell, Schuster & Jin, 2020), with the education sector capitalizing on this growth to integrate new teaching methods such as virtual collaboration, application of mobile learning, and other technology enhanced learning (Bai, Hew & Huang, 2020). A growing influx of research has explored the significance of these alternative classroom processes on students' learning outcomes. Despite the practical benefits of these alternative classroom processes, unfortunately, restructuring classrooms to cater for students' learning needs are always difficult due to logistical issues and limited resources (Sanchez, Langer & Kaur, 2020). Educators are therefore in continual search of possible alternatives that are cost-effective and can improve learning. Gamification has been considered by many authors as one the alternatives that are a cost-effective and efficient tool for improving learning outcomes (Mitchell *et al.*, 2020).

Gamification is defined as the use of game elements in non-game contexts for the purpose of improving learning outcomes (Deterding, Khaled, Nacke & Dixon, 2011). It also refers to game design principles and methods, services, organizations, and activities to create the same experiences and motivations as those experienced in serious games, in

addition to the attainment of educational goals (Mekler *et al.*, 2017). The experience afforded by serious games or game-based learning such as sense of enjoyment, flow, autonomy, mastery, and accomplishment are considered to be induced by games and gameplay (Diaz-Ramirez, 2020). These experiences focused on supporting and motivating game users towards behaviour targeted by gamified systems, including healthy behavior and exercise, increase participation in learning, and positive attitude towards learning.

Studies have shown the difference between gamification and other game categories such as serious games and game-based learning. While gamification focused on the application of game elements in a non-game context, serious games or game-based learning focused on full-fledged games for educational purposes. The overall practical difference is that game-based learning and serious games are designed to fit into the confines of the game, whereas gamification involved game elements that are designed to fit the game on the learning content (Zainuddin, 2018). On an overarching level, gamification is comprised of three main elements: mechanics, dynamics, and aesthetics (Zichermann & Cunningham, 2011). These elements are the driving forces of all potential benefits of gamification toward learning.

Game mechanics clarifies the procedures by which games convert specific inputs into output. Dynamics provides and guides the interaction between the players and the games. Aesthetics refers to the interaction between mechanics and dynamics and the game designer's artistry to produce emotional and cultural outcomes (Dicheva *et al.*, 2015). Although these elements have their specific sub-elements, a survey of extant literature revealed that there is no general agreement on the classification of game design elements (Dicheva *et al.*, 2015). For example, the popular game element "badges" was categorized as a game interface design pattern by Deterding *et al.* (2011), as a game mechanic by Zichermann and Cunningham (2011) and Dicheva *et al.* (2015), as game design by Yildirim (2017), and as game dynamic by Iosup and Epema (2014).

The term "gamification" is quite recent (Dicheva *et al.*, 2015) and it is an emerging and ever-expanding concept since its first use in 2008 (Deterding *et al.*, 2011). However, its components have been in use over the last decades. For example, badges and ranks have been in use in the military; in the early Soviet era as an alternative for monetary incentives for high-performing personnel. Because of its potential to shape user behaviour in a desirable direction, recently, the term has attracted widespread adoption in business, marketing, corporate management, and wellness, and ecology projects (Dicheva *et al.*, 2015). For example, programs such as Foursquare and Nike+ have been successfully used to gamify mass-market products. In addition, the popular website stackoverflow.com provides an environment where users' reputations increase based on the number of answers to questions and the number of votes they receive for their answers. Furthermore, educational websites such as codeacademy.com and khanacademy.org employ game elements for user engagement. In a business environment, websites such as eBay and Fitocracy employ gamification to improve user engagement and participation, and to encourage competition among users.

A wealth of evidence has shown increased acceptance of gamification as an effective learning strategy employed in the creation of highly engaging learning experiences. This evidence reported high success of digital games in education and have sought to validate the potential effects of gamification in improving motivation, engagement and academic

achievement while providing students with the opportunities to be immersed in experiential learning (Hung, 2018; Huang, Hew & Lo, 2019). In recent years, there is increasing widespread of interest created by gamification among academicians and researchers, prompting them to explore the instructional effects of gamified elements.

However, despite the increasing development of technology and its significant impact on teaching and learning, supporting and maintaining learners' engagement in a gamified learning environment remain high challenging tasks (Iosup & Epema, 2014). Moreover, with gamification considered to be a relatively new concept in educational processes, it is anticipated that potential problems that may arise be addressed to develop a more understanding of its nature and process (Zainuddin, Chu, Shujahat & Perera, 2020).

The educational impact of gamification has been explained by a number of theories, including self-determination, goal setting, and flow theory. However, more recently, Landers and Landers (2015) proposed a comprehensive framework that conceptualizes the relationship between gamification and learning. This theory consists of four components instructional content; behaviours and attitudes; game characteristics; and learning outcomes. First, the theory proposed that learners' behaviour as well as their learning outcomes is directly influenced by instructional content. Effective instructional content is an essential component of successful gamification. Second, the theory hypothesized learning outcomes that are influenced by behaviours and attitudes. This can happen either directly or by affecting the relationship between the instructional content and the learning outcomes. Third, game characteristics are expected to directly affect behaviours and attitudes. Importantly, no direct influence of game characteristics on learning outcomes is hypothesized. Gamification affects learning only through an intermediary behaviour or attitude (Landers & Landers, 2015). Therefore, introducing game design elements to increase learning can only be effective if the behaviours they elicit are conducive to learning.

The theory of gamified learning proposes two ways that gamification can influence learning via behaviours and attitudes. Based on their precise nature, behaviours and attitudes can either *moderate* or *mediate* the relationship between instructional content and learning outcomes (Landers & Landers, 2015). In the case of a mediating effect, behaviours directly affect learning outcomes, and therefore, constitute an important part of the causal construct. An example would be the use of gamification to scaffold students' learning process performance, which then in turn can affect learning outcomes. This mediation is supposed to be the primary mechanism of gamification affecting learning outcomes (Hamari, Koivisto & Sarsa, 2014).

Studies on gamification found predominantly positive effects in terms of cognitive and behavioural outcomes. For example, findings of some longitudinal studies conducted by Putz, Hofbauer and Treiblmaier (2020) highlight the potential of gamification to increase students' motivation and engagement, as well as improving their performance. Another recent study showed that gamification can be used in combination of social media to enhance the creation of a community of practice and to increase learning activities (Grangeia *et al.*, 2019). However, Hanus and Fox (2015) highlight that extrinsic motivators such as rewards, badges, and leaderboards should be carefully selected and adapted to the needs of learners in order to avoid entertainment effect.

Although it is widely accepted that gamification impacts learning, debate on how exactly this is achieved remains unanswered (Hamari *et al.*, 2014). One of the major criticisms of

gamification studies largely focus on whether gamification can modify behaviour. This research gap has provided insufficient explanations on whether the impact of gamification can always be positive or negative and whether its efficacy in new context can be achieved (Sailer *et al.*, 2017). Understanding the mechanisms that underpin gamification's impact on behaviour has thus been the focus of recent gamification research (Mavletova, 2015). Some researchers espouse the view that, similar to the motivational pull of video games, gamification appeals to users as it provides greater flow, balancing challenges to create focused engagement (Hamari *et al.*, 2014). Others have suggested gamification leverages the appeal of escapism, making behaviours or tasks different and novel.

However, since in practice, most gamification applications are not fully fledged games, but rather elements of games such as points, leaderboards, and badges, the most widely accepted explanation for the behavioural impact of gamification is that it can create intrinsically motivating game-like experiences (Hamari, 2017). This view is based on the concept of motivational affordance, or the properties of an object that determine whether and how it can support motivational needs. In a gamification context, this is best understood as the application of identified sources of video games' motivational affordance (game design elements such as point scoring) to increase the motivational pull of the target behaviour (Deterding *et al.*, 2011).

Using games in education has a variety of benefits, and several game design mechanics demonstrated success in educational environments (de-Marcos, Domínguez, Saenz-de-Navarrete, & Page, 2014). Games typically allow the player to restart or play again, making mistakes recoverable. This freedom to fail allows students to experiment without fear and increases student engagement (Lee & Hammer, 2011). Although educational settings provide feedback to students, it is often constrained: In class, teachers can often only evaluate and provide feedback to one student at a time, and feedback via grading takes time. Thus, incorporating the immediate and frequent feedback found in game design may be even more beneficial (Kapp, 2012). Additionally, teachers typically present information to their classes in categories that scale by difficulty, a process known as scaffolded instruction, but it can be difficult to accommodate each individual student's needs. Games tailor difficulty progression on an individual basis, keeping players at a particular level until they have demonstrated the requisite mastery to move on (Beed, Hawkins, & Roller, 1991). Creating a narrative context around a task has been shown to increase student motivation and engagement. In addition, other elements of game design commonly applied to gamification might be helpful: leaderboards encourage engagement through competition, and badges offer a visual display of progress (Kapp, 2012).

Despite considerable speculation about the benefits of gamification, empirical research on the effectiveness of gamification is limited. Results from the few empirical studies on various elements of gamification conducted in educational settings are mixed. One study found that students who were given feedback on their course progress in the form of a competitive game enjoyed the experience more, learned more, and had lower rates of failure than in previous classes (Charles, Charles, McNeill, Bustard, & Black, 2011). Another study reported higher student interest and engagement after gamifying an entrepreneurship course using leaderboards, competition, and serious games to teach course concepts (Bellotti *et al.*, 2013).

Dominguez *et al.* (2013) gamified an e-learning platform by applying competition, trophies, rewards, and leaderboards and found that students in the gamified class scored

higher overall and were more motivated but tended to participate less in class activities and performed worse on writing assignments. De-Marcos et al. (2014) used a gamification system that gave students rewards, encouraged earned trophies, and used a leaderboard to encourage competition. They compared this and a traditional platform with a social networking learning platform where students could comment, blog, and interact with each other. The authors found that students in both gamification and social networking groups outperformed the control group on the skill assignments, though the control group did better on the final written examination designed to assess course knowledge. Additionally, students tended to have very low participation rates with the gamified (24%) and social networking platforms (38%).

These findings are similar to those that study gamification in non-education contexts. One recent study of over 3000 users found that those that viewed their own badges more frequently positively predicted increased page views, comments, trades, and transactions on an e-commerce website. This increased engagement only occurred among users who were actually interested in the badge system, however. In other words, creating a gamified system alone was insufficient to cause an increase in these behavioural measures; rather, it depended on individual users' interest levels (Hamari, 2013). In another study, Hamari, Koivisto and Sarsa (2014) conducted a comprehensive review of empirical studies of gamification across different contexts (e.g., education, consumer science), but were only able to identify 24 studies. Of those studies, only two reported entirely positive effects. The majority of studies found some positive aspects of gamification, such as increased engagement and enjoyment, but these outcomes are often dependent on the context of the gamified system (e.g., marketing, educational) and the characteristics of the player. Additional work has shown that the appeal of a gamified system might be due to a novelty effect, and that positive effects such as engagement and interest decrease over time.

While several empirical studies have reported positive effects of gamified classroom strategy, it is still not clear why learning is improved from students' perspective because of paucity of research evidence on students' perspectives regarding the effect of gamification in a classroom setting. Furthermore, in several studies employing gamified strategy, it is still unclear which game elements positively affect students' learning, which game elements are widely in use in gamification research, and discipline received most gamification research. A more focused study is required to investigate which elements of gamification are most effective to help practitioners make the most of its application. This review therefore mapped findings of different studies that investigated the impact of gamification on students' learning.

The research questions behind this study were:

- i. what game elements have been predominantly applied in gamifying educational systems?
- ii. What educational context predominantly received research on gamification?
- iii. Which region is research on gamification predominantly conducted? and
- iv. What results were derived from these studies?

Methodology

The study employed a systematic mapping design. Systematic mapping studies are similar to systematic reviews, except that the former employs broader inclusion criteria and intend to map out topics rather than synthesize results (Decheva et al., 2015). A systematic mapping study provides a categorical structure for classifying published research reports and results. This study covers existing work in the field of gamification in education, including articles and conferences published and indexed in three high impact databases from 2015 to 2019. This recency was informed by high influx of published articles within the selected period (Dicheva *et al.*, 2015).

Inclusion, search and screening

A number of gamification research have been conducted in an educational context, with the inclusion of variables such as motivation, attitude, participation and performance (Grangeia *et al.*, 2019; Hamari *et al.*, 2014; Hanus & Fox, 2015; Koivisto & Hamari, 2019). Therefore, it would be natural to consider them as the central and fundamental concepts of gamification research. Thus, gamification studies that involved these educational variables were included as the central focus of this paper within the selected period. The researcher searched three scientific databases: Scopus, Science Direct and Jstor. Three keywords were used for the search: “gamification”, “gamify”, “gameful”. After searching and removal of duplicates, a total of 1066 articles were obtained according to the databases: Scopus (517), Science Direct (311), and Jstor (238). Based on abstract, 719 articles were removed. These studies were generally considered not related to education. This screening was followed by second round of filtering in which, based on full text, articles that are not related to application of gamification in learning, and those that are related to full-fledged games were removed. The resulting set contained 43 articles that presented empirical studies to be analyzed and classified (see Appendix I).

Categorization criteria

In order to address the above research questions, the researcher conducted a concept-centric review focusing on categories. This review provided the researcher with information concerning the classification along the following dimensions:

- Game elements (mechanics and dynamics)
- Context (IT & Engineering, Pure and Applied Science, education, Arts & Social Sciences)
- Region (Africa, America, Asia, Europe)
- Results (positive, negative, mixed)

Mapping study results

Game mechanics

Figure 1 presents the number of articles that employed the use of different game mechanics. From the figure, it can be observed that the most popular game mechanism are points, badges, levels and leaderboards.

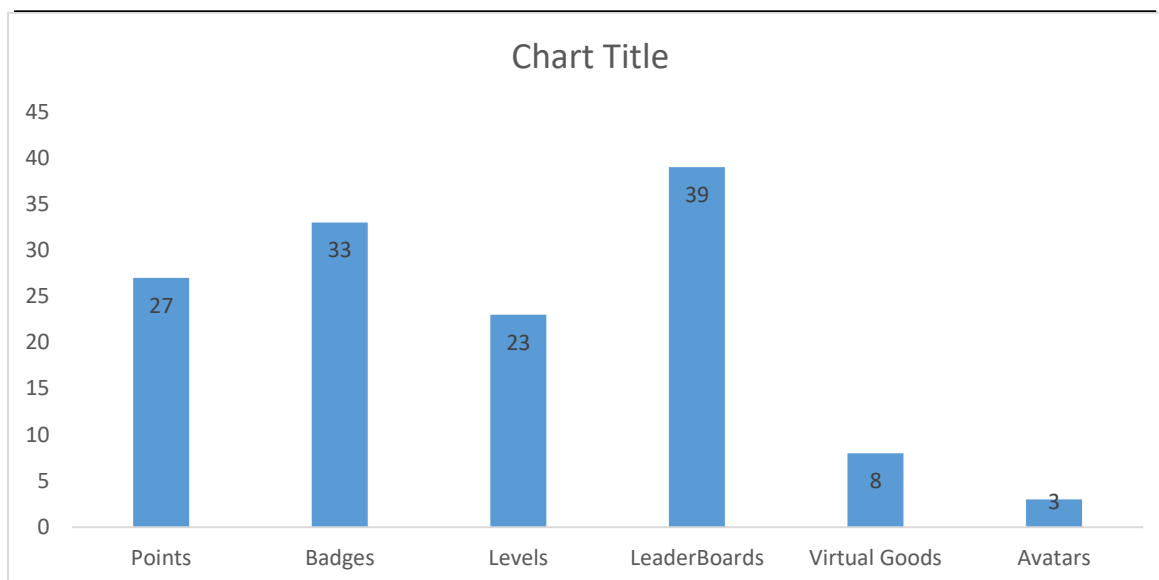


Fig.1: Mapped game mechanics. Source: Researchers'-generated chart

Regarding the use of badges, they are used for different purposes, including increasing challenge and performance, trigger competitive motivation and participation, and improve time management (Koivisto & Hamari, 2019; Zainuddin, 2018). With regards to leaderboards, they are used in most recent studies to boost engagement and learning and improve productivity. In its simplest term, a leaderboard is a high score listing that indicate who performs best in a certain activity. Thus, ranking players according to their relative success is the major function of leaderboard, hence its importance in boosting engagement. With regards to levels, some of the reviewed studies considered three types of levels: game levels, playing levels, and player levels (Grangeia *et al.*, 2019; Zainuddin *et al.*, 2020). In their study Goehle (2013) recommends the use of levels so that learning can proceed from simple to complex. In most studies that employed 'virtual goods', they were significant in buying more time and lifeline to enable the player to remain in the game. Dicheva *et al.* (2015) posit that the use of virtual goods can be helpful in increasing students' motivation during the gameplay, and thus foster active engagement.

Game dynamics

As can be observed in figure 2, the most used game dynamics in an educational context are visual status, social engagement, rapid feedback, freedom to choose, and freedom to fail. Articles that employed the dynamics of personalization, time restriction and unlocking contents are rare. Dicheva *et al.* (2015), considered these to be the fundamental principles of instruction and educational applications based on the target of lifelong learning.

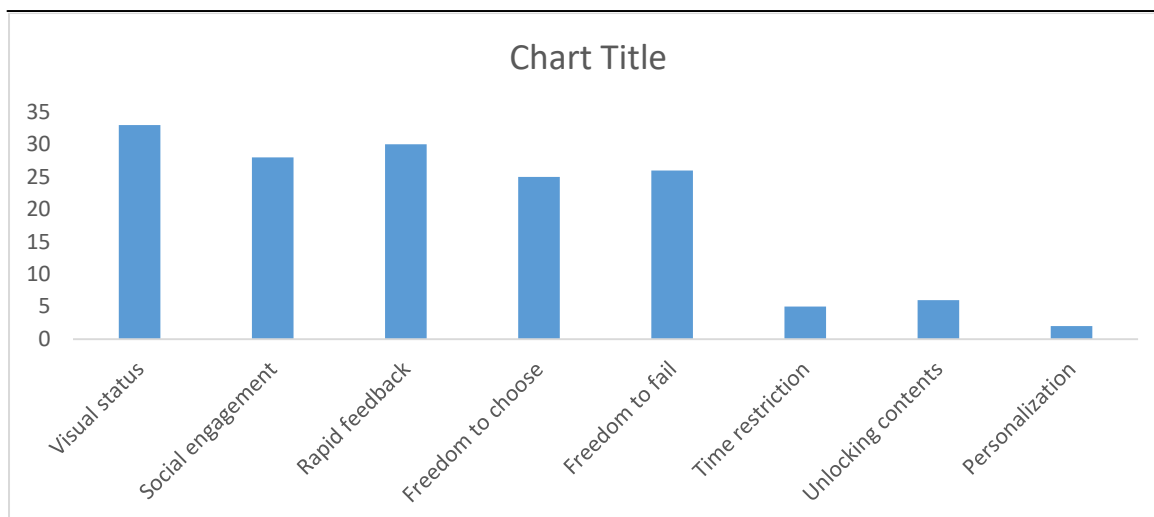


Fig. 2: Mapped game dynamics. Source: Researchers'-generated chart

Hence, advancements related to these rarely used dynamics would not be considered a result of gamifying educational context. Visual status is mostly used for displaying the status of players, such as experts, masters, beginners, etc. This enhances competition among students as they strive to achieve a given status. Rapid feedback is used for giving immediate feedback to students based on the correctness of answered questions. Studies have shown that immediate feedback is one of the fundamental components of educational assessment (Yusuf & Mwebesa, 2016). Students are likely to improve their scores in gameplay through immediate feedback.

The dynamic of “freedom to choose” has been applied differently in the reviewed studies, including the possibility for students to choose what type of challenges to complete and what level to begin with based on their level of expertise (Zamora-Polo, 2019). The dynamic of freedom to fail” presumes no penalties on poor performance and typically includes allowing students to replay a game level as many times as possible. Although this dynamic is one of the most controversial dynamics in a typical conventional classroom (Dicheva *et al.*, 2015), giving students the freedom to revise a particular concept is the central tenet of mastery learning which entails the repetition of concept until some level of mastery is achieved. However, a number of studies have criticized such an approach, arguing that it cannot be applied in competitive educational assessment, as repetition cannot guarantee competition and expertise.

Social engagement is applied by many studies as individual or team competition (Sprint & Fox, 2020; Su & Cheng; Yildirim, 2017). Several studies have argued that taking part in a group learning enhances team spirit and sharing of ideas, which in turn improves motivation, participation and performance. However, other studies recognized individualized instruction as the best to strategy to differentiate instruction by learners' learning style, learning impairments and personality profile (Yusuf, Bello, Faruk & Mani, 2019).

It should be noted that both game mechanics and dynamics are not mutually exclusive as most studies employ more than one game dynamic and mechanics.

Context

From figure 3 below, the educational context in which gamification studies were predominantly applied is 'Education' (Landers & Landers, 2015), followed by IT and Engineering (Çakıroglu *et al.*, 2017). However, social sciences received limited study. This is contrary with previous mapping review which revealed that computer science and IT received more gamification studies between 2010 and 2014 (Dicheva *et al.*, 2015). By implication, it suggests that while trend in gamification study has relatively changed, disciplines such as arts and social sciences are yet to be taken into consideration.

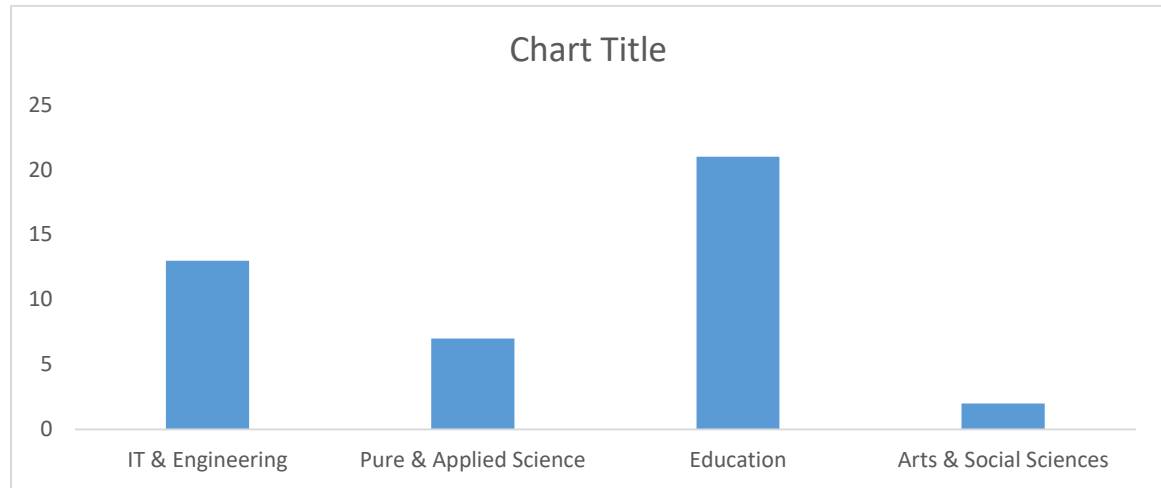


Fig. 3: Mapping study by context. Source: Researchers'-generated chart

Region

As presented in figure 4, most of the reviewed studies are from Asia region, particularly from South-East Asia, including Malaysia, China, Singapore, and India (Huang, 2018; Yildirim, 2017; Zainuddin, 2018). Studies in Africa, particularly Sub-Saharan Africa region, is scarce.

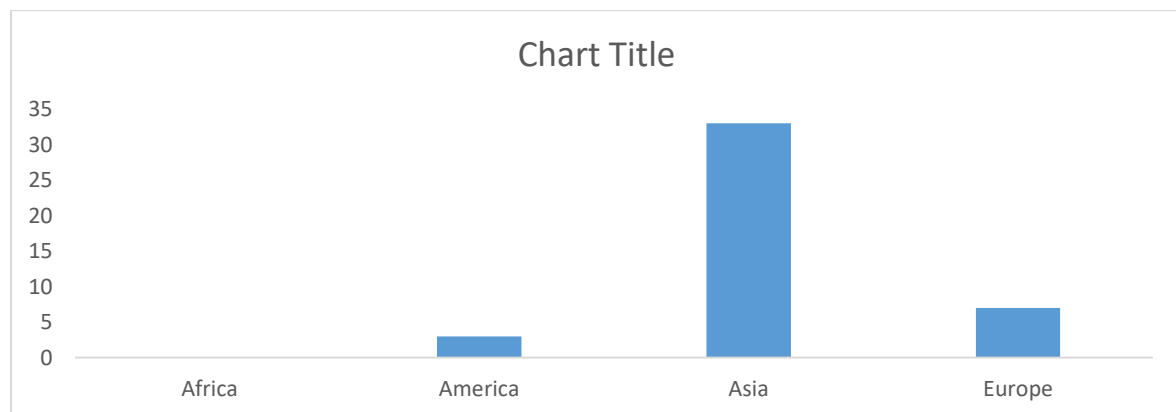


Fig. 5: Mapping study by region. Source: Researchers'-generated chart

Research approach

Across the reviewed articles, the dominant research approach used is quantitative method, including experiment and survey (Dias, 2017; Hamari, 2017). This is followed by mixed method, involving quantitative and qualitative components. However, this is limited. No study employed only qualitative approach. While experimental procedures tend to find the actual impact of gamification on learning, qualitative approach is needed to explain causality and relationships. Thus, students would be able to explain the potential impacts of gamification in a subjective manner.



Fig. 6: Mapping study by research approach. Source: Researchers'-generated chart

Result

Although results concerning impact of gamification were mixed, most studies show positive results (Su & Cheng, 2015; Zainuddin et al., 2020; Zamora-Polo et al., 2019). The positive results indicates that gamification improves students' learning such as enhancing motivation, increasing engagement, and improving performance.

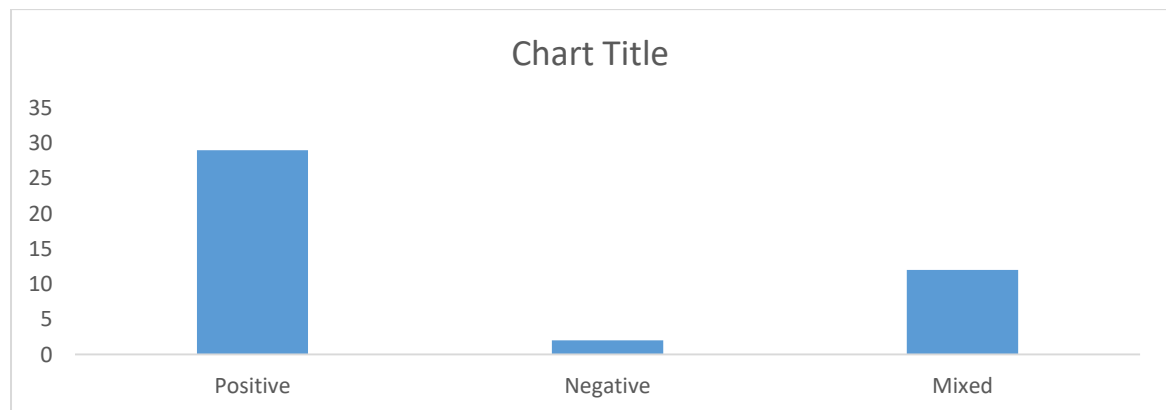


Fig. 6: Mapping study by results. Source: Researchers'-generated chart

Conclusion

The purpose of this study was to review the directions and tendencies of the conducted research on the application of gamification in education, and more specifically, to provide insight and understanding on which game elements are mostly used, results generated,

predominant context and region, and research approach. Mapped results show that badges, points, levels and leaderboards are the predominant game mechanics employed by researchers. In addition, the most used game dynamics in the educational context are visual status, social engagement, rapid feedback, freedom to choose, and freedom to fail. Further result shows that IT and Engineering and Education were the predominant context in which gamification research is applied. South-East Asia was found to have received much gamification studies. The most used research approach is a quantitative study, involving experiment and survey. Lastly, results were generally mixed, but most results were positive, suggesting that gamification improves learning.

From this review, a number of gaps were found. First, it is still not clear which game elements are responsible for the positive impact of gamification. Thus, research is needed to compare the impact of various game elements. Second, there is no gamification study found in Africa. This suggests that a comprehensive study is needed to be conducted in Africa and compare results with others found in other settings. While experimental procedures tend to find the actual impact of gamification on learning, a qualitative approach is needed to explain causality and relationships. Thus, students would be able to explain the potential impacts of gamification in a subjective manner.

Recommendations

As games become an important teaching strategy to achieve long-term goals in many countries, it is imperative to expose teachers to rigorous empirical investigations on how game elements should be used alongside other activity-based methods to teach a wide range of topics. The findings of the review will encourage researchers to carry out more investigations in this field of study to fill the research gaps and build a body of literature. However, to harness the full potential of game elements, researchers need to adopt maximum intervention fidelity in their research. Educators also need to integrate game elements in their teaching with the help of instructional design specialists to build game learning strategies that are relevant to students' levels. This review concludes that program game elements should be integrated into the school curriculum as an alternative to learning different topics. Before this, theory and practice of game instructions should be reviewed by school administrators and researchers to increase the success of these programs.

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GENDER DIFFERENCES, MODES OF ADMISSION AND ACADEMIC PERFORMANCE AMONG UNDERGRADUATE EDUCATIONAL MANAGEMENT STUDENTS IN SOKOTO STATE UNIVERSITY

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Abstract

The paper examined gender differences, modes of admission and academic performance among undergraduate educational management students in Sokoto State University. Academic performance is the yardstick for ascertaining the capabilities of a student from which his inherent or unrevealed abilities could be inferred. Two common ways of gaining admission into Nigeria universities were identified as; Unified Tertiary Matriculation Examination (UTME) and Direct Entry (DE). The study employed a descriptive survey research design using students results (i.e. Cumulative Grade Point Average-CGPA) as instrument for data collection. Students' gender and mode of admission were extracted from the CGPA result slips. The population comprised of all 220 undergraduate educational management students that have graduated from Sokoto State University across the four cohorts; 2013/2014, 2014/2015, 2015/2016 and 2016/2017. Data were analysed using Chi-square and t-test analysis. The study established no significant difference on the academic performance and of male and female students, it equally established no statistically significant difference on the academic performance of students admitted through UTME and DE. Part of the recommendations stated that the society must try as much as possible not to be gender biased. Therefore both male and female students must be provided with equity and equal opportunities in the learning environment.

Keywords: Modes of Admission, Gender Differences, Academic Performance, Educational Management, Undergraduate Students.

Introduction

Academic performance is always an important tool in the measurement of students' academic achievement during or on the completion of a programme. It is a sine qua non to any formal educational institution. The concept is commonly used within the parlance of scholarly human activities conducted in a formal educational environment. The New International Webster Comprehensive Dictionary of English Language (2004) defines performance as "the act of carrying out an action, executing or doing it". Academic performance is generally used to determine how well an individual is able to assimilate, retain, recall, and communicate his/her knowledge of what has been learnt. This conception views academic performance in the context of learning and being able to express what has been learnt in written form without any form of examination malpractices since learning is an integral aspect and a major determinant of academic performance, it therefore follows that the factors influencing learning in an individual may have overt or covert effects on the individual's academic performance.

This is indicative of the fact that evaluation of the teaching-learning situation and its outcome are always paramount in the minds of educationists, researchers, parents as well as learners. It has been observed that more people have continued to raise alarm about the

falling standard of education and thereby questioning the quality of graduates being turned-out from Nigerian universities. Employers of labour complained about the failure of graduates to meet their corporate expectations especially in terms of skills and competence. In reaffirming this deplorable condition of university education, Adekunle (2012) reported that university education in Nigeria is at a crossroad.

The high rate of poor academic performance among undergraduate might not be unconnected with the channel through which they found themselves into the university system. Omirin (2016) reported that using JAMB as a yardstick for admission of candidates into Nigerian universities has led into intake of poor caliber of candidates who are characterized by high failure rate, increase in examination malpractice and production of poor quality output.

Modes of admission, otherwise referred to entry modes refer the various means through which prospective candidate may be admitted into a first degree programme. Nigerian universities do have different modes of entry for interested candidates into the various educational programs. The common ways of gaining admission include Unified Tertiary Matriculation Examination (UTME), and Direct Entry (DE) in which a candidate may to possess at least one of the following qualifications: Nigeria Certificate in Education (NCE), Interim Joint Matriculation Board (IJMB), and National Diploma (ND), Higher National Diploma (HND) or its equivalent in order to gain admission into the university of choice (JAMB Brochure, 2018). However, UTME candidates are admitted into 100 level while DE candidates that have, NCE, or ND are admitted at 200 level. Interestingly, Momoh, Gbodi and Morenikeji (2016), have also observed that, there have always been a controversy over the mode of admission of students with people claiming superiority of one over the others.

Mlambo (2011) was of the opinion that, entry credentials did not pointedly affect academic performance of undergraduate students, this is contrary to the opinion of Adewale and Adhoze (2014) who observed a weak relationship between academic performance of architecture students in Nigerian institutions and their entry qualifications. Similarly, Tade (2015) examined a correlation of entry certificates and academic performance of architecture students in Nigerian universities. The two studies concluded that, there was a weak connection between academic performance of architecture students and their basic understanding of mathematics and physics.

Researchers have attempted to define gender in various studies, for instance Oguta (2021) defined gender as the range of physical, biological, mental and behavioural characteristics pertaining to and differentiating between masculinity and femininity. Studies conducted across the world among the students studying in different levels found a significant gender difference in academic performance. Several studies have reported that female students outperform their male counterparts (Orabi, 2007); Dayiogbu & Turut, 2007; Khweich & Zaza, 2010). However, Wangu (2014) in a strictly conducted among the students of secondary schools in Kenya observed boys passing more than girls.

Arderson (2012) investigated gender differences on students achievement and teacher training characteristics in the Gulf Cooperation Council Countries. Gender differences in student achievement and the inferred educational disadvantages of boys. The researcher observed that there has been boys in United Arab Emirates (UAE). The researcher argued that this could be attributed to the training characteristics of expatriate male teachers in

boys' schools. Akpochafo (2010) reported that there was gender bias in Nigeria like in many African societies, a situation in which cultural beliefs and structural arrangement favoured men over women as was witnessed in many elective positions contestable by men and women.

There are very limited studies focused on the issues of gender differences in academic performance of students. Precisely relevant literature showed that the mode of admission and role of gender in the academic performance of students has become a controversial issue. Hence this study aims to examine gender differences, and modes of admission on academic performance among undergraduate educational management (EDM) students in Sokoto State University.

Methodology

The study followed a descriptive survey research design, with final year students' senate result-Cumulative Grade Point Average (CGPA) used as measure of academic performance. Necessary data for the study in form of student gender and mode of admission were enumerated from the student final CGPA results. Therefore check list was prepared for the data collection. The population for the study comprised of all EDM students that have graduated from the Sokoto State University for the past four graduating years (i.e. 220 graduants). This involved 2013/2014 to 2016/2017 cohorts as shown in Table 1 below. The study adopted an embedded mixed methods research. Ex post facto causal comparative research designed was employed. Descriptive statistics (t-test) was used to test the formulated hypothesis at 0.05 level of significance.

Table 1: Cohort Analysis for EDM Graduates in Sokoto State University (2013/2014 - 2016/2017 cohorts)

Cohort	Year of Graduation	No of Graduants	Gender Male	Gender Female	Mode of Entry UTME	Mode of Entry DE
2013/2014	2017	54	44	10	54	-
2014/2015	2018	55	42	13	51	4
2015/2016	2019	52	38	14	44	8
2016/2017	2020	59	41	18	50	9
Total		220	165	55	199	21

Results

Table 2: Chi –square analysis of student academic performance in SSU

Academic Performance	Observed Frequency	Expected Frequency
Third class	39	55.0
Second class lower	121	55.0
Second class upper	58	55.0
First class	02	55.0

$$X^2 = 135.091, df = 03, p = 0.000$$

Table 2 presents summary of Chi – square analysis of students' academic performance in SSU. The information shows that two (2) students were on first class against expected frequency of fifty five (55) students, fifty eight (58) students are on second class upper against expected frequency of fifty five (55) students, one hundred and twenty one (121)

students are on second class lower against expected frequency of fifty five (55) students, and thirty nine (39) students are on third class against expected frequency of fifty five (55) students. The Chi – square (X^2) value of 135.091 with degree of freedom 3 and p value of 0.000 is significant at 1% level of significant.

Hypothesis One: There is no significant difference on the level of academic performance of male and female undergraduate EDM students in Sokoto State University.

Table 3: t-test analysis of male and female EDM students’ academic performance in SSU

Gender	N	X	SD	SE	Cal.t	Crt.t	df	Prob.
Male	165	2.0848	0.6844	0.0533	-0.739	1.96	218	0.461
Female	55	2.1636	0.6876	0.0927				

Cal.t (-0.739) < Crt.t (1.96)

From the analysis in Table 3, it was discovered that calculated t-value (-0.739) is less than the critical value (1.96). Therefore H_{01} is accepted. This shows that there is no statistically significant difference on the level of academic performance of male and female undergraduate EDM. Invariably this implies that gender has no effect on student academic performance.

Hypothesis Two: There is no significant difference on the level of academic performance of EDM students admitted through UTME and DE in Sokoto State University.

Table 4: t-test analysis of UTME and DE Educational management students’ academic performance in SSU

Gender	N	X	SD	SE	Cal.t	Crt.t	df	Prob.
UTME	199	2.0704	0.6705	0.0475	-2.303	1.96	218	0.022
DE	21	2.4286	0.7464	0.1629				

Cal.t (-2.303) > Crt.t (1.96)

From the analysis in Table 4, it was discovered that calculated t-value (-2.303) is less than the critical value (1.96). Therefore H_{02} is accepted. This shows that there is no statistically significant difference on the level of academic performance of EDM students admitted through UTME and DE. This implies that the academic performance of educational management students has no bearing on entry modes.

Discussion

Findings from Table 2 indicated that there is no statistically significant difference in the level of academic performance of male and female undergraduate Educational Management students in Sokoto State University. This necessary implies that there is no significant difference in the number of male and female students meeting the Educational Management benchmark. This means that gender has effect on educational management students’ academic performance. This study corroborate the work of Okeke (2017), reported that there is practically no significant difference in the intelligence between male and female that could be traceable to gender difference. The findings are similar to Oludipe (2012) study on gender difference in Nigerian junior secondary students’ academic achievement in basic science. The main purpose of this study was to investigate the influence of gender on junior secondary students’ academic achievement in basic

science using cooperative learning teaching strategy. Findings of this study revealed that there was no significant difference in academic achievement of male and female students.

The fact that men are even superior sex does not mean that they are better than women. The study is not in line with that of Wangu (2014) in a study conducted among secondary school students in Kenya, reported boys passing more than girls. This study did not support the view of Anderson (2012), that investigated the gender differences in Student Achievement in the Gulf Cooperation Council Countries. The researcher observed with great concern that there has been Boys “underachievement” in the United Arab Emirates (UAE). It was obvious that the role of gender in the academic achievement of students is a controversial issue. This is because some research findings revealed that gender plays active roles in students’ academic performance, while others revealed otherwise.

Table 4 shows that there is no statistically significant difference in level of academic performance of undergraduate educational management students admitted through UTME and DE in Sokoto State University. This necessarily implies that academic performance of undergraduate EDM students has no bearing on entry mode. This study support that of Evroro (2009) that examined the relationship between the mode of entry and degree of performance of students in Delta State University, Abraka. Two research questions were raised and one hypothesis was tested in the study. The result at 0.05 level of confidence revealed that there is no significant relationship between mode of entry into the university and students’ academic performance. This study is similar to the present study because both compare the influence of admission modes in the academic performance of students in university. The reviewed study used nonparametric statistics (χ^2) whereas the present study made used of t-test for data analysis.

However, the study did not corroborate with Ifedili and Ifedili (2010) submitted that UTME conducted by JAMB has poor relationship with students’ academic performances in universities and other institutions of higher learning. This could not be unconnected with the fact that since JAMB started its operation individuals and corporate bodies have accused JAMB of massive corrupt practices, they further asserted that JAMB results are unreliable as implied in their statement. However since serious reformation has been carried out on JAMB years back and with a very reliable and competent JAMB registrar in position, the public have actually witnessed reliable UTME results and appropriate DE for university admissions in Nigeria. However, there has also been a controversy over the mode of admission of students with people claiming superiority over the others.

Conclusion

Academic performance is the yardstick for ascertaining the capability of a student from which his inherent or unrevealed abilities could be inferred. Academic performance therefore could be used to determine how well an individual is able to assimilate, retain, recall and accommodate his or her knowledge of what has been learnt. The study concludes that gender does not matter in the academic performance of undergraduate educational management students and that both Unified Tertiary Matriculation Examination (UTME) and Direct Entry (DE) modes of admission are effective ways of admitting students into the universities.

Recommendations

The following recommendations were generated from findings.

- 1 .In order to improve the academic performance of university undergraduate students, both male and female students must be provided with equity and equal opportunities in learning environment simply because all genders have potentials to perform academically. Therefore society must try as much as possible not to be gender biased.
2. The modes of admission into the Nigerian Universities through Unified Tertiary Matriculation Examination (UTME) and Direct Entry (DE) have been proofed to be reliable and effective. Therefore the two identified modes of admission should be maintained, reviewed upwards and be standardised.

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SPACE MANAGEMENT IN NIGERIA UNIVERSITY SYSTEM

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Abstract

The paper posited that space management in Nigerian University in contemporary times has become an issue to contend with by academic planners and University administrators. This is as a result of the ever increasing demand for University education; use of its facilities by the public without compromising the attainment of the overall goals of the system. Space management in this paper is therefore conceptualized as the meaningful, purposeful, and all inclusive physical planning, setting, allocation and utilization of facilities in an objective, efficient and productive manner in a University system. Achieving academic excellence and environmental sustainability in an era of climate change amidst scarce resources is through effective and efficient space management in Nigerian University system. The paper however acknowledged that a major challenge to space management is the exponential growth in students' population especially in public Universities and the seemingly lack of professional academic planners, physical facilities planners/estate managers and administrators with innovative skills poised to making space management a priority in University campuses. The paper however suggested amongst others that government, university proprietors and administrators should endeavour to engage all relevant stakeholders at the planning and implementation stages of the system. This is to assure efficiency in the continual space management without affecting negatively the core mandate of the system.

Keywords: Space management, University, Effective, Academic Planning and Administration.

Introduction

The global demographic increase arising from improvement in human standard of living has reflected in low death rate. However, the phenomenal population increase in less developing countries of which Nigeria is one is exerting a great pressure on natural assets such as land; social, political and agricultural facilities. Thus, the scramble for space utilization for all kinds of human endeavor including education. In Nigeria today, there are 198 legally recognized Universities; (public and private) with over 20million students. This implies that the rational management of space for academic and non academic activities in the University amidst the ever increasing rate of students' enrolment has become problematic.

In this circumstance, University administrators and academic planners have been constantly challenged on how to effectively use the physical space either on full-time, or part-time basis to achieve the objectives of the system. Central among the roles of the University education is human capital development via training and re-training, promotion and encouragement of intellectual capacity of individuals to understand both local and international environment amongst others (Federal Republic of Nigeria (FRN), 2013).

The International Institute for Educational Planning (1994) asserts that the effectiveness and efficiency (success) in providing adequate space and facilities in University system is linked to the institutions admission policies, availability of infrastructures and other resources provided. The various programmes offered and the application of technology (innovation) contribute significantly to space and facilities management.

Concept of space management

Avalanche of literatures abound with regard to the concept of space management. According to Newcastle University (2007), space management is the ability to allocate space to a specific user or for specific use. This definition appears non-specific in terms of the user and the purpose. Rymarzak (2014) posits space management within the context of a University setting as the objective, efficient and productive use of the space and equipment owed by the University. It thus suggests that the design and setting of Ivory towers is aimed at providing a functional teaching, research, social, religious, and economic environment that is secured and friendly. Atkin and Brooks (2009) define space management as integrated approach to operating, maintenance, improving and adapting the building and infrastructure of an organization in order to create an environment that strongly supports the primary objectives of the organization. It is on this strength Osaigbovo and Ikedasin (2022) advise that for effective teaching and learning objectives to be attained in a school system, school facilities mapping and maintenance both visual and audio-visual materials are imperative.

Space and facilities management in the opinion of Pitt and Tucker (2008) involves the integration and alignment of non-core services, including those relating to premises. The physical and social environment in an academic setting should exude aesthetic value with great psychological and intellectual stimulation to both staff and students including visitors. Space management, therefore, covers issues bothering on space strategy establishment, space planning, space environment management and space utilization auditing (Ibrahim, Yusoff & Bilal, 2012).

From the foregoing, space management is holistic and comprehensive. It involves taking short and long term decisions related to how best to utilize what is often limited space. This include park and garden areas, common lounges, hostels, staff quarters, recreational facilities, office accommodations, laboratory workshops, sitting areas, waste facilities etc. A critical element of space management according to Rymarzak (2014) is finance which is essential to construction of new facilities; refurbishment of the existing buildings and facilities (school plants).

In a University space management process therefore, critical stakeholders such as the Governing Council, Vice-chancellor, Academic Planning Unit, Estate Department, Faculty Deans and Directors including the Heads of Departments have various roles to play. They must and should ensure that space availability, utilization, and management is congruent to the vision and mission of the academic institution. This is on the strength that the effectiveness of space management in relation to the goals of the University is maintained. The University top management team must therefore constitute management committee members; develop model or technique and ensure that employees and users are responsible to space management (NAO, 1996).

Space planning model and utilization

The desire for effective space management needed to achieve maximum benefits of all the numerous services rendered in the University requires a space planning model and utilization. O’Neil & Wymer (2009) note that the fluidity and dynamism currently experienced in the breath and location of various work activities in the University call for space management model that will proffer solutions to the problem arising from academic environment. A planning model will promote synergy, collaboration, learning, and socialization aiming at the critical stakeholders in the management of the University education.

Space management and facilities planning models need to be given priority because of its relevance to political, economic, socio-cultural, policies, objectives, implementation and legal bases for the establishment of an academic institution (Gbadamosi, 2005).

Other factors that need to be considered in adopting a planning model for a higher academic institution include the following:

- i. Educational status and headcount. This includes accurate census of physical buildings, personnel including lectures and support staff, furniture and recurrent cost.
- ii. Supply and demand of academic staff (number of professors, readers, senior lecturers, intermediate and junior academics).
- iii. Design of school buildings, construction equipment and maintenance.
- iv. Curriculum activities. This include types of academic programmes, courses and Department in line with minimum benchmark standards approved by the regulating agency like Nigerian Universities Commission (NUC).

Table 1: Typical Space Allocation Benchmark for Programmes in Nigerian universities

Item required	Undergraduate Programme	Postgraduate Programme
Physical Facilities: For effective running of each programme, Dean’s and HOD’s offices must be provided with adequate facilities.	<u>Accommodation: (m²)</u> Professor’s Office 24	<u>Accommodation: (m²)</u> Professor’s Office 18.50
	HOD 24	HOD 18.50
	Senior Lecturer 16	Tutorial/Teaching Staff’s office } 13.50
	Lecturer 12	Tech. Staff Space 7.00 } Secretarial space 7.00 }
	Assistant Lecturer 8	Seminar space per student 1.85
	Snr. Admin Staff 12	Adequate Classroom Exam. Halls/Theatre with enough chairs and tables
	Junior Tech. Staff 5	
	Studio space 4 per student	
	Lecture space 0.5 per student	
	Seminar space 0.5 per student	

Source: NUC (2007 & 2013)

Ajayi (2007) remarks that the fundamental reason for space planning and facilities management is to ensure the efficiency in the use of resources in meeting the educational needs of the society. He adds that the physical and educational needs of the students are stable in a conducive teaching and learning environment where there is proper planning and adequate management.

Rationale for space planning and management

It is therefore crucial to plan and manage space including its facilities in the University system for the following reasons:

- i. It helps to coordinate the various activities, achieve maximum effectiveness, efficiency and productivity.
- ii. It ensures judicious use of scarce resources of facilities including land needed to achieve educational goals within a given time.
- iii. It ensures adequate prediction, projection, and forecasting of the needed facilities to achieve academic excellence.
- iv. It helps to prioritize alternative choices of facilities.
- v. Pressure from population explosion calls for adequate planning of space and facilities management.
- vi. For the purpose of innovation, science and technology, planning and management of space together with its facilities is necessary.

Challenges on space management and development

A major challenge to space management in most Nigerian Universities is the consistent high students' enrollment and corresponding increase in number of academic and non academic staff recruited. The enormous growth in staff and students' population has resulted to progressive reduction of available space and inadequate provision of essential educational facilities. Facilities like lecture theatres and halls, office space for staff, hostel accommodation, workshops, laboratories and their holdings are grossly inadequate. This problem is further compounded by poor financial support/provision by government for public Universities (African-American Institute, 2015). This account for one of the reasons the Academic Staff Union of Universities (ASUU) is constantly demanding for increase in Universities' funding and provision of special revitalization of funds to Universities management to improve the academic learning space in Universities.

Several empirical studies by researchers in Nigerian higher education have found that there is a strong relationship between management and development of academic learning space and Institution effectiveness. Among them are Ajayi, Awosusi, Arogwade and Ekundayo (2011); Animasahun and Odeku (2014); Okolie and Ogunoh (2013).

Another challenge is paucity of professionally experienced academic and physical planning personnel in the University system. The available ones lack innovative skills on how ivory towers in contemporary times are designed, developed and managed. Global changes in workspace as a result of climate change, technology, innovation and economic pressure has posed a challenge to the experiences of the space managers and learning infrastructures in Nigerian Universities. Abdullahi *et al.* (2017) lament that there is no operational and functional interaction between space managers and the various academic units in the University system on regular basis in order to identify current facility

requirements in terms of benchmarks, impairment and sustainability of the existing ones. An experience which personnel in physical and academic planners and Nigerian Universities copiously by lack.

Related to the challenge of personnel experience is the issue of information and technology. Space managers do not have the required information and technological know how to connect an understanding of conducive academic workspace in relation to the location and provision of equipment and facilities. The lite span, frequency and carrying capacity of facilities in a physical learning space can be determined by modern technology which school facilities managers is lacked in Nigerian academic milieu.

Besides the physical/learning space has been compromised in terms of aesthetics, technology, adequacy and convenience because of numerous programmes in most higher institutions. Some institutions run full time, part time, weekend, open-distance learning coupled with so many religious, political and sporting activities. All these exert strains on the effective management of space and its related facilities.

Other challenges are lack of sustainable policy frame work by government and proprietors of University education in terms of space planning development and management; proliferation of Universities with attendant poor infrastructural quality and unattractive physical setting. Poor maintenance culture and lack of transformative skills by the leadership of some Universities are inhibiting the expected serene atmosphere, security and high academic excellence.

Implication for academic planning

Space management is very critical to any tertiary education poised to the achievement of its mandate in an effective and efficient manner. To this end, the educational planners, academic planning unit, University managers, Estate planners and administrators have great responsibilities in this direction. Physical planning units in the University needs to be responsive and proactive in this regard. The physical planning and estate management units owe a duty to ensure that physical facilities especially building structures are built in well-laid out areas that can stand the test of time in terms of quality, durability, sustainability, and occupancy besides the aesthetics that is required.

The core value of a University system which is teaching, research and community services can be fully realized if University facilities are planned and managed in available space within a tertiary institution. Lecture theatres in multiple storey buildings and regulated lecture hours with regard to various academic programmes will reduce the scabble for learning space by both staff and students which often result to conflict especially during examinations. Occupancy of space by various users in the University at a given time need to be guaranteed by both physical facilities managers, academic planning unit and school administrators.

Effective utilization of facilities in the University can be predicated on the skills and ingenuity deployed in the management of space on which the facilities are built. The architectural design and the inclusiveness in the space management and facilities therein is very important. The physically challenged should always be factored into the effective utilization of learning space and facilities provided in the University for ease of access and use.

The deployment of technology in the management of learning space in contemporary terms has become imperative in a bid to provide access and e-learning to ever-growing population of people seeking tertiary education. Therefore, academic planners and University need to be innovative and technological in the provision of virtual and cyber learning space. Band with, internet connectivity; sight lines for wireless technology in libraries and lecture/classrooms be properly planned and provided in the present day campuses. A flexible and technological driven learning space will improve quality education and promote students restiveness in schools.

Space facilities management should not undermine environmental sustainability and green park. The effect of climate change on human existence has become phenomenal. To this end, University administrators and relevant authorities in the system must improve and preserve green space and parks for environmental sustainability. The natural ecosystem should be preserved for a healthy living in the midst of effective and efficient space management in the Nigerian University system. The environment should therefore be neat, attractive, aesthetic, serene and psychologically soothing.

Effective space management in the University serves academic, recreational, social, religious, political and economic purposes. All critical stakeholders including staff and students need to collaborate through exchange of ideas continually towards space management for the overall goals of the University. It implies that play a University setting and its space management is a responsibility of the critical stakeholders and end users especially.

The academic brief of a University often include the physical setting and facilities mapping of the structures. It therefore behoves on the academic planning unit of every University to be part of the space management. Academic programmes that are related should be contiguous to each other for shared facilities and ease of accessibility. The learning space should be managed for physical, emotional and learning convenience without distortion of aesthetic and natural landscape that must be preserved by all.

Conclusion

Space management in Nigeria University system like in other climes has become an important aspect of University administrative system that cannot be glossed over. The strategic goals, effective utilization of school plants, and environmental sustainability is largely predicated on facilities planning and academic space management. Thus, high academic success, relative peace among staff and students; cost reduction in environmental maintenance will be achieved if learning space is faithfully managed for maximum goals attainment of University education.

Suggestions

The following suggestions are made in order to improve management of space in Nigeria University system.

1. Facilities planning and space management should be based on the principles of inclusiveness to the needs of everybody in the University environment.
2. University administrators should constitute park and garden committee saddled with the responsibility of maintenance and utilization of physical land space while ensuring that green environment is preserved.
3. Academic offices, lecture rooms, hostel accommodations and students' centre, conference hall should be built to specification as prescribed by the Nigerian Universities Commission (NUC).
4. University management team; Vice Chancellor; the Directors of Academic planning unit, Deans, Academic Heads of Department should ensure the lecturers adhere to lecture hours and make use learning space provided. This will guarantee effective utilization of learning space and of course reduce conflict that could arise.
5. Effective management of space is anchored on adequate funding. School administrators therefore needs to make provision for maintenance, renovation and upgrade of the architectural landscape of University environment when necessary.
6. During resource verification and academic programme accreditation, NUC should include effective space management of the University as one of the key areas for assessment. To this end, the culture of space management will be entrenched in Nigerian University administration.
7. University administrators should deploy technology in space management. Also, strong data bank where both qualitative and quantitative information with regard to space facilities management can be stored and retrieved for use.

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JOB SEARCH AMONG TRANSITION-AGE YOUTH IN EKITI STATE, NIGERIA

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Abstract

There are lots of complaints from graduates about the several applications submitted to public organisations and companies with no favourable outcomes despite their engagement in job search. In order to improve smooth school to-work transitions, successful adjustment and ensure proper career counselling, it is important to understand the ensuing issues in job search process, the value of particular job-finding strategies and the degree of adjusting to life without a job. The study adopted a descriptive survey. The population for this study comprises unemployed youths in Ekiti State. Multi stage sampling was adopted to draw a sample of two hundred and fifty (250) respondents who served as sample for the survey. Life Adjustment during Job Search Scale (LAJSS) was used for data collection. Data collected were analysed using frequency and percentage count. The result revealed that the methods of job search mostly adopted by Nigerian unemployed youth are directly through the employer and through the internet; the commonest methods used by employed graduates in getting jobs are through a friend, relative and directly through employer. In addition, it was found that the most effective and reliable methods Nigerian unemployed youth used in securing jobs are directly through a friend, relative and directly from an employer. It was equally revealed that inability to operate the internet to search for job vacancies, under qualification, postal hitches, over qualification and the employers perceived short of skills of job seekers constitute major challenges in searching for job; and majority of the unemployed youth still intend to seek for job despite the scarcity. Based on the findings the study concludes that contacting an employer directly, searching the internet, referral, contacting friends and relatives remain effective media of searching and securing job. It is therefore recommended that youths should focus on build their relationship and social skills as the ties of friends, relatives, and referrals can only be strengthened by their ability to initiate, grow and sustain a productive interaction with their social environment.

Keywords: Transition-aged youth; Job Search; Challenges; Unemployed youth, Employed youth.

Introduction

Education has always been regarded as a remedy to poverty and ignorance and its provision is a productive investment in manpower development. It remains the main source of human resources, when combined in the appropriate quality and quantity would be a plus to the development of a nation. Considering contributions to education, especially at the tertiary level, institutions such as countries, individuals, communities and corporations invest greatly in education to boost the level of educational attainment of its citizens. The desire of Nigeria citizens to acquire formal education has been on the increase. Over the years, the rate of students' enrollment and the number of tertiary institutions has been on the increase with different rates of change being experienced and

expansions occurring simultaneously. The Executive Secretary of the National Universities Commission, Professor Abubakar Rasheed, has disclosed that more than 2.1 million populations of students are currently studying in Nigerian Universities. The figure is a little higher than what it was in 2017, where the number was put at 1.7 million undergraduate students and 234 thousand postgraduate students (Idoko, 2021). As of 2021, universities in Nigeria had increased from 129 to 196 among- 98 public universities, 45 federal and 53 state private universities (Adeyeye, Ige & Aina, (2012); Idoko, 2021).

These expansions have been attributed to the assumption that more education is good for individuals not only in terms of economic outcomes like wages or employment, but also for a wide range of social outcomes like improved health, reduced crime and higher wellbeing. The increasing number of educational institution and turn-out of graduate have played a role in the increase of unemployment, because the available job positions cannot go around. Unemployment being a major crisis is bedeviling the wellbeing of graduates of tertiary institutions bringing about frustration, dejection and dependency on relatives and friends, who also have their own challenges to battle with. In Nigeria, it has become one of the most severe socioeconomic setbacks confronting the country (National Directorate for Employment). Labour market entry is a critical period in the life of young people as well as in the formation of full citizens (Benedicto, 2013). It is a phase which is often characterized by confusion. The International Labour Organization (ILO) states that "it is not easy to be young in the current job market," alluding to the challenges young people face to obtain a job with decent conditions (International Labour Organization [ILO], 2013). Non-availability of jobs has led to the process of job search.

The demands of adjusting to life can be a strong indicator of fulfillment in life as regards personal development and accomplishment of life goals. Life may have its own demands and challenges, failure in meeting those demands and challenges may cause maladjustment. Searching for job is one of the challenges of life facing unemployed graduates. Therefore, it is important to guide graduates to achieve adjustment by helping them to identify and know which job finding method is more efficient so as to achieve their goals. The unimaginable influx of tertiary school graduates into the labour market has left a source of worry in minds of the elites in our society. The survival of graduates among the labour force, who most often are eager to get into the labour markets, leaves so much to be worried about. Adjusting to the new experiences of labour market may pose a threat to their cultural, social and psychological disposition.

Consequent upon collapsed infrastructural facilities, poor governance structure, massive corruption, and political instability coupled with the school curriculum not geared towards equipping graduates with skills required for self-employment, thousands of graduates are left with the options of roaming the streets in search of jobs that are relatively non-existent. There have been complaints from graduates about the several applications submitted to public organisations and companies with no favourable outcomes. This condition may cause them to engage in unwholesome activities such as abuse of drugs and kid-napping among others. It may even result to mental health challenges such as worry, depression and anxiety. In order to avert such circumstances and improve smooth school to-work transitions, successful adjustment and ensure proper career counselling, it is important to understand ensuing issues and challenges in job search process and the value of job-finding strategies. Therefore, this study examines the issues and challenges of searching for job.

Research questions

The following research questions were raised to guide the study.

- i. Which method(s) of searching for job is/are most adopted by unemployed youths in Ekiti State?
- ii. Which method(s) of securing job was/were most adopted by employed graduates as perceived by unemployed youth?
- iii. Which method(s) of searching for job is/are most effective or reliable in getting a job?
- iv. What are the challenges of job search as perceived by unemployed youths in Ekiti State?
- v. Do graduates intend to search for job despite job scarcity?

Purpose of the Study

The main purpose of this study is to examine job search, methods of job search and its challenges among transition-aged youth in Ekiti state. Specifically, this study intends to find out;

- i. The method(s) of searching for job which is/are most adopted by unemployed youths in Ekiti State.
- ii. the method(s) of searching for job which was/were most adopted by employed graduates perceived by unemployed youth.
- iii. the method(s) of searching for job is/are most effective or reliable in getting a job.
- iv. the challenges of job search as perceived by youths in Ekiti State.
- v. whether unemployed youths intend to search for job despite job scarcity.

Literature Review

Job search can be seen as a process of gathering information about available jobs. Job search is the process of identifying sources of job information and utilizing such job information for the purpose of finding suitable job opportunities. It is a dynamic self-regulated process during which job seekers need to stay motivated to secure a job (da Motta-Veiga & Gabriel, 2016). During job search, individuals collect information on the job and can influence the search outcome by putting more or less effort into job search and by choosing among several search methods. With the diffusion of new technologies, the variety of job search methods used by unemployed individuals has taken a new dimension. The process of searching for job has become more extensive due to the availability of new search technologies (van den Berg, & van der Klaauw, 2013).

In the quest to get employed, people could adopt various methods or strategies to get job-related information. Finding employment and the quality of employment always depend on job search quality, hinged upon the sources that job seekers use to acquire information about job vacancies, and the intensity of job search (Fernandez-Valera, Meseguer de Pedro, De Cuyper, Garcia-Izquierdo, & Soler-Sanchez, 2020). There are two major methods of searching for job, namely: formal and informal. The formal method involves search methods such as newspapers and employment agencies. van den Berg and van der Klaauw (2013) pointed that formal job search uses formal intermediaries that exist primarily for recruitment purposes including employment agencies, and recruitment

advertising and its success is hinged on labour-market conditions and the search effort exhibited by the individual.

The informal method which is also called local search method covers avenues such as information from friends and relatives or direct employer contact. The effectiveness of these methods is assumed to be influenced by conditions in the local labour market, but not by the amount of efforts applied by the job seekers. According to Yizhong, Lin, Baranchenko, Lau, Yukhanaev & Lu, (2017), informal job search does not rely on formal intermediaries and consists of contacting friends, relatives, or acquaintances; contacting current or former employees; re-hires; and walk-ins. The use of informal job search methods appears particularly effective in generating employment opportunities and those who obtained employment by approaching friends and relatives or employers directly were more likely to be in work one year later, relative to those who used other methods to obtain employment. For job seekers, informal search is less costly and may be most productive in generating acceptance job offers and reliable information about jobs.

It has been commonly argued that strong ties are more important in helping unemployed people find jobs because family and friends are generally more present in the lives of the unemployed than are other contacts (such as Cappellari & Tatsiramos, 2015; Ramia et al. 2020). Further studies on job searching also considered formal networks such as newspapers and magazine advertisements, public competition or direct contact, the internet, and employment service agencies (Ingold & Valizade 2017; Liechti 2019). Mussida & Zanin (2020) found that more than 80% of the unemployed considered the informal network, followed by public competitions or direct contact with firms (more than 70%), and the internet (about 60%).

Lema (2014) highlighted that many factors are responsible for the difficulties that youth experience in initial workforce entry. These include: a lack of information, networks and connections among youth, especially youth from families lacking significant social capital; a lack of skills relevant to the workplace; a lack of experience and credentials that address employers' risk in making hiring commitments and a lack of available jobs suited to entry-level skills.

Theoretical Framework

The theoretical framework of this study is hinged on Theory of Planned Behavior. Job search theory attempts to describe the problems faced by unemployed individuals and to propose methods for making optional job search choices. Theory of Planned Behavior postulated by Ajzen's (2012) serves as a major theory in search behaviour. Van Hooft (2016) introduces the Theory of Planned Job Search Behavior as the result of integrating both motivational and self-regulatory perspectives on job search. This theoretical framework integrates the main mechanisms that are important in the job search process. On the one hand, as job search is a difficult and complex task, having and maintaining motivation is essential for securing continuous job search activities. On the other hand, as job search is not only difficult but also unpleasant, job seekers need self-regulation for ensuring task persistence and performance. These mechanisms can be described as the methods. These methods are functions of choices which depends on persistence and persistence is function of self-regulation. Van Hooft (2016) proposes Vallerand's Hierarchical Model of Motivation as a useful framework to extend the theory of planned job search behavior for analyzing which methods can be effective in helping people to

engage in job search. It emphasized job search intention as an important aspect of the model which reflects the strength of an individual's motivation to engage in job search. The intention to search for job is capable determining the search behaviors which could be formal or informal.

Methodology

The study adopted a descriptive survey since it is aimed at collecting data on job search and its challenges among transition-aged youth Ekiti State. The population of this study comprises transition-aged youth. This is a category of individuals who are between late adolescents and early adulthood and disposed to work or search for job for economic sustainability. A good number of this group has acquired skills and experience through formal education or skills acquisition which position them to search or look for job. Therefore, being an infinite population, a purposive sampling technique was adopted in selecting 250 unemployed youths.

In order to elicit information from the respondents, the researchers administered adapted a research instrument termed Life Adjustment during Job Search Scale (LAJSS) from the works of (Baker & Siryek, 1984); (Commitment to goals) Smale & Fowlie, 2009; (Personal-emotional adjustment) Al-khatib, Awamleh, & Samawi (2012); (Adjustment to college scale, ATCS) adapted by Ali (2006). The LAJSS is a 43-item questionnaire. The questionnaire is of three sections. Section A has eight items capturing personal data and methods of job search adopted by the researcher; Section B has 10 items on challenges of job search and responded thus Always, Sometimes and ever. The section C was adapted from the original scale which consisted of (36) items distributed on four domains: academic adjustment, social adjustment, emotional adjustment and commitment to achieve goals but was adapted to contain five domains: Social adjustment, Emotional Adjustment, Personal Adjustment, Commitment to goals and Peer Adjustment. The subscale of academic adjustment was removed because the respondents are no longer in school but are graduates, while other items were restructured to reflect the opinions of the respondents of this study. This section is answered thus: completely true, somehow true, completely untrue.

The researcher, after the data has been collected, would analyze the data using descriptive statistics (frequency, percentages and mean). Research question 1, 2, 3, and 5 were answered using frequency counts and percentage while research question 4 was answered using mean and ranking order.

Results

Research Question 1: Which method(s) of searching for job is/are most adopted by unemployed youths in Ekiti State?

Table 1: Descriptive Statistics showing the methods of job search mostly adopted by unemployed youth

Methods of job search	Frequency	Percentage
Through a friend	21	8.1
Through a relative	37	14.2
Directly from the employer	73	28.1
Through a politician	6	2.3
Through a traditional/religious leader	37	14.2
Through internet	68	26.2
Through a social media	18	6.9
Total	260	100.0

Table 1 revealed the methods of job search that is mostly adopted by unemployed youths as 21 respondents representing 8.1% of the participants picked through a friend, while 37 respondents representing 14.2% picked through a relative, 73 respondents representing 28.1% picked directly from the employer, 6 people representing 2.3% picked through a politician, 37 respondents representing 14.2% picked through a traditional and religious leader, 68 respondents representing 26.2% picked internet while 18 respondents representing 6.9% picked through social media. This implies that the highest methods of job search mostly adopted by Nigerian unemployed youth are directly through the employer and through the internet as they are mostly picked by the respondents.

Research Question 2: Which method(s) of securing job was/were most adopted by employed graduates as perceived by unemployed youth?

Table 2: Descriptive Statistics showing the methods graduates adopted in securing a job

Methods of securing job	Frequency	Percentage
Through a friend	54	20.8
Through a relative	45	17.3
Through someone they know or that know them	19	7.3
Directly from the employer	84	32.3
Through a politician	23	8.8
Through a traditional/religious leader	1	0.4
Through referral	34	13.1
Total	260	100.0

Table 2 revealed the methods of job search adopted by employed graduates in securing a job as perceived by unemployed youths. 84 (32.3%) considered directly from the employer, followed by 54 (20.8%) who considered through a friend, while 45 (17.3%) of the respondents considered through a relative, and 19 (7.3%) of the respondents considered through someone they know or that knows them, 23 (8.8%) considered through a politician. It was further shown that 34 respondents representing 13.1% picked through referral while only 1 person representing 0.4% considered through a traditional and religious leader. This connotes that the commonest methods which Nigerian employed graduates used in securing jobs are directly from the employer, through a friend, relative and referral as perceived by most of the respondents.

Research Question 3: Which method(s) of searching for job is/are most effective or reliable in getting a job?

Table 3: Descriptive Statistics showing the effective/reliable methods of securing a job

Effective methods of securing job by friends	Frequency	Percentage
Through a friend	47	18.1
Through a relative	57	21.9
Directly from the employer	71	27.3
Through a politician	36	13.8
Through a traditional/religious leader	28	10.8
Through internet	12	4.6
Through social media	9	3.5
Total	260	100.0

Table 3 indicated the effective and reliable methods adopted by unemployed youths in securing a job as 47 respondents representing 18.1% of the participants picked through a friend, while 57 respondents representing 21.9% picked through a relative, 71 respondents representing 27.3% picked directly from the employer, 36 people representing 13.8% picked through a politician, 28 respondents representing 10.8% picked through a traditional and religious leader, 12 people representing 4.6% picked through internet while 9 respondents representing 3.5% picked through social media. This connotes that the most effective and reliable methods Nigerian unemployed youth used in securing jobs are directly through a friend, relative and directly from an employer as most of the respondents perceived.

Research Question 4: What are the challenges of job search as perceived by unemployed youths in Ekiti State?

Table 4: Descriptive Statistics showing the challenges of job search as perceived by youths in Ekiti State

Job Search Challenges	Mean	Rank
Inability to operate the internet to search for job vacancies.	2.01	1 st
Under-qualification.	1.88	2 nd
Postal hitches.	1.88	2 nd
Over-qualification.	1.79	3 rd
Employers' perceived short of skills of job seekers.	1.77	4 th
Not having funds to travel to distant interview venues.	1.67	5 th
The problem of having no one to connect me.	1.61	6 th
Most vacancies have been hijacked by "big-wigs".	1.44	7 th
Most employers already have shortlisted names before advertising.	1.43	8 th
Few vacancies for many applicants.	1.28	9 th

Table 4 reveals some of the challenges of job search as perceived by unemployed youth. Inability to operate the internet to search for job vacancies with a mean score of 2.01 was ranked 1st, under qualification and Postal hitches with a mean score of 1.88 each were ranked 2nd. Over qualification with the mean score of 31.79 was ranked 3rd. Employers perceived short of skills of job seekers with a mean score of 1.77 was ranked 4th, not having funds to travel to distant interview venues with a mean score of 1.67 was ranked 5th, the problem of having no one to connect with mean score of 1.61 was ranked 6th. Most vacancies have been hijacked by wig-wigs with a mean score of 1.44 was ranked

7th, most employers already have shortlisted names before advertising with a mean score of 1.43 was ranked 8th, few vacancies for many applicants with mean score 1.28 was ranked 9th.

This result further revealed that five (5) items out of ten (10) had mean scores above the cut-off point (1.68). Therefore, it can be deducted that the challenges of job search as perceived by unemployed youth are inability to operate the internet to search for job vacancies, under qualification, Postal hitches, over qualification and the employers perceived short of skills of job seekers.

Research Question 5: Do graduates intend to search for job despite job scarcity?

Table 6: Descriptive statistics showing the intention of job seekers to search for job despite scarce job vacancies

Intention to search for job	Frequency	Percentage
Yes	153	58.8
No	107	41.2
Total	260	100.0

Table 6 revealed that 153 participants responded that they still intend to search for job despite scarce job vacancies while 107 participants responded that they did not intend to search for job. This implies that majority of the unemployed youth still intend to seek for job despite the scarcity in job vacancies. The percentage may be said not be significant.

Discussion

The analysis of research question one revealed that unemployed youth are most likely to search for job by contacting the employer directly and through the internet. These strategies are twice likely to be adopted compared to relatives and religious or traditional leaders, and thrice likely to be used compared to social media and friends. This finding showed that although unemployed youth engage in social media activities that do not guarantee that they engage with the intention of searching for job. This finding is similar to that of Mussida and Zanin (2020) who found that more than 80% of the unemployed considered the informal network, followed by public competitions or direct contact with firms (more than 70%), and the internet (about 60%). However, it contradicts that of Longhi and Taylor (2014) who found that the unemployed are twice as likely as employed seekers to use job centres, career offices and job clubs (34% compared with 14%).

Research question two was analysed and it was found that the commonest methods of securing a job by Nigerian employed graduates are directly from an employer, through a friend, relative and referral as perceived by most of the respondents. This finding may be explained by the argument that strong ties are more important in helping unemployed people as well as the unemployed find jobs because family and friends are generally more present in the lives of the unemployed than are other contacts (Cappellari & Tatsiramos, 2015; Fernandez-Valera, et al 2020); Ramia et al. 2020). However, this finding disagrees with that of Longhi and Taylor (2014) who found that the majority of employed job seekers (64%) use responding to advertisements as their main method of job search while between 8–10% of employed seekers approach employers directly and use friends and relatives but not clear about securing a job, and Zubair and Omotayo

(2018) whose study showed that corps members used both job sites and social media to search for job information.

The analysis of research question three revealed that the most effective and reliable methods Nigerian unemployed youth used in securing jobs are directly through a friend, relative and directly from an employer as perceived by most of the unemployed graduates. This finding agrees with that of Yizhong, et al (2017) who found that informal job search consists of contacting friends, relatives, or acquaintances; contacting current or former employees; re-hires; and walk-ins and also appears particularly effective in generating employment opportunities. These methods of job search are capable of being very effective considering the fact that they constitute a string of relationships.

Research question four was analysed and it was revealed that the challenges of job search as perceived by unemployed youth are inability to operate the internet to search for job vacancies, under qualification, Postal hitches, over qualification and the employers perceived short of skills of job seekers. A similar study by Tiwari, et al (2018) found that issues which are faced by job seekers while finding job through online portals include; many of the jobs not being real; the companies listed do not give their actual structure and environment where the industry is located; the portals do not take responsibility of the jobs listed on the portals whether they are genuine or not; Users have to travel to the place where industry is located several times before the final recruitment which waste their time and money and; some of the job portals ask for the money before the commencement of the job. This finding also earned support from the study of Moore (2019) which found that the three common frustrations experienced by the young people during their job-search: employers' expectations of relevant work experience in the young person's preferred occupation, being required to apply for jobs not aligned with their career aspirations, and the impact of personal factors on their ability to confidently present themselves to prospective employers.

Research question five was analyzed and it was found that majority of the unemployed youth still intend to seek for job despite the scarcity in job vacancies. This finding is contrary to the expectation that young people would still intend to look for job despite the hassles of searching and getting a job and non-availability of employment opportunities. This may be explained by the fact that some youths need the job to survive or earn a living before they look for a better employment. This finding is similar to that of Zubair and Omotayo (2018) who found that job search intensity was high, as majority of the corps members spent up to about ten hours in a day searching for job information on the Internet. This trend may be justified by the fact that individuals at one stage of their life or the other search for jobs due to one reason or the other. There are situations where fresh school leavers or university graduates seek for their first jobs, those who were once employed but disengaged also seek for job as well as gainfully employed individuals who desire better employments.

Conclusion

The complexities in the world of work have necessitated the need to come up effective job strategies, therefore job search is indispensable in the world of work. With respect to the findings, contacting the employer directly and through the internet is most likely to be used by unemployed youths for job search. The commonest methods of securing a job by Nigerian employed graduates are directly from an employer, through a friend, relative and

referral while the most effective and reliable methods Nigerian unemployed youth used in securing jobs are directly through a friend, relative and directly from an employer. Finally, job search is not ending anytime soon as young graduates still intend to search for job despite the scarcity in employment opportunities.

Recommendations

Based on the findings of this study, the following recommendations were raised;

1. The outcome of this study necessitates the need to enlighten our youths on the need to build their relationship and social skills. Because the ties of friends, relatives, and referrals can only be strengthened by their ability to initiate, grow and sustain a productive interaction with their social environment.
2. Youth also need to understand that getting a job directly from an employer requires that they identify and develop their innate potentials and acquire skills that would enhance their performance and suitability in the workplace. Because every employer desire to have an employee that would be able to drive growth and attain productivity with his or her initiative, creativity, motivation, grit, emotional intelligence and communication skills.
3. The National Directorate of Employment (NDE) should endeavour to incorporate the need for relationship building into their training and workshop for unemployed youths across the country.
4. Educational institution managers need to infuse and emphasize the need for skill acquisition and development into the curriculum and teaching and learning activities.
5. Parents have a role to play as well, in that they should encourage their children/wards to identify and build on areas of skill shortage in their personal growth and development to avert cases of lingering unemployment status.

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IMPROVISATION AND DIGITAL LITERACY: A VIABLE ALTERNATIVE TO ILL-EQUIPPED LABORATORIES IN BASIC AND POST-BASIC EDUCATION IN NIGERIA

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Abstract

Effective teaching of science subjects can only be achieved through “learning by doing” (practical activities) in well-equipped laboratory. The ill-equipped science laboratories have reached an alarming level thereby making learning by doing impossible in Nigerian science schools. This paper takes a look at the concept and skills or techniques of improvising science teaching equipment (instructional materials) as a viable alternative and a panacea to ill-equipped laboratories in our post-basic education in Nigeria. The paper concludes that ill-equipped laboratories and inadequate digital equipment in Nigerian schools, caused by underfunding, global financial crises and brazen corruption in the education sector is one of the current myriads of problems facing science and technology learning and teaching in Nigerian post basic education levels that need urgent attention. As government alone cannot remedy these problems, other stakeholders in science and technology education need to come in to surmount the problem. The paper suggests among other things, that schools should encourage and motivate science teachers to develop basic improvisation skills through the use of local materials and resource persons in the host community.

Keywords: Improvisation and Digital Literacy, Ill-equipped laboratories and Basic and Post basic Education

Introduction

The world is becoming more technical and scientific, for individuals to cope with the demands of the scientific and technological growth and development of this period there is the need for individuals to be scientifically and technologically literate. In the classroom, there are many necessary materials the teacher needs to make learning interesting, inclusive and effective, these materials though helpful and effective, they are most of the time beyond the reach of the teachers because of their sophisticated nature and cost. The school administrators rely mainly on the authorities to supply these materials but a lot of paper work involved in the procurement and distribution often cause a lot of delay, leaving the teachers waiting for a long time helplessly. As teachers are expected to be resourceful and innovative, they do not have to wait for the authorities to provide the materials. They should look for alternatives or substitute from everyday materials around us.

Teachers can produce materials that can operate like the factory manufactured ones or very close to them. There is no limit to materials that can be improvised for effective learning. As factory made materials are of high quality and operate exactly according to design, improvised home-made materials satisfactorily enable the child to explore and extract the basic concepts or skills.

Concept of Improvisation

Improvisation is the practice of acting, singing, talking and reacting, of making and creating, in the moment and in response to the stimulus of one's immediate environment and inner feelings (Tukur, 2012). Similarly, he defined improvisation in instruction as the art of creating or modifying a material or object in place of the original. This is usually done where the 'proper' material is unviable or unaffordable at the time.

Ema and Ajayi (2006) identified improvisation as one of the components that lend credence to resourcefulness. Most teachers she points out, hardly have time to think on how to get at "replicas" of needed media using simple, cheap and locally made materials. Woolfolk (2001) laments that the usual complaint in most schools is that there are no teaching aids and that there are no funds to purchase the needed materials. The materials being referred to here are factory made equipment or imported materials.

Going by this development, Majorie and Brown (2004) warned that teachers should not use non-availability as an excuse to rationalize poor teaching and learning. Olumotanmi (2002) seems to support the above and suggest that using simple inexpensive but effective materials, the teacher can produce teaching aids using available materials. Accordingly, Eniaijeju in Eku – Anyang (2004) stated that improvisation refers to the act of using alternative materials and resources to facilitate instruction whenever there is lack or shortage of some specific first hand teaching aids. He goes further in his support of improvisation by pointing that the need to improvise becomes necessary because of large students population and scarcity as well as high cost of imported instructional materials.

According to Spires and Bartlett (2012) factors to Consider While Improvising Instructional Materials are:

1. Teacher should save materials whenever possible. For example, the teacher could have a store of pictures, magazines, newspapers, calendars, containers, sticks etc. this means that a teacher should be imaginative in looking for local materials to produce aids in place of the ideal ones.
2. The aid when constructed must be easily understandable to the learners. This is because foreign visual aids may not be appreciated or understood by learners since they are prepared for learners of quite a different culture.
3. The print materials the teacher uses must be large, clear, and neat. It must be attractive to look at as its purpose is to stimulate learning through the senses. The use of different colours in this respect is recommended.
4. If the teacher is poor at drawing, he/she should feel free to admit this fact and trace the picture, cut out or seek the help of another teacher. Quick chalk or white board sketches could be equally effective in the teaching process.

Venville and Dawson (2004) listed the following criteria for Selecting Media for Classroom Instruction

- a. Instructional objective: what specific objectives should the media help to achieve?
- b. Availability: are the media readily available? If not, can they be produced or improvised or borrowed?
- c. Method of lesson presentation: does the lesson deal with concrete, observable objects or does it deal with ideas or concepts or procedures? Answers to these

- questions would help the teacher to determine whether to select concrete objects or other forms of visual, audio or audio-visual materials.
- d. Age, experience and interest of learners: different types of media are suitable for different ages, experiences and interest of learners.
 - e. Cost: is the material to be used readily affordable to the school? Is it cost effective or are there cheaper materials that can serve the same purpose?
 - f. Technical quality of the media: the teacher should consider the durability, clarity and other technical attributes of the media.
 - g. Facilities available at the venue: if the media requires electricity, is there power supply? Are sockets available and functioning? If darkness is required (in case of projections), is the classroom suitably blacked out etc.

Classification of Improvisation in Teaching and Learning

Every one of us has the capability of creating materials giving the required motivation, willingness to try and creative spirit (Dalhatu, 2012). Three (3) techniques can be adopted in improvising instructional material namely:

Adaptive Technique: this is using the material to serve another purpose other than the one it was designed to serve with little or no modification at all. For example, an empty container of powdered milk can be used to store salt, or an empty crate that used to house new motorcycle parts can be used in the classroom as cupboard to keep classroom materials e.g. books, carton of chalk, etc.

Imitative Technique: this copying from an existing model. For example, a packet of detergent or sugar mounted on wheels of bottle tops with sticks as axle becomes a motor vehicle.

Inventive Technique: this is done as a result of the teacher's resourcefulness without reference to an existing model.

Steps forward for creating Useful Improvised Materials

1. **Identification of Needs:** the teacher should study the course content and prepare a list of concepts to be learnt and equipment and materials required for the presentation. Find out the ones that are available and ways on how to acquire or improvise them
2. **Identification of Available Items:** prepare a list of useful items that could be used in producing what you have in mind
3. **Identification of Source of Items:** there are many sources where teachers could collect useful materials. The following are some of the sources:
 1. **Teachers' and Pupils Homes:** the homes are rich sources of discarded plastics, tins, calendars and newspapers, bottles, pots, plates, spoons, forks, bottle tops, coconut shell, packaging containers etc.
 2. **Workshops in the Community:**
 - i. Carpenters shop- saw dust, pieces of wood, discarded nails etc.
 - ii. Mechanics shop- old wheels, spokes, chains, old plugs etc.
 - iii. Electrician's shop- pieces of wire, cables, old switches and lamp holders, screws etc.
 - iv. Metal workshop: pieces of discarded metal and sheet metal, welding rods, flexible wire etc.
 - v. Tailors shop- pieces of cloth, thread, discarded needles.

3. **Rivers and Sea Shore: sand, clay, pebbles, shells and plants**
4. **Farms and Forest: seeds, nuts, plants stalks, wood, bamboo stems etc.**

Examples of Improvised Materials to be used in classroom teaching

1. **Saw Dust Modeling Mixture:** get two (2) measures of sawdust, one measure of flour and two measures of water, and mix all into a paste. You have improvised clay which can be used to mold whatever shape you have in mind. Note that the molding should be done quickly before the mixture hardens.
2. **Paper Mache:** tear old newspaper into small pieces, soak in water until it melts into paste. You could boil the mixture for quicker result. Squeeze out the water, add flour and mix thoroughly. Like the saw dust modeling, you could use the mixture in molding various objects.
3. **Wet Mounting:** this is a method used in putting an already cut out picture (e.g. from an old calendar or magazine) on a cardboard paper.

Procedure for improvising classroom photo album

- a. Cut a picture from a magazine or calendar
 - b. Measure its length and width
 - c. Mark the measurement on the cardboard for placing the picture squarely in the center
 - d. Smear the edges of the picture with local gum and carefully smear the marked portion of the cardboard
 - e. Allow to dry for two (2) to three (3) minutes
 - f. Carefully place the picture on the cardboard within the marked portion
 - g. Use dry cloth to rub the surface gently and press for five (5) to ten (10) minutes
 - h. Use your marker to draw margins or some design around the empty space of the cardboard to make it attractive
 - i. Label the pasted cutting (where necessary) vertically. Use different colours for effect.
4. **Local Gum:** cut floaters (white plastic material usually found in the packaging of newly purchased electronic gadgets) into smaller pieces. Place the pieces into a clean container and add droplets of petrol (not much). Cover the container for about one hour. You will discover that the floaters melt, producing a very sticky gum usually harder than the factory purchased gum (JISC Digital 2016)

Concept of Digital Literacy

Digital Literacy refers to the skills, knowledge and understanding required to use new technology and media to create and share meaning. It also refers to the knowledge of how particular communication technologies affect the meanings they convey, and the ability to analyze and evaluate the knowledge available on the web, (Hague and Payton, 2011). According to JISC (2016), Digital Literacy means having the skills you need to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices.

Digital literacy in education encompasses so much more. For example, students must have specific skills when reading online text that may contain embedded resources such as hyperlinks, audio clips, graphs, or charts that require students to make choices. Students today are also being asked to create, collaborate, and share digital content and to do so responsibly. For these reasons, principals, school librarians, and teachers understand the importance of digital literacy skills for students and teaching digital literacy in the classroom.

Elements of Digital Literacy: JISC Digital Literacies Programme (2016) formulated 7 elements as follows:

- i. **Media Literacy:** Critically read and creatively produce academic and professional communications in a range of media
- ii. **Communication and Collaboration:** Participate in digital networks for learning and research
- iii. **Career and identity management:** Manage digital reputation and online identity
- iv. **ICT Literacy:** Adopt, adopt and use digital devices, applications and services
- v. **Learning Skills:** Study and effectively in technology in rich environments, formal and informal
- vi. **Digital Scholarship:** Participate in emerging academic, professional and research practices that depend on digital systems
- vii. **Information Literacy:** Find, interpret, evaluate, manage and share information.

Advantages of Digital Literacy in teaching and learning

- a. Ease access to information
- b. Enable students to learn at their own pace
- c. Improves cross-cultural knowledge
- d. Engage learners more in problem-solving
- e. Makes learning easier
- f. Stimulate and sustain learner's interest
- g. Encourage self-study

Disadvantages of Digital Literacy in teaching and learning

- a. Students may experience Cyberbullying
- b. Learners may fall victims of Scam
- c. Over-reliance on DL
- d. Limit face-to-face interaction with teachers
- e. Create many learning distractions
- f. Limit student-student social interaction

Importance of Digital Literacy in teaching and learning

- i. School leaders, media specialists, and educators are focusing more and more on the benefits of digital literacy skills in schools, because today's students are looking at the Internet as a key source of information. Students who are digitally literate know how to find and consume digital content. They know how to create, communicate, and share digital content.

- ii. Students who are building digital literacy skills understand the basics of Internet safety such as creating strong passwords, understanding and using privacy settings, and knowing what to share or not on social media. They understand the perils of cyberbullying and seek to stop current bullies and prevent others from cyberbullying.
- iii. In today's digital world, nearly every career requires digital communication at some point, so equipping students with the skills to effectively and responsibly find, evaluate, communicate, and share online content is key to their futures. But the benefits of teaching your students digital literacy skills begin in the classroom right now.
- iv. Digital literacy is crucial to helping students become lifelong learners. It teaches them essential life skills as well as academic skills.
- v. Digital literacy can engage students in the process of learning in all aspects. Students can use technology to help them remember new information. They could watch a video or create their own video to demonstrate understanding.
- vi. Students could create infographics to show processes. They could even use social media to get answers to their questions and interact with people around the world.
- vii. Digital literacy is more than online reading, so schools should treat it differently. Schools have the opportunity to help students expand their knowledge beyond the four walls of the building. It helps students use critical thinking skills to evaluate the quality of digital sources and information, which in turn helps students communicate better.
- viii. By teaching digital literacy to students, they are being prepared to enter adulthood and be successful in their chosen careers. This is part of being a good digital citizen. Students don't always realize that what they send out into the digital universe will be there forever. Teaching them how to be a positive digital citizen is crucial (Tukur, 2012).

Fig. 1: Model of DL sequence



Source: The Epic Guide to Digital Literacy in Education: Posted in Evolving Ed, May 23, 2019

Challenges of Using Digital Literacy in teaching and learning

- i. Many students have access to a personal device of some sort. It could be in the form of a phone, tablet, or computer. So, whether or not the school gives out devices, students are still accessing information from around the world through myriad sources. The challenge is to help educate teachers and parents about digital literacy so they can help students navigate the digital world.

- ii. Schools should consider hosting afterschool seminars for parents and students to come together in order to learn about how to appropriately use their devices. Utilize professional development to educate teachers about digital literacy and how to relay the information to their students.
- iii. Another crucial aspect of digital literacy is digital citizenship. This involves teaching students how to appropriately and safely interact with their digital community. With phones in hand, a post to social media is just a finger tap away. The challenge here is the means to teach students what it means to be a good digital citizen by explaining the potential consequences of a poorly thought-out post.
- iv. Digital literacy also involves helping students be more aware of cyberbullying which is currently a huge concern for many students and parents. Help students to think before they post something online. Teach them about the appropriate amount of personal information to share about themselves with others on the internet. Get them to ask and answer the following questions:
 - a. Should they tell someone where they live?
 - b. Should they give out their phone number?
 - c. Should they write a mean post on Snapchat or Instagram about the person who made them mad at school today?

Note: All of these are things that students might do without thinking about what could happen next. Schools have a great opportunity to help students make better choices in the digital world by promoting and teaching digital literacy and digital citizenship.

- v. Student engagement can be a challenge, but incorporating digital tools and resources helps. Rather than standing in front of the room and lecturing about a topic, have students research and start interacting with materials right away. For example, in a math class, students could go around the room or school and take pictures of items that are at 90-degree angles. They could then compile those photos into a video with drawings to demonstrate the angle in each photo.
- vi. In a science class, instead of labeling a diagram of where the planets are located, students could work together to create a webquest that travels through the solar system. Groups could create an interactive page for each planet with pictures and information.
- vii. Digital literacy is a great tool for differentiated instruction. Students can be assigned different tasks within the same lesson. In an English classroom for example, one group of students might be doing research about an author, while another group reads or listens to a text written by that author, and yet, another group works with the teacher on a necessary skill.
- viii. Teachers can even assign different assignments to each student or group of students. This is especially handy for graphic organizers. All students could be learning about the main idea, but they are each assigned a different leveled assignment to help them comprehend the concept.
- ix. Collaboration is also influenced by digital literacy. Google Docs is a great tool for collaboration. Students can all be on the same document at the same time while working on their own devices. They don't have to be in the same location anymore, they could also use social media to pose questions. They may ask their favorite author a question about a book on Twitter for example. They could also

follow scientists working with new technology, or use their digital world to gain information and insight.

- x. Lastly, digital literacy helps students expand their knowledge. In a science classroom, students can digitally dissect animals that schools cannot bring into the school. History classes can take field trips to ancient Egypt. English classes can visit the Globe Theater. There is so much information and all teachers have to do is help students access it.

The best ways of making use of Digital Literacy in teaching and learning

- a. To identify participants who have mobile phones with internet access/SD Cards
- b. Participants should be paired/grouped and each pair/group should have at least an android phone
- c. Each pair/group to be given a task of searching for resources on how to teach the four language skills namely; listening, speaking, reading, and writing, using the DL gadgets available.
- d. Each group will search for the methods of teaching one of the language skills to primary class.
- e. Pair/groups to provide feedback

How to Use Digital Literacy in teaching and learning

- i. Students must learn how to find quality sources and evaluate their effectiveness in order to help them accomplish their purpose or task. They must also learn how to use those sources to inspire their own original ideas to be shared with others. These skills are crucial to helping students succeed past graduation. Digital literacy helps students interact with their digital world effectively.
- ii. As teachers focus on teaching digital literacy skills in the classroom, access to diverse reading content is key to helping students gain these skills while also providing opportunities for personalization that lead to reading growth for students at all levels.
- iii. One way to boost access, personalization, and reading growth is through a student-centered digital library.
- iv. Since digital writing is often meant to be shared, learning how to effectively collaborate and communicate ideas with others is a pillar of digital literacy.
- v. Students don't always think about the implications or potential consequences of what they share online. In your digital literacy lessons, discuss the consequences of what students share online. Help them understand that a digital footprint encompasses all the information that students either passively leave or actively share about themselves online, most notably social media sites.

Conclusion

This paper concludes that ill-equipped laboratories and inadequate digital equipment in Nigerian schools, caused by underfunding, global financial crises and brazen corruption in the education sector is one of the current myriads of problems facing science and technology learning and teaching in Nigerian post basic education levels that need urgent attention. As government alone cannot remedy these problems, other stakeholders in science and technology education need to come in to surmount the problem.

Suggestions

This paper suggests the following:

1. Regular training on how to improvise science teaching materials and use Digital literacy should be organized by both Federal Ministry of Education and State Ministry of Education.
2. Schools should encourage and motivate science teachers to develop basic improvisation skills through the use of local materials and resource persons in the host community.
3. Governments at all levels should increase their wholehearted commitment on science education, whereby educational institutions should be given top most priority, especially in terms of infrastructural and staff development and welfare.
4. There should be constant source of power to make utilization of digital equipment useful in schools.
5. Parents and the host community, through Parents Teachers Associations, should assist schools through the provision of laboratory equipment and digital facilities.

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EFFECTIVENESS OF INSTRUCTIONAL VIDEO TAPES AND SLIDES ON TEACHING AND LEARNING OF GEOMETRY AMONG SENIOR SECONDARY SCHOOLS IN TAMBUWAL LOCAL GOVERNMENT AREA, SOKOTO STATE, NIGERIA

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Abstract

The study focused on the effectiveness of video tapes and slides in teaching and learning of Geometry in senior secondary schools of Tambuwal local government area of Sokoto state, Nigeria. The study adopted survey research design. The population of the study consisted of 124 Mathematics teachers from 7 senior secondary schools of Tambuwal Local Government. 37 participants which is 30% of the total population were selected as the sample size from the population. Using Simple Random Sampling the 37 samples were selected. The study was guided by three objectives and three research questions. Questionnaire was used as an instrument for data collection. The instrument used for data collection was validated and reliability index of 0.8 was found. The data obtained was analyzed using descriptive statistics of mean and standard deviation. The major findings of the study revealed that, Mathematics teachers were aware of Video tapes and slides but they were not utilising them in teaching Mathematics. Similarly, majority of the teachers' encountered different challenges in using video tapes and slides for teaching where by lack of constant electricity supply, unavailability of computers were the major challenges. The study therefore recommends that workshops, seminars and in house training should be organized for Mathematics teachers so as to guide and train them properly on how to utilise video tapes, slides and other technological gadgets to enhance the productivity of teaching Geometry in Mathematics. Government and other related agencies should make available resource materials for teaching and learning of Mathematics such as computers, video tapes, slides and other ICT related tools in senior secondary schools.

Keywords: Video Tapes & Slides, Geometry and Mathematics

Introduction

Technological tools are now becoming the most useful tools for teaching and learning due to the fastest growing development of technology. Many areas in the field of study are now based on the use of multimedia devices such as (audio, visual and audio-visual) and other approach in educational technology. The method of teaching and learning under educational technology comprises both hardware and software as instructional materials, such as computer assisted instruction (CAI), computer based instruction (CBI), etc. Technological advancement has brought so many instructional media to the forefront as the most radical tools of globalization and social development which have influenced the classroom teaching and learning situation positively and brought about more effective instruction as observed by Olatayo, Adedapo & Omiola (2017). For instruction to be effective, the teacher should be able to identify the instructional materials to be use.

According to the Abdul-Kareem and Musa (2020), Instructional materials are the most necessary important tools in teaching and learning which facilitate the execution of a most difficult teaching part of Mathematics. It is also on the teacher's part to show his or her ability, creativity and understanding in teaching any relevant topics which require the teaching aids. The uses of instructional materials by teachers allow them to establish the validity and more explanation on relevant topic taught to their students. Abdul Kareem and Musa (2020) asserted that instructional materials are important tools for enriching, visualizing, simplifying, transmitting and accelerating the teaching and learning processes. Such technology or technological breakthroughs as networked and non-networked, projected and non-projected, visual, auditory, audio-visual electronic media are important landmarks in knowledge transfer. Generally, instructional media make teaching and learning easier and less stressful and they are equally indispensable catalysts for social and intellectual development of the learners.

Video tapes and slides are the audio-visual media that could be used to facilitate instruction. Video tapes and slides instruction appeals to senses of hearing and sight. Recent advances in multimedia and communication technologies as reported by Aboyeji (2014) have resulted in powerful learning system with instructional video tapes and slides components. The instructional video tapes and slides used in early studies was primarily either broadcasted TV Programme or stored on CDs – ROM, the linear nature of such video produced inconsistency results (Brecht, 2012; Onawola, 2012; Today, video content resides in multiple learning formats and a variety of distribution modes – ranging from closed circuit instructional programming, to one – way and two –way tele courses connecting teachers with distance learners, to repackaged broadcast and Programme segments available via video cassettes, CD – ROM, DVDs, and via the internet. From the instructional point of view, the effectiveness of the video tapes and slides concerned with cognitive learning of students. This is because learning is a process through which knowledge, skills, habits, facts, ideas, and principles are acquired, retained and utilized; and the only means of achieving this is through the use of relevant Audio visual instructional materials in which Video tapes and slides are part of. Aramide & Balarind, (2015) supportively asserts that any teacher who takes advantage of these resources and learns to use them correctly will find that they make almost an incalculable contribution to instruction. Therefore, the teaching and learning of Mathematics as a science subject requires use of appropriate instructional materials and different pedagogical methods that will enhance meaningful teaching and learning of the subject.

Mathematics is the bed rock and essential tool for scientific, technological, and economic advancement of any nation (Muhammad, Maccido, & Hassan 2016). It is the study of size, numbers and patterns. It is the most international of all subjects, and mathematical understanding influences decision making in all areas of life-private, social and civil. It is the subject that enables scientists and technologists to develop relationships among biological, chemical, geophysical and physical qualities; understand and explain natural phenomena; hence, the teaching of Mathematics in Nigeria secondary schools needs to be properly handled.

Geometry is a branch of Mathematics that deals with the study of shapes and sizes. Sam-Kayode & Salman (2015) defined Geometry as the study of shapes and their properties. These shapes can be found all around us in every object. The shape could either be plane shapes such as triangles, rectangles, squares, rhombus, circle, trapeziums and kites and so on or solid shapes such as cubes, cuboids, cone, pyramid, cylinder, sphere and so on.

Sambo (2015) asserted that, Geometry is used by people in many fields; by engineers who build bridges and houses, by rocket and space scientists. so it is therefore expected that when a student is trained in it he/she could apply it in any vocation he might have chosen.

Despite the importance of Mathematics in human progress, students' performance in the subject in external examinations such as West African Senior Secondary School Examination Certificates (WSSCE) is by the day becoming lower and lower. Chief Examiners Report shows that students' performances remain very poor over the years. For instance, WASSCE result in Nigeria and Kastina State from 2017 to 2020 indicated that in the previous years of 2017, 2018, 2019, and 2020 only 36.57%, 48.15%, 64.18%, and 39.18% of the candidate passed the Mathematics for the respective years which was not encouraging at all. Many factors have been attributed to the low performances in Mathematics by senior secondary school students. These include among others, the perceived abstract and difficult nature of Mathematics, inadequate learning materials, unqualified or inexperienced Mathematics teachers, poor teaching strategy and in appropriate use of video tapes and slides in teaching and learning activity.

It's on this background that the researchers seek to examine the effectiveness of video tapes and slides in teaching and learning of Geometry in Senior Secondary Schools in Tambuwal local Government Area, Sokoto State, Nigeria.

A problem statement is a concise description of an issue a study or project seeks to address. It is a condition to be improved upon. It identifies the gap between the current state and desired state of the research process. Most of the Mathematics teachers applied traditional teaching method which emphasises on abstract concepts of Mathematics, as such, students found Mathematics very difficult to understand which lead to poor performance in the subject. Hence the teaching and learning of Mathematics requires multimedia instructional materials i.e. (video tapes and slides) that will enable students to understand concepts of Mathematics very easy. The teachers' level of resourcefulness, creativity and imagination is credited to the attainment of quality education. These are expressed in how well the teacher is able to generate and use the relevant information that can enhance and promote the effective teaching and learning activities.

The high failure rate of students in Mathematics is the major problems facing most secondary schools in the Nigeria society today in particular, the secondary schools in Tambuwal local Government area of Sokoto State are no exception.

From experience as a teacher, there are some other factors that contribute to high failure rate of students in Mathematics which include: non-availability of resource materials to teach Mathematics concepts, unqualified or in experienced Mathematics teachers handling Mathematics classes. Therefore, the transfer of knowledge from instructors to the learners should be based on the use of relevant and appropriate use of instructional video tapes and slides in the teaching and learning processes.

This study therefore, seeks to investigate the effect of utilising video tapes and slides in the teaching and learning of mathematics using selected secondary schools in Tambuwal Local Government, Sokoto State.

Purpose of the Study

The purpose of the study was to investigate the Teachers' perception on the effectiveness of video tapes and slides in teaching and learning of Geometry in senior secondary schools of Tambuwal local government area of Sokoto Sstate, Nigeria. Specifically, the objectives include to:

- i. find out if senior secondary school teachers of Tambuwal local Government Area of Sokoto state are aware of video tapes and slides for teaching and learning.
- ii. examine the extent of utilisation of video tapes and slides by senior secondary school teachers for teaching and learning.
- iii. find out the challenges of teachers in using video tapes and slides for teaching.

Research Questions

The following Research Questions were used to guide the study:

Are senior secondary school teachers of Tambuwal local Government Area of Sokoto state aware of video tapes and slides for teaching and learning?

To what extent does the senior secondary school teachers utilise video tapes and slides for teaching and learning?

What are the challenges of teachers in using video tapes and slides for teaching?

Methodology

The research design adopted for the study is the Descriptive Survey research design. It was considered appropriate for the study because it gives the researchers the opportunity to collect data from a sample of defined population. The population of the study consisted of all Mathematics teachers' in Senior Secondary Schools of Tambuwal local Government Area of Sokoto State. The total number of Mathematics teachers is 124 drawn from all the seven (7) Secondary Schools of the local Government Area. Simple random sampling technique was used to select the sample. From the population of 124 Mathematics teachers a sample size of 37 Mathematics teachers was selected. The sample obtained tallies with Awotunde and Ugodulunwa (2004) who recommended 30% of the population to be the minimum sample size in a survey research.

Instrument for data collection

The researchers Adapted teacher's questionnaire called Mathematics Teachers Perception Questionnaire (MTPQ) in order to assess the Teachers' perception on the effectiveness of video tapes and slides in teaching and learning of Geometry in senior secondary schools of Tambuwal local Government area of Sokoto State, Nigeria. The questionnaire was based on the four point Likert scale which are strongly agree (SA), Agreed (A), Disagreed (D) and strongly disagreed (SD). The responds would tell us the accurate personal opinion of the respondents. The questionnaire consisted of three sections, i.e. section A, B and C. Section A, introduction, Section B, Demographic information of the respondent while sections C deals with teacher's opinion. The questionnaire was adapted from Muhammad, Isma'ila and Maccido (2020). A survey research on Lecturers' Awareness and Utilisation of Blended Learning in Colleges of Education Sokoto state, Nigeria and also from Edem and Ekon (2021). The Extent of Use of Video Clip for Teaching and

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Copies of the instrument were subjected to the assessment of two experts. These experts examined the items of the instrument in relation to suitability for both content and construct validity. The items were modified to five (5) items from each variable, this was to enhance the face and content validity.

For the reliability of the instrument, the instrument was trial tested from the schools not participating in the study and the reliability index of 0.8 was obtained using Cronbach Alpha.

Results

The data collected was analysed using simple descriptive statistics of mean and standard deviation to answer the research questions as follows:

Research Question one: Find out if senior secondary school teachers of Tambuwal local Government Area of Sokoto state are aware of video tapes and slides for teaching and learning?

Table.1: Teachers’ Awareness of Video Tapes and Slides

S/N	Items	SD	D	A	SA	Total	Mean	STD	DC
1	I’m aware of Video tapes (VT) and slides	2	3	10	22	37	3.4	0.8	A
2	Video tapes and slides has been introduced in my school curriculum	5	2	22	8	37	3.0	0.8	A
3	My school gave me refresher training about VT and slides	16	18	2	1	37	2.0	0.7	D
4	I have access to VT and slides resources materials in my school	3	7	19	8	37	3.0	0.8	A
5	All my students have competency enough to work with computer and other technological tools.	0	10	20	7	37	3.0	0.6	A
Average Mean and Average STD							2.9	0.7	A

Disagree (D) = (1.5-2.49); Agree (A) = (2.50-4.00)

Table 1 above shows that, teachers expressed positive responses for the majority of the items raised. This indicated that the participants were aware of video tapes and slides as the average mean was 2.9 which was above the mean criterion of 2.5. This revealed that, teachers are aware of instructional video tapes and slides as tools for teaching and learning of Geometry. The standard deviation was relatively high that shows that the responses revolved above the mean.

Research Question two: To what extent does the senior secondary school teachers utilise video tapes and slides for teaching and learning?

Table 2: Teachers Utilisation of Video Tapes and Slides

S/N	Items	SD	D	A	SA	Total	Mean	STD	DC
1	I uses VT and slides to present my lesson	15	20	2	0	37	1.6	0.7	D
2	I uses VT and slides to engage students for learning	13	18	4	2	37	1.9	0.6	D
3	VT and slides are more convenient than traditional method for teaching	6	4	21	6	37	2.5	0.9	A
4	VT and slides are not time consuming for teaching and learning	14	19	4	0	37	1.7	0.5	D
5	VT and slides are helpful in improving students learning.	10	19	6	2	37	2.6	1.1	A
Average Mean and Average STD							2.1	0.8	D

Disagree (D) = (1.5-2.49); Agree (A) = (2.50-4.00)

Table 2 reveals that, majority of the teachers in the study are not utilising video tapes and slides as they disagreed with most of the items provided. The average mean was 2.1 which was below the mean criterion of 2.5. This indicates that, participants in the study are not utilising video tapes and slides as instructional tools for teaching. The standard deviation was also relatively low which implies that the teachers' responses turned below the mean.

Research Question three: Find out the challenges of teachers on using video tapes and slides for teaching?

Table.3: Challenges of Teachers on Video Tapes and Slides

S/N	Items	SD	D	A	SA	Total	Mean	STD	DC
1	Unavailability of computers and other technological tools	4	3	21	9	37	2.9	1.0	A
2	Power outage	0	2	24	11	37	3.3	1.2	A
3	Inadequate provision for in-house training	2	0	8	27	37	3.6	0.8	A
4	Overcrowded class rooms	3	4	10	20	37	3.3	0.9	A
5	Unavailability of video tapes and slides resources materials	4	2	12	19	37	3.3	0.9	A
Average Mean and Average STD							3.3	0.10	A

Disagree (D) = (1.5-2.49); Agree (A) = (2.50-4.00)

In table 3, Majority of the teachers in the study agree that there are a lot of challenges in using video tapes and slides for teaching as they agreed with most of the items provided. The average mean was 3.3 which was above the mean criterion of 2.5. This indicates that there are a lot of challenges in using video tapes and slides for teaching. The standard deviation was relatively high which implies that the teachers' responses turned above the mean.

Discussion of Findings

The study was aimed at finding out Teacher's perception on the effectiveness of video tapes and slides in teaching and learning of Geometry in senior secondary schools of Tambuwal local Government Area of Sokoto State, Nigeria. Statistical analysis used in the study were mean and standard deviation of descriptive statistics for answering three (3) research questions.

The findings showed that, almost all the Mathematics teachers of Tambuwal local Government Area are aware of Video tapes and slides for Teaching and learning of Geometry because table 1 showed that 86.5% (32 out of 37) agreed or strongly agreed. This indicates that, they are aware of Video tapes and slides. This finding is in accordance with Badamosi (2020) whose study revealed that teacher's awareness and readiness to implement new technology could enhance the learning productivity of Children. Moreover, with regards to teachers utilisation of Video tapes and slides, it shows that majority of the Mathematics teachers do not utilize Video tapes and slides for teaching as it indicated in table 2, where 94.5% (35 out of 37) agreed or strongly agreed that they are not utilising video tapes and slides for teaching and learning of Mathematics. This is because most of the teachers do not present their lessons using instructional video tapes and slides. This finding conformed with the findings of Edem and Ekon (2021).

However, on the challenges of teachers in using video tapes and slides for teaching, it shows that, majority of the teachers encountered different challenges as indicated in table 3, where 94.5% (35 out of 37) agreed or strongly agreed that they have challenges. This is because most of the teachers are not properly trained on how to use video tapes and slides for teaching Mathematics. The findings of the study also confirmed the findings of Badamosi (2020) where after reviewing existing literature in collaboration with observation on the state of technology integration in Nigerian Secondary Schools, he concluded that Nigerian teachers were not ready to integrate technology because they were not trained to do so. The second major challenge is the non-availability of computers, video tapes and slides resources materials in the secondary Schools. The findings reveal that, 83.8% agreed or strongly agreed that these resources were not available, as such, most of the Mathematics concepts were taught abstractly as teachers do not have access to these resources.

Conclusion

The discussion above demonstrates that although the respondents in the study were aware of the video tapes and slides for teaching, but they are not utilising it to teach Geometrical concepts in Mathematics. Similarly, most of the Mathematics teachers found challenges in using video tapes and slides for teaching, and the main challenges were: lack of proper training and unavailability of computers, video tapes and slides resources materials in the schools.

Recommendations

From the findings of the study, the following recommendations were made:

1. Workshops, seminars and in house training should be organized for Mathematics teachers to guide and train them properly on how to utilise video tapes, slides and other technological gadgets so as to enhance the productivity of teaching Geometry in Mathematics.
2. Government and other relevant stakeholders should make available standard electricity supply in the senior secondary schools through some other sources like solar energy, Generators e.t.c.
3. Government and related agencies should make available resources materials for teaching and learning of Mathematics such as computers, video tapes, slides and other ICT related tools in senior secondary schools.

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EXPLORING LOW LEVEL VIOLENCE AS NEGLECTED ASPECTS OF SCHOOL CULTURE: IMPACT ON ACADEMIC SELF-CONCEPT OF LEARNERS

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Abstract

The main objective of the paper is to explore Low level violence in school in order to assess its impact on Academic self-concept of students. In view of this, some key concepts namely; school culture; low level violence and Academic self-concept were clarified. The paper also examined various forms of low level violence that are taken for granted as part of the school culture. On the basis of symbolic interactionism sociological theory, the article analyzed impact of such part of school culture in the formation of self-concept of students. Thus, the conclusion drawn by the paper was that Low level violence still remain neglected aspect of school culture and exist in different forms at all levels of education and it has impact on the Academic self-concept of students which is rarely taken into consideration by personnel in schools. Based on the conclusion drawn, the paper therefore put forward suggestions geared toward healthy school culture that promote development of positive academic self-concept. Among the suggestions was that school managements should devise measures aim at discouraging school culture that promotes physical and nonphysical level violence. It is essential that a needs assessment be conducted and all stakeholders be informed about the extent of different forms of low level violence in school and it threats which if ignored, can have negative impact on learners' Academic Self-concept.

Keywords: School culture, Academic self-concept, Low Level violence, Interactionism

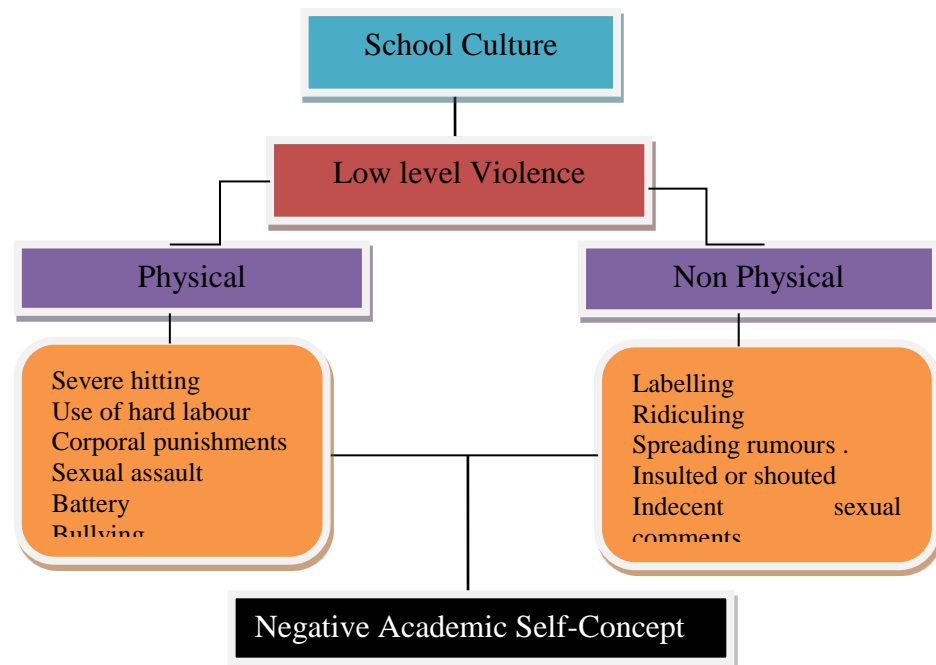
Introduction

School is regarded as social institution saddled with responsibility of imparting knowledge and skills to learners as well as passing socially approved and cherished societal norms and values to younger ones. This responsibility is the expectation of most parents and guardians who send their wards to schools. Indeed, Mahuta (2016) opined that, School is assumed to be one of the safest institutions in the society for a child because of belief society has about the School culture. In school, there are network of social relationships and social interactions. Social relationship within school involves Head-teacher-teachers' relationship, Head-teacher-learners and teachers among themselves, teachers-learners and learners among themselves. The nature and manner of these types of social relationship are some aspects of school culture. Society largely expect that all these forms of social interaction as part of school culture are all but a healthy and positive aimed at imparting knowledge and skills as well as inculcating what the larger society termed as moral virtues like respect, loyalty, social control, discipline among others. Sociologists such as Parsons and Mead in Meighan and Siraj-Blatchford, (2003) well acknowledge this school culture, but they point out that there are so many acts of violence imbedded in the school culture that are not been reported by media or those concerned because they are taken for granted even though they have impact.

A single occurrence of any form of High level violence in school such as murder, rape, possession of weapons, school shooting, cult activities among others grabs all the headlines and public attention as well as reported by different media platforms. Duffer and Meyer-Adams (2020) though acknowledged the gravity of high-level school violence, however observed that it is relatively rare. But low-level school violence such as bullying, peer sexual harassment, victimization based on unknown or pre-conceived assumptions or the psychological maltreatment of students by teachers are given relatively little attention. Although not as overtly serious as High level violence, they occur with greater frequency and has impact on students' academic self-concept. Sociologists such as Mahuta (2016) and Duffer and Meyer-Adams (2020) termed those risk factors imbedded in school climate or culture as low-level violence which are neglected as aspect of school culture. They are referred to as neglected because they are not often reported and they are taken for granted by larger society and the school personnel. However, different forms of Low level school violence have impact on academic Self-concept of learners.

Conceptual framework

The conceptual framework for the paper is illustrated as follows:



School Culture: The concept of School culture means the totality of school life. Meighan and Siraj-Blatchford (2003) coined the concept of school culture to refer to as beliefs and expectations apparent in a school's daily routine, including how colleagues interact with each other. Maslowski cited in Mahuta (2016) refers to school culture as "the basic assumptions, norms and values, and cultural artifacts that are shared by school members, which influence their functioning at school. On this basis, therefore beliefs, attitudes, and relationships, written and unwritten rules of a school can all be seen as aspects of school culture. Such beliefs, attitudes, relationship and rules that form the school culture emanate from the actions and inactions of stakeholders like students, teachers, administrators, and other staff. The term also encompasses more concrete issues such as the physical and emotional safety of students, the orderliness of classrooms and public spaces, or the

degree to which schools embrace and celebrate racial, ethnic, linguistic, or cultural diversity.

Similarly, policies, rules and regulations, guiding principles whether written or unwritten, official or unofficial that govern how school operates, or the principles on which the school was founded also constitute what is referred to as school culture. Written rules and regulations are the obvious. The unwritten rules are nonobvious but they are norms in school and their example is summed of by Emile Durkheim cited Ballantine & Spade (2012) as:

There is a whole system of rules in the school that pre-determined the child's conduct. He must come to the class regularly; he must arrive at a specified time and with an appropriate bearing and attitudes. He must not disrupt things in class, He must have learned his lesson, done his homework, and have done so reasonably well, etc. There are therefore, a host of obligations that the child is required to shoulder (p. 30-34).

The extract above constitutes some aspects of school culture. It is expected that through such practices, the school inculcates the spirit of discipline in the child. However, Social control is necessary for school to ensure compliance to its culture. In the process of enforcing school culture to students, some actions and inactions of staff and senior students often turn into what is referred to as low level violence.

Low level violence: Low level violence are practices or school culture that are violence themselves or source of violence but their impact is taken for granted or not reported because is not considered as serious problem but just regarded as part of the school culture. Low level violence sometimes emanate from written rules and they are often unwritten rules, beliefs, norms that are used in an attempt to inculcate in learners the principles upon which the school is founded. Jackson cited in Meighan and Siraj-Blatchford (2003) used the term “unofficial 3Rs that is Rules, Routines and Regulations” to describe unwritten rules of the school that learners are unconsciously socialized and must be learnt in order to survive comfortable in school. According to Jackson in Meighan and Siraj-Blatchford (2003):

Pupils must learn to cope with the delay, denial and interruption that accompany learning experiences in schools. Delay occurs when pupils wait in the assembly, wait in corridors, wait for their turn on the apparatus, wait for the lesson to start, wait for the teacher to become available or wait to be invited to answer a question. Denial occurs when pupils are forbidden to talk to themselves, cannot ask question, cannot pursue a chosen activity or cannot have a turn on apparatus because time has run out. Interruption occurs when the bell rings in the middle of an activity, For most of the students, most of the time the classroom comes close to resembling a cage from which there is no escape (Pp. 10-11).

Jackson's unofficial 3Rs can be source of low level violence themselves. Similarly, process in which school uses to enforce them in some cases turn into low level violence. For example, actions and inactions taken by staff and senior students to ensure compliance with the school culture although not approve are physical low level violence such as severe hitting, punching, battery and bullying among others. There are also nonphysical low level violence such as labeling and belittle of children. In addition, the compliance measures taken by staff and senior students may be non-physical that include insulting or shouting, indecent comments, gestures, labeling and addressing students with negative phrases like idiot, empty head, you only know how to eat, ridiculing and belittling students among others. Indeed, Duffer and Meyer-Adams (2020) termed Low level violence as largely neglected aspects of culture underlying violence in schools.

Different forms of low level violence which are taken for granted as part of school culture can have impact on learners. The impact according to Dupper & Adams, (2020) ranges from afraid to go to school, frustration and anger, students' inability to concentrate, and alienation, engagement in delinquency, truancy, absenteeism, indiscipline and dropping out of school, loss of esteem and feeling of isolation among others. Such consequences can have direct bearing on self-concept of learners.

Self-Concept: Self-concept is the notion of an individual about himself. Malami (2006) posits that literally, self-concept refers to the picture or image a person has of himself. Academic self-concept is therefore when such image learner has about who he is, relates to his academic performance. Self-concept is derived from the root word "self" a concept in social sciences that drew the imagination of philosophers and great thinkers for centuries. For example, Socrates saw the self as the soul of a person, while Rogers argued that 'The self is an awareness of being', While according to Hattie, cited in Marsh and Martin, (2012) William James who is considered the father of the psychological study of self, developed the important distinction between I (self-as-knower or active agent) and Me (self-as-known or the content of experience) distinction.

From Sociological view, proponents of symbolic interactionism have significant number of works regarding self-concept and its formation. Prominent among them are, George Herbert Mead and Charles Horton Cooley. Mead made analysis of Self-concept by dividing the personality of individual into two structures. That is "I" and "ME". According to Mead "I" part is generic in origin, the continuing part of personality while "ME" is basically social reflection of society's demand. Each individual is made of many ME relating to various social roles. The demand and expectations of various others (people) influence the image individual has about who he is. These others are divided into two, namely significant others and generalized others. The generalized others means general notion that a person has of the common expectations that community have about his actions, thoughts and behavior. On the other hand, significant others mean general notion that a person has of the common expectations of people that are more intimate to an individual's life.

Theoretical framework

Symbolic interactionism sociological perspectives provided theoretical basis for this research that explored the impact of school culture on academic self-concept of learner. The main view that guided symbolic interactionists in their analysis of society according to Ogunbameru (2010) is that, society is a loose network of related parts in a constant state of flux, which means that society can sometimes be harmonious, open and flexible

and sometimes can have some or all the above in a contradictory state of affairs. This means that according to this Micro perspective, instead of individuals being forced by patterns of society or pulled by the strings of society; individuals create society everyday by their social actions. In this view, meaning is seen as being negotiated by social actors rather than being imposed upon them. There are many sub-theories under symbolic interactionism, however this article limits its explanation to theory of self and self-fulfilling prophecy or labeling theory.

The theory of self is postulated by George Herbert Mead to explain how the individual mind and self arises out of social process. As cited Haralambos and Holborn (2012), Mead summarizes human beings as creative intelligent and interpretative creatures capable of creating their own social environment. The concept of self, according to Mead is developed through Man's interaction with his environment. In other words, self does not exist at birth but is developed through interaction with others.

The concept of "others" is used in the theory of self to mean categories of people in the school culture that contribute in the formation of self-concept. They can be divided into two categories namely: Significant and Generalized others. In school culture, a teacher can be considered among those significant others and his expectations shape the image individual (pupil) has about who he/she is. A teacher who develops negative expectation towards pupil can interact with pupils in the classroom through making negative comments on such pupils, such comments include empty head, dull, donkey and these statements can affect the self or image individual has about himself. Consequently, when an individual views himself as dull, empty head as a result of teachers comment such can have negative effects on his academic performance because an empirical study conducted by Ladan (2015) found the effects of negative comments on pupils to include loss of confidence, tension during class work or continuous assessment or examination, negative attitudes toward learning and passivity in the classroom.

Similarly, as noted by Geisler cited in Ladan, (2015) the phrase self-fulfilling prophecies was introduced early on by Merton (1910-2003). Self-fulfilling prophecy theory means a situation whereby a teacher predicts or makes prophecy on learning outcomes of pupil and pupil himself fulfills teachers' prophecy by behaving based on teacher's prediction. In the classroom therefore self-fulfilling prophecy occurs when pupils live up to the labels imposed on them by the teacher. With regard to this Rothenthal and Jacobson cited in Giddens (2010) found that, when teachers labeled pupils as bright and praised them, the pupils react in a positive way and the original prediction is fulfilled- a self-fulfilling prophecy, on the other hand, they found that when teachers labeled pupils as thick and ignored them, the pupils react in a negative way and the original prediction is fulfilled – a self-fulfilling prophecy. The development of the self-fulfilling prophecy begins with an often incorrect expectation of a pupil, but it is ultimately the series of steps after this expectation that fulfills the self-fulfilling prophecy.

Consequently, if the expectation developed by the teacher towards pupils is negative, academic self-concept of pupil is affected.

Low Level Violence as Part of the School Culture

Low level violence is imbedded in the school culture and scholars therefore found prevalence of different forms of violence in schools at different levels (Duffer and

Meyer-Adams 2020, Mahuta 2016 and UNICEF 2007). Duffer and Meyer-Adams, (2020) while reporting on the high schools in the United States found that, Bullying, peer sexual harassment and psychological maltreatment of students by teachers and senior students as the most common low level violence. According to them, Bullying refers to unprovoked physical or psychological abuse of an individual by one or a group of students overtime to create an ongoing pattern of harassment and abuse. It comprises direct behaviors (e.g., teasing, taunting, threatening, hitting, and stealing) and indirect behaviors (e.g, causing a student to be socially isolated by spreading rumors).

On the other hand, Duffer and Meyer-Adams (2020) referred to peer sexual harassment as nonphysical and physical forms which can take any of these namely making sexual comments, spreading sexual rumors, flashing, touching, grabbing, and pinching among others. Among these low level violence as Duffer and Meyer-Adams (2020) further found, the most common form as reported by 65% of girls and 42% of boys in US public schools, was being the target of sexual comments, jokes, gestures, or looks. While the second most common form of harassment was being touched, grabbed, or pinched in a sexual way. The third form of low level violence, Psychological maltreatment of students by teachers and senior students was described as discipline and control technique that are based on fear and intimidation. It also involves use of screaming and sarcasm, threats, ridicule to control students.

Similarly, in Nigeria, different types of violence have been documented in schools. However, UNICEF (2007) cited the following as types of violence found in the Basic education level in Nigeria. They are as follows;

- a. Physical Violence
- b. Psychological Violence
- c. Sexual Violence
- d. Gender-Based Violence
- e. Health-Related Violence

According to the report, Physical violence 85% and psychological violence 50% accounted for the bulk of violence against children in schools. Other types of violence reported among learners in Basic education level in Nigeria included gender –based violence which accounted for 5%, while sexual violence 4% and health-related violence 1%.

In addition, Mahuta (2016) observed that low level violence indulged in by staff, senior students and among peers in our schools can be broadly divided into two main forms, namely physical and non-physical. The Physical low level violence according to Mahuta (2016) can take forms not limited to the following:

Severe hitting (punching, slapping, spanking, kicking, beating)

Use of hard labour

- i. Corporal punishments for violation of school rules and regulations.
- ii. Sexual assault on both female and male students.
- iii. Battery which is the crime of attacking somebody.

On the other hand, non-physical low level violence in the words of Mahuta (2016) are those forms of violence that are intended to belittle, humiliates, threatens or scare an individual student or teacher. They consist of but not limited to the following:

- i. Students being insulted or shouted at by staff or senior students.
- ii. Indecent sexual comments, gestures and jokes on students.
- iii. Coerced sexual intercourse with students in exchange for gift, money or grade.
- iv. Labelling and addressing students with negative phrases like idiot, empty head, you only know how to eat.
- v. Ridiculing and be-littling students because of his appearance or on the basis of his
- vi. parental socio-economic status.
- vii. Spreading rumours against students.

Impact of School Culture on Self-Concept of Students

Different forms of low level violence though neglected as part of the school culture are found to have impact on the self-concept of the children. The nonphysical violence such as Labeling and addressing students with negative phrases are found to contribute to the formation of negative self-concept. Indeed, in a study conducted by Ladan (2015), it was found that one of the major effects of negative comments on pupils include loss of confidence, negative attitudes toward learning and passivity in the classroom. Indeed, one of the students (P2) involved in the study narrated his experience with a teacher that usually labels him:

any time that teacher is in the class, he (P2) will not have confidence to contribute something. When the teacher ask question even if I have an idea I will not raise my finger because I am not sure of myself. I always try to make myself invisible for the teacher.

The implication of the above is that some learners who decide not to participate in the class do so not because of their learning deficiency but for the fear of being intimidated by the teacher. Similarly, the act of bullying has long-term implications on students. Hazler in Duffer and Meyer-Adams (2020) found that the impact of bullying on its victims includes a loss of self-esteem and feelings of isolation which can last into adulthood. He stated that learners' grades may suffer because their attention is being drawn away from learning. According to Duffer and Meyer-Adams (2020) Low-level violence whether physical or non-physical angers and alienates many students and contributes to a hostile school environment. It is on this basis that, Crosnoe, Johnson, and Elder (2004) contend that students' alienation contributes to academic self-concept problems. They stress the need to consider more social aspects of schooling such as the relationship that teachers build with their students. They studied whether affective dimension of teacher-student relationships predicts academic progress and behavior problems and the researchers therefore concluded that students who had more positive views of their teachers did better and had fewer problems in school. They consider good student-teacher relationships to be a resource to schools and the students and should be promoted as such. Facilitating interpersonal relations, from a sociological viewpoint, is important to keeping students committed to the educational process.

Teacher-students relationship also forms an important aspect of school culture that can be positive. It can also be negative culminating into nonphysical low level violence. In view of this, Wubbels and Brekelmans (2005) also conducted a study that showed that students' perceptions of teacher influence were related to cognitive outcomes. The higher a teacher was perceived on the influence dimension, (an interpersonal perception profile), the higher the outcomes of students on a physics test. In their study, teacher influence was the most important variable at the class level. They reported that the more teachers were perceived by their students as cooperative, the higher the students' scores were on cognitive tests. Hamre and Pianta (2006) also investigated the importance of teacher-student relationships. They posit that positive relationships between teacher and student serve as a resource to students as it helps maintain their engagement in academic pursuits. This extended engagement leads to better grades.

As indicated by different scholars, school culture has a great influence on student's classroom academic achievement. Regarding to this, Hoy and Miskel (2001) for example, noted that each culture describes the shared beliefs of teachers in the school. School with strong cultures of efficacy, trust and academic optimism provide higher levels of students' academic achievement otherwise it will intimidate the socio-emotional development of students. Moreover, an effective and a healthy school culture facilitate teacher-student, teacher-teacher and student-student relationships. It also gives opportunities and avenues for togetherness, discussing fundamental values, taking responsibility, coming together as a community and celebrating individual and group success.

Conclusion

The paper examined aspects of school culture particularly low level violence. Based on the discussion, it is apt to say that, Low level violence still remain neglected aspect of school culture that exists in different forms at all levels of education, yet many school personnel take it for granted and do not acknowledge that low-level violence is a serious problem. Similarly, low level violence has impact on the Academic self-concept of students which is rarely taken into consideration by personnel in schools.

Suggestions

Based on the foregoing discussion and conclusion drawn, the following suggestions were made:

1. School managements should devise measures aim at discouraging school culture that promotes physical and nonphysical level violence. It is essential that a needs assessment be conducted and all stakeholders be informed about the extent of different forms of low level violence in school and it threats which if ignored, can have negative impact on learners' Academic Self-concept.
2. Low level violence should not be regarded as neglected aspects of school culture and not be taken for granted by stakeholders. Instead, the media should adequately report it and be made to grabs headlines like High level violence leading to concerted efforts at reducing it.
3. Teachers should help pupils develop positive image of themselves and good academic self-concept through positive reactions, expectations and comments on

- pupils that can encourage learning. Conversely, they should desist from making negative reactions towards pupils' actions that give learners negative self-concept.
4. Supervisors and inspectors of schools should adopt strategies toward discouraging and reducing prevalence of low level violence in school through ensuring adherence to violence prevention programmes and encouraging learner friendly school culture that promote good teacher-learner relationship.

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EFFECT OF MARITAL INSTABILITY ON CHILDREN: IMPLICATIONS FOR COUNSELLING

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Abstract

This paper focused on marital instability and its effect on children development. The paper explained on the concept of marriage and marital instability as well as causes of marital instability which included dissimilarities between spouse in social and economic characteristics such as ethnicity, religion and age. Marital instability is associated with separation, divorce, and widowhood; its effects were also looked at such as parental separation and psychological well being of a child. Suggestions were made that family counselling be emphasized by the stakeholders, government, religious leaders, and counsellors to minimize instability in the family and effort should be intensified to discourage marital discord. Counselling can also help individuals cope with various life situations, such as adjustment and marital stability.

Introduction

Happiness in marriage is the ardent desire of all intending couples. Marital instability is always a human tragedy that is desired by no one. It causes hurt and suffering to human persons. It is an experience, which involves serious disruption of life at many levels. Many people who have been through the experience of a marital instability liken it to the experience of bereavement. One of the most important relationships between a man and a woman is marriage which involves emotional and legal commitments to each other in adult life. Selecting a partner and entering into a marriage contract is considered a personal achievement and the selection of marriage partner is indeed one of the most important decisions one makes in a lifetime. People marry for many reasons which include; physical attraction, love, happiness, companionship and the desire to have children. Marriage is a socially and legally approved sexual relationship where parties involved have mutual understanding for procreation and protection of their future offspring (Musa, 2017). Marriage is the oldest social institution ordained by God as a social contract between two individuals to become husband and wife. Marriage is the state of being united with a person of the opposite sex as husband or wife for the purpose of companionship, procreation and maintaining a family (Luka, 2019).

However, marital instability has become a thing of concern in this contemporary society and this is associated with widowhood, separation and divorce. Separation and divorce are social aspects in marital instability created by either husband or the wife or both, but widowhood is beyond the control of human being, it is related to death and thus universal (Aminu, 2016:4).

Meanwhile, separation may be in two categories:

Physical separation (i.e. when the husband and the wife reside separately without resolving their marital tie);

Mental separation (i.e. when the couple decides to live together in the same household but without having biological and psychological relations.

It is imperative to note that when marriage is dissolved in the court of law, it is called divorce, but when it is dissolved by death is called widowhood (Aminu, 2016). Meanwhile, the term marital instability is used to refer to the process whereby marriages breakdown through separation, desertion or divorce (Oyafunke, Olubusanyo & Salau, 2014).

In reacting in this regard, the following definition of the term marriage has therefore been proposed. The word "marriage" means different things to different people and it comes about in different ways in different culture and religion, whatever way the marriage is consummated, there must be social approval. It is a means of unity that connect a man and a woman who aim to share a life together for establishing a family (Ridwan in Abubakar, 2017). Marriage is a culturally approved relationship of one man and one woman (monogamy), one man and two or more women (polygyny), of one woman and two or more men (polyandry) in which there is cultural endorsement of sexual intercourse between the marital partners of the opposite sex and with the expectation that children would be born of the relationship (Lar, Okpede and Bulus in Abubakar, 2017). Marriage is a socially, legally, culturally and religiously approved intimate relationship between a man and woman (Akinade, 2015). Marriage is an institution ordained by Allah as well as the culture of many society, it is a union between a man and woman and a life long commitment. Obidoa and Oparanozie (2011). Marriage in itself, is a sacred and permanent contract which is assumed to be enacted when two people (usually a man and a woman) decide of their own accord and in the presence of at least two witnesses to exchange the formal consent to live a life of vocation of love and sharing for each other, for the purpose of promoting their mutual growth and welfare as persons, in their journey together through life.

As Otite and Ogionwo in Adejare (2018) have indicated, the concept of marriage is a difficult one to define mainly because of the diversities in the systems of marriage throughout the world. In their view, however, there are, at least, three known important prerequisites before a marriage can be assumed to occur. These are the approval and involvement of the families of the spouses, the bride wealth payment and a religious factor.

Marital instability, which simply refers to the interpersonal difficulties within the marital relationship, has many causative factors. Ajai and Ipaye in Adejare (2018) wrote thus: the family is the most basic unit of society and building block for national development. Just as there cannot exist any society without families or home, there cannot be sustainable development without stable families or home. Nothing man does is ever perfect, therefore, there are bound to be imperfections in marriages. Marital instability according to Abubakar (2017) is affective and cognitive states along the related actions that are precedent to terminating a relationship and a situation in an intact dyad not to ones that already have been distrusted. Oyafunke and Salau (2014) referred to marital instability as the process whereby marriages breakdown through separation desertion or divorce. Unfortunately, many children today are faced with the challenges of multiple divorces or

separations within their families. Parents who divorce, often go on to remarry or form other intimate relationships have higher incidence of failure (Amato in Muhammad, 2019). The children as defined here are also victims of marital instability of their parents and they are below 18 years of age.

There are number of study that had been conducted on the effect of marital instability on children. According to Tolorunleke (2018) in her study on “Causes of marital conflicts amongst couples in Nigeria: Implication for Counselling psychologists” investigated and obtained information on causes of marital conflict that were prevalent among couples in the area of study. The study revealed that couple in Ijumu experience marital conflicts under physical, social and economic causes. It was also discovered that marital conflicts were caused majorly by the inability of the couples to meet each other’s sexual needs and especially the inability of the family heads to provide for both economic and social needs of the family among other causes. The study also reviewed that the two hypotheses tested were accepted at 0.05 level of significance, which implies that there are no significant differences in the causes of marital conflicts based on such variables as the couples educational levels and length of marriage. This assumption is in agreement with the findings of some scholars like Adegoke in Adejare (2018), Animasahun and Femi (2018), and Odunayo (2012) who in separate studies revealed that marriage in Nigeria are besieged by numerous constraints that lead to increase in divorce and marital separation. Meanwhile it was discovered that children of the divorced or separated parents tend to go wayward, naughty, unruly and rebellious. Besides, children of divorced parents are more likely to be used for child trafficking than the children who grow up in an intact family. In the society for instance, every tribe recognizes some form of the institution of the husband or the wife or of both. Meanwhile, widowhood is beyond the control of human being because it is related to death (Aminu, 2016). Meanwhile, Adejare, (2018) posited that there are numbers of factors that are seriously threatening stability of marriage and most of these factors are traceable to some inherited behaviour and thinking from the ancient society, and imported ideas from other sources that are beyond the concept of marriage. These factors are the significant causes of marriage instability in the society; as a result of their functions and effects within a home. In another development, Maciver and Dimkpa (2012) noted that the conjugal family is weak in residential and economic terms when compared with the marital lineage.

Ayodele, (2020) also observed that families, nowadays, seem not to care about their wards in marriages because in most cases, the choice of partner is made by the wards themselves contrary to tradition, where a choice was made by parents. The trend now is that men and women marry where they are working or studying. In spite of its indispensability, marriage has been affected by many problems which threatens its usefulness and existence. In most cultures and religions a matured man or woman is considered to be incomplete without a spouse. It must be noted that there are different groups, traditions and different marriages but they have one specific thing in common and that is the changes of the weddings and marriages pattern, which are influenced by the Western societies (Holley in Muhammad 2019). The influence of the western culture is making the traditional polygyneons marriage fading away and gradually disappearing in this contemporary society (Aiyetan & Kolapo in Muhammad, 2019) in favour of monogamous marriages.

In another development, marital instability has been described as a situation whereby the couples deliberately decided to separate for one reason or the other. The concept of

marital instability is associated with separation, divorce and widowhood (Oyafunke & Salau, 2014).

One theoretical framework guided this study, Social Exchange Theory goes back to Burns in Abubakar (2017). It is a social psychological and sociological perspective that explains social change and stability as a process of negotiated exchanges between parties. Social exchange theory posits that human relationships are formed by the use of a subjective cost-benefit analysis and the comparison of alternatives. Social Exchange Theory is a social psychological theory that views relationships as the result of a cost-reward calculation made by the individuals concerned. It states that if we feel the rewards received from being in a given relationship are outweighed by the costs of being in that relationship then the relationship will remain intact. If the inverse is true, then the relationship will dissolve. Costs of being in a relationship may be effort, money spent, time spent, or low self-esteem, whilst the rewards may be pleasure, satisfaction, financial support, etc.

Social Exchange Theory (SET) according to Nakonezny and Denton in Abubakar (2017) is a viable theoretical framework to examine rationale processes and familial relationships. Adding that, the paradigm of social exchange theory which borrows from behavioural psychology, sociology and classical economics.

Social Exchange Theory seeks to explain the development, maintenance (e.g. solidarity, power) and decay of exchange relationships in terms of the balance between rewards and the marital partners obtain and the cost that they incur by selecting themselves into marital relationship. Costs according to this theory are the factors that inhibit or deter a performance of a sequence of behavior within a marriage, whereas rewards are the pleasures, satisfactions and gratifications that a person enjoys within a marriage. Hence, marital exchange relationship in this regard can be conceptualized as the cyclic patterns of transactions of valued resources, tangible or intangible between partners and there wards and costs associated with such transactions which culminate into dyadic or individual outcomes of profit or loss (Abubakar, 2017).

Causes of Marital Instability

A lot of factors have been identified as the obstacles to a happy marriage according to Adejare (2018:52), which eventually lead to a marital instability. If those about to marry give a serious thought to the following factors, there is no doubt that many marriages might be saved. Let us now consider them one by one:

- a. **Communication:** Lack of communication is a powerful causes of marital instability among couples. While some couples discusses issues of their marriage others just patch up or pretend that all things are well until the marriage become irretrievable. Communication block is a major source of marital breakdown. Communication has been called the lifeline of love. In its root meaning, it refers to sharing. It implies that two persons have now something “in common” because it has been shared. In its most profound sense, communication is a sharing of the persons themselves. It is through communication that two parties get to know each other, their hidden angers and humiliating fears. Where there is no communication, small difficulties become big problems, and silence is understood as hostility.

- b. **Financial Problems:** Poor financial status of the husband is one of the major factors for divorce. It may be because the man loses his job or is down graded or the business is declining and can no longer sustain the family, if this persist it may cause a speedy rate of divorce.
- c. **Criminal Behaviour:** Some spouses may find out after their marriage that their partners are criminally inclined persons. Some of them are thieves, drug abusers, fraudulent individual among others. They do not have clean means of livelihood, they are not what they claimed to be.
- d. **Sexual Incompatibility:** Individual demand or enjoy sexual intercourse in various degree, some demand for excessive and frequent sex more than what their partner can cope with, others barely tolerate or want it, some individual have some sexual problems that may be sexual arousal, sexual performance or sexual demand all these can cause divorce among couples.
- e. **Childlessness or Infidelity:** Having a sexual or romantic affairs with someone other than ones spouse. Childlessness in marriage is one of the major causes of marital maladjustment and final breakdown of marriages in Nigeria. Given the premium which Africans in general and Nigerians in particular attach to children, any marriage that has nothing to show for it in terms of children after two years is usually in tension. Even where the man claims that he is not perturbed and is not worrying the wife about the childlessness, the woman herself does not feel at ease. The family of the man usually blames the woman for the childlessness even when the man is responsible for the problem. She is often called all sorts of names including being “a man”. If there is convincing evidence that a partner has engaged in sexual unfaithfulness, the marriage foundation is broken. This is a frequent and legally accepted cause of divorce.
- f. **Age at marriage:** Those who marry early are found to divorce more and earlier than more mature partner. This may be because they were not fully prepared for such stage of life, they probably do not have enough education or profession to fall back to. They may even bear more children than they can cope with within a short time in marriage or old men who marry very young wives, all these can lead to divorce.
- g. **Alcohol/Substance Abuse:** Excessive indulgence in these items is inimical to stability of marriage. It reduces money available for the development of the home; it pushes the offending partner away from the other spouse, worsen the home climate and reduce reasonable communication. Alcohol use may result to diverse violence such as physical, sexual, emotional and financial.
- h. **Workaholism:** Some spouse devote too much time to their work to the extent that they neglect their partner, children and home. Some may claim they need to work to take responsibilities for every one in the family as best as they can; some are business men and women who cross the state and even the country they hardly stay at home and their partners may miss them while they are apart. Some academicians spend plenty of their time lecturing, paper presentation, attending conferences and rendering public services, some women are now executives, some of them rise fast and high far above their husband, some of them may look down on their partners who may not like this, it is a potent cause of divorce.
- i. **Lack of Preparation:** Many young people today dabble into marriage without any adequate preparation. It is true that at the age of 14 for a girl and 16 for a boy, they are already physically matured for marriage, but then physical maturity is not all that is required for marriage. There is need for two people who are about to enter into marriage to be prepared for it. This preparation can come in various

- forms – emotional, psychological and intellectual. They are supposed to know what marriage is all about, what is expected of them in terms of the duties and obligations, and how they are to relate with each other meaningfully after marriage. In my interaction with many young men and women whose marriages have broken down, I discovered that at the very time they entered into the marriage, they knew next to nothing of what marriage actually entailed.
- j. **Mother-in-law interference:** Many mother in-laws contribute to the breakdown of the marriage of their sons/daughters by their interference. Some find it difficult to accept the reality and implication of their sons being one flesh with their wives which translates into more love and affection for their spouses than themselves. They at times find it difficult to understand that the new couples are to start their own lives and be independent of them. This attitude does not encourage marital happiness. Hence, in some cases, the mother in-laws do disrupt the marriage of their children by their frequent and inordinate interference.
- k. **Unfulfilled Expectation:** It has been observed that some men marry hoping for material or financial benefits from the family of the woman. The underlining element and motive of the marriage is the assistance to be received. In such a situation, the love necessary to sustain the marriage is basically lacking. Many a time, this expectation is not usually met and it brings about friction and tension in the marriage, and consequently its breakdown. A man should never agree to marry a woman he does not love, and who is much older than he is, only because he hoped that through the marriage, the family of the woman would transfer their wealth to him. This hope is rarely fulfilled after the marriage. Such unfulfilled expectation has been the cause of many broken marriages in Nigeria.
- l. **Unfaithfulness in Marriage:** The first characteristic of conjugal love is fidelity. Faithfulness is essential to a happy life in marriage. In marriage, the man and woman are supposed to be faithful to each other. To have affairs with another person of the opposite sex means practically to “divide” oneself, which eventually leads one to withdraw from a real love relationship. This is why promiscuity, either on the side of the woman or the man, often times leads to marital breakdown. In the storms of problems and difficulties, a marriage can only stand firm if it is rooted in faithfulness. Hence, whenever a man or a woman betrays the promise to be faithful to the other party by engaging in extra-marital affairs, the seed for the breakdown of the marriage is sown.

Effects of Marital Instability on Children

- a. **Low/absence of education:** Children from unstable families have lower academic achievement than children from stable families. This is because the one parent family structure denies these children both proper role models and sufficient discipline to allow them to accommodate the demands of their school work. The situation is worse among girls since they may be forced to dropout of school to hawk goods to help cater for the family or education of their brothers and they may end up becoming wayward. The problem compounded by the poor state of economy, where the father is absent and the mother is not privileged enough to cater for all the basic needs as well as supervise the academic performance of the children there is likelihood for the children to be backward or withdraw from school. Same is the case when the mother is absent and the father is not privileged enough. Among the childhood explanations, as for educational outcomes, one of the main arguments stresses the decline of children's standard of living after

- separation, since it is well-demonstrated that economic difficulties affect negatively children's psychological well-being during childhood (Wright, 2017).
- b. **Lack of Socialization:** A child from a non-separated home may be well taken care of and socialized in the best way possible. According to Wright (2017), this is because in the process of socialization there is a division of labour where certain roles are to be better performed by the father while others by the mother and jointly they see to it that they go through the process hitch free. A child from a single or divorced parent is likely to have problems in this area. The shame and humiliation of the children may be compounded by the societal tendency to stigmatize them. People often advise their children and relations not to interact or marry girls from single parents for in their view the daughters would go the way of their mothers.
 - c. **Psychological effect:** Instability is associated with diminishing psychological well-being in children which result in greater unhappiness, less satisfaction with life, weaker sense of personal control, juvenile delinquency or high rate of anti-social behaviour, substance abuse and dependence, sexual promiscuity, adjustment problems, anxiety and depression. Parental separation has the potential to cause a lot of stress to children and adults alike, even though there is major individual heterogeneity in the effects, with some benefiting, others experiencing short-term drops in well-being, and others entering a longer term negative consequences.

This difference is linked to the quality of the marriage prior to separation, the rate of conflict in the separation process, personal adjustment skills, and social support. Some children whose parents put an end to a particularly conflicting or abusive marriage may benefit from parental separation, but the average outcome seems to be negative, with more children suffering from it, although according to many reviews the effects are not very strong (Muhammad, 2019).

Economic Deprivation

Family income is a good predictor of children's educational outcomes. Low cognitive stimulation provided in poor households is a major pathway linking childhood poverty to childhood intellectual development. Separation is often associated with decreased material well-being and downward social mobility. In developed countries, usually, provisions are made for the children thus; separating couples need to divide their economic resources, though losing their economies of scale but the reverse applies in developing countries. It is also common for children of separation to continue residing with their mothers, who tend to suffer economically more than their fathers (Uche, 2019). Single-mother families are more likely to experience a higher level of economic insecurity and fathers may find it hard to transfer their resources and aspirations to their non-resident children. It is well-established that divorce is associated with a decrease in the quantity and quality of the relationship between children and non-custodial parent. It seems that parental-child contact is a necessary but not a sufficient condition. However, these show that child's feelings of closeness with the non-custodial parent have a positive impact on children's educational outcomes although its effect is lower than authoritative parenting. However, even if there is a close relationship between the non-resident father and the child, some parents behave toward their children as an adult friend.

Counselling Implication

Counselling as an applied psychology has a psychological process of helping individuals cope with various life situations, such as adjustment and marital stability. Thus, there is need for pre-marital and in-Marital counselling for married couples and those intended to, so as to assist have a greater understanding of marriage and marital instability. Counselling is aimed at assisting the counsellor to understand their strength and work towards encouraging their clients to be able to live a stabilized life. More often instability erupts between spouses due to their inability to understand and appreciate themselves, counselling will help the couples to understand the differences between them so as to be able to tolerate each other.

Conclusion

It is a fact that he who has failed to plan has already planned to fail. This is applicable to marriage also for a successful marital life devoid of bitterness and rancor equally requires planning, adequate knowledge and information. One has to be aware of the things that can wreck havoc to a marriage and prevent it from being a lifelong commitment that is peaceful, harmonious and enriching. Marital instability is a cankerworm that destabilizes the family and brings about untold hardship to the children of the marriage. The causes of this malady can be uprooted only if counsellors know them and take necessary precautions, as “prevention is better than cure” and “a stitch in time saves nine”. Married people need to go through mutual efforts and cooperation between themselves in order to promote peace in their homes, while our Parents, Religious and Educational institutions, Guidance and Counselling experts, Human Rights Activists, Governmental and Non-Governmental Organization should constantly organize marriage seminars with couples, bachelors and spinsters time without number in order to inculcate love and true concept of marriage into them with emphasis on the effects on child development.

Suggestions

1. Counsellors should explore public gatherings, conferences, seminars in reaching out to the public of different educational backgrounds on marital conflict resolution issues with the hope of promoting happily married homes.
2. Family counselling should be emphasized by the stakeholders, government, religious leaders, and counsellors to minimise instability in the family and effort should be intensified to discourage marital discord.
3. Pre-marital and In-marital counselling should be provided to the couples irrespective of their gender to enable them manage their marital conflicts.
4. Marriage counsellors, therapists, social workers, clergymen should encourage couples to live harmoniously by adjusting with their spouses so as to have stable families that will impact positively on their children.
5. Family life and peaceful means of sustaining marriage counselling should be provided by couples.
6. Husband and wives should build their relationship on love and respect for each other's individuality.
7. They should learn to say “I am sorry” and “thank you”. These two can make or mar any marital relationship.

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EFFECT OF MARITAL COUNSELLING ON FAMILY STABILITY AMONG LECTURERS IN SOKOTO STATE UNIVERSTY, SOKOTO STATE, NIGERIA

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Abstract

The study investigated the effect of marital counselling on family stability among married Sokoto state university lecturers. Two objectives, two research questions and two null hypotheses on financial independence, and Sexual Compatibility and finance independence of married Sokoto State university lecturers were raised to guide the study. The population of the study consisted of two hundred and eighty four, (284) married lecturers'. Eighty (80) married lecturers were the sample of the study. the instrument tagged Questionnaire on Family stability (QFS) was developed and validated for data collection. Data obtained were analysed using Means, Standard Deviation to answer Research Questions and ANCOVA of inferential statistics at 0.05 level of significance was used to answer Research Hypothesis. The major findings of the study revealed that: There was a significant difference in post-test scores of married lecturers' financial independence between experimental group and control, meaning marital counseling treatment was effective on the Experimental Group. Moreover, the findings showed there is a significant difference in the post-test scores of married lecturers' sexual compatibility between experimental group and control group. Based on the findings of the study it was recommended that, married lecturers with problems with sexual compatibility should receive marital counselling intervention referral services. The study also recommended that married lecturers with problem of financial independence should receive marital counselling intervention using ecclective counselling.

Introduction

Marriage is an important and natural process in human life that has existed in all cultures and periods in different forms. It has attempted to bridge two ideas with different values and ideologies and to construct human relations. In addition, marriage aims to fulfill a variety of basic human needs such as generation survival and upbringing the children, fulfilling the dream of being parents, achieving the highest level of friendship and intimacy, labor division, cooperation, assisting one another in married life having a safe place for peace and flourishing skills, as well as achieving human perfection and elevation and mental health. Sexual compatibility among couples strengthens marital stability. Instability of Marriage occurs according Owuamanan (2004) where such couples hardly enjoy sexual compatibility. Sexual compatibility tends to foster marriage stability, mental oneness to a large extent depending on sex. In fact, sex is a form of communication and probably the most intimate in which two persons (husband and wife) express a oneness of mind and feelings. The attitude of the husband and wife to sex may be influenced by their religious upbringing and early experiences. A partner may regard sex as something pleasurable to be enjoyed while the others sees it as being unpleasant and should not be indulged in except for procreation. The ability of the couple to establish adequate sexual relationship and satisfaction matters very much in marriage. Husband and wife need to adjust sexual behavior of each other. Normally, a man experiences sexual urges more than his wife. It sometimes happens that a woman may

demand sex more frequently than her husband can supply it. Too frequently sexual intercourse may be detrimental to the husband's health (Olayinka, 2005).

Additionally, financial independence strengthens family stability among couples. Couples who hardly enjoy financial independence will certainly strain the family. Financial independence according to Manting (2002) is where each of the couple has control over reasonable amount of money without seeking the apparel of the other. Financial independence among couple also demand who will main a family bank account and what type of account either current account or savings account. Financial independence among couples demands that each of the partner should have financial maturity. A man loses the control of his marriage if he fails to carry out his financial responsibilities for the upkeep of the family. This means that the man should be gainfully employed. He should have a steady income for the maintenance of his new home. These factors mentioned above may affect the family stability of married secondary school teachers in school metropolis. If the home is graced and sweetened with kindness and smiles, no matter how humble the abode, the heart will turn lovingly toward it from all the tumult of the world, and it will be the dearest spot beneath the circuit of the sun. A single bitter word may disquiet an entire family for a whole day. One surly glance casts a gloom over the household, while a smile, like a gleam of sunshine, may light up the darkest and weariest hours. Like unexpected flowers which spring up along a path, full of freshness, fragrance or beauty, do kind words and gentle acts and sweet dispositions, make glad the home where peace and blessing dwell, (Ray, 1990).

Marital counselling is concerned primarily with interpersonal relationship between spouses who have problems in their marriage(s). It is concerned with assisting couples to understand where they are, so that they can find way of forging ahead in their marriage life. Duntoye (e'tal,2008), defined marital counselling as organized application of techniques or interventions which are designed to modify for the better, maladjustment or maladaptive nature of human relationship of married partners. Marital counselling is that interactive process by which seeks to aid the family in regaining a homeostatic balance within which all the members such as husband, wife and children are comfortable. Marital counselling can also be defined according to Redmond (2000) as therapeutic for exploring and attempting to alleviate the present interlocking emotional and other related problems in a family setting or system making effort to remedy the concern faced by one of the members. Marital counselling is expected to give reinforcement to couples to boost sexual compatibility in couples, and assists couples' financial independence.

Statement of the Problem

Base on observation and experiences shared by a number of marriages and individuals over the years, instability in marriages has been on the increase with many leading to couples either staying apart or out rightly seeking divorce. The problem may be traced to numerous factors such as control over money, ignorance over sexual relationship, giving birth to only female children, polygamy, single parenting, poor communication among others which have led marriages into conflict and have turned such marriages to live in sorrow, loneliness, calamity, chaos, anxiety among others which is not healthy for such families and the larger society.

Marital instability for many of the cases, as observed by the researcher, such instability could have been resolved if marital counselling services were readily available has been

on the increase over the years and married Sokoto State University Lecturers have not been spared, but have been victims. The outcomes of marital instability are heinous. There have been cases of rape, bully, neglect of marital responsibilities, sleeping outside, total abandonment of spouse and children, frustration, infidelity and divorce. Given the important role which family plays in maintaining a healthy and prosperous society, number of literature dealing with marital stability can never be branded excess.

It is therefore the aim of this research to bring to the fore the effect of marital counselling on family stability among married Sokoto State University lecturers

Purpose of the Study

The purpose of the study was to investigate the effect of marital counselling on marital stability among married Sokoto State University lecturers Sokoto State. Specifically, the objectives include to:

- i. Assess the effect of marital counselling on Sexual Compatibility of married lecturers.
- ii. Determine effect of marital counselling on financial independence of married lecturers.

Research Questions

The following research questions were raised to guide the study:

What is the difference in the mean scores of experimental and control groups on married lecturers' sexual compatibility?

What is the difference in the mean scores of experimental and control groups on financial independence by married lecturers?

Research Hypotheses

The following Hypotheses were tested at 0.05 level of Significance

- i. There is no significant difference between experimental and control group in the mean scores of Sexual compatibilities.
- ii. There is no significant difference between experimental and control group in the mean scores of financial independences.

Methodology

A quasi-experimental research design based on non-randomized control group, pre-test-post-test design was employed in this study. The treatment group of experimental and control constitute the rows. This experimental design consisted of treatment cells such as, marital counselling. The treatment cells were obtained by non-random assignment of subject into the group to control for known and unknown sources of variation. Post –test was adopted to ascertain the extent of change in behavior and efficacy of the techniques in helping spouses to have stable families. At the end of the treatment, one-month follow-up session was adopted by the researcher. The population of the study consisted of 284 married Lectures of Sokoto State University A sample of eighty (80) spouses (40 males

and 40 females) Sokoto State University Lecturers was selected for the study. The instrument “Questionnaire on Family Stability (QFS)” was validated and validity index of 0.74 was established and reliability index of 0.92 was realized. The questionnaire was a self-developed. The questionnaire contained three (3) sections with 15 items. Section A contained the personal data and section B is divided into three clusters based on the objectives of the study. The QFS used a Likert type scale to elicit information independence on family stability. The positive items were measured on 4-point scale of (4) ‘Strongly Agree’, (3) ‘Agree’ and (2) for ‘Strongly Disagree’ and (1) ‘Disagree’. Questionnaires (40 for experimental group and 40 for control group) were issued at pretest and posttest. The experimental group was however exposed to marital counselling treatment to determine the effect of marital counselling on family stability for four weeks before the post-test was administered. Data collected were analyzed using descriptive statistical tools of mean and standard deviation to answer the research questions. The study considered the mean scores of control and experimental groups at pretest and posttest. The hypotheses were tested using analysis covariance (ANCOVA) at 0.05 level of significance.

However, the treatment package was done within Six (6) weeks sessions for the Sokoto State University lecturers’ financial independence and sexual compatibility.

Results

This is presented as follows:

Research Question 1: What is the difference in the mean scores of experimental and control groups on sexual compatibility?

Table 1: Mean Scores between experimental group and control group on the effect of marital counseling on married lecturers’ sexual compatibility

Groups	N	Pre-test		Post-test		Mean Difference
		\bar{X}	SD	\bar{X}	SD	
Experimental	40	12.85	0.76	23.75	3.14	10.90
Control	40	13.03	0.96	13.81	2.83	0.78
Mean Difference		0.18		9.94		

Source: Field Survey 2022

Table 1 compared mean scores of experimental and control group to assess the effect of marital counseling on married lecturers’ sexual compatibility. Scores of experimental (\bar{X} =23.75 & SD=3.14) and control (\bar{X} =13.81 & SD=2.83) group which means that marital counseling treatment was effective on the Experimental Group whose mean scores improved significantly as compared to the control group. Furthermore, the within groups analysis showed that there was negligible amount of mean difference of 0.78 between pre-test scores (\bar{X} =13.03 & SD=0.96) and post-test scores (\bar{X} =13.81 & SD=2.83) of the control group which suggested that there was no improvement in the mean scores of married lecturers’ sexual compatibility. But, there was a high of mean difference of 10.90 between pre-test score and post-test scores of the experimental group which indicated that marital counseling improved the mean scores of married teachers’ sexual compatibility.

Hence, the mean scores of the experimental group is higher when compared to the control group on married teachers' sexual compatibility.

Research Question 2: What is the difference in the mean scores of experimental and control groups on financial independence

Table 2: Mean Score between experimental group and control group on the effect of marital counselling on financial independence by married lecturers

Groups	N	Pre-test		Post-test		Mean Difference
		\bar{X}	SD	\bar{X}	SD	
Experimental	40	11.73	0.94	21.93	2.15	10.20
Control	40	12.05	0.77	12.14	1.98	0.09
Mean Difference		0.32		9.79		

Source: Field Survey 2022

Table 2 compared mean scores of experimental and control group to assess the effect of marital counselling on married lecturers' assessment of their financial independence. The analysis between groups shows that there was very negligible amount of mean difference of 0.32 between the pre-test scores of experimental ($\bar{X} = 11.73$ & $SD = 0.94$) and control ($\bar{X} = 12.05$ & $SD = 0.77$) groups which indicated that the groups were initially similar at the beginning of the study (before treatment). On the other hand, a large amount of mean difference of 9.79 between the post-test scores of experimental ($\bar{X} = 23.75$ & $SD = 3.14$) and control ($\bar{X} = 13.81$ & $SD = 2.83$) group was obtained which means that marital counseling treatment received by the experimental group was effective in improving the mean scores of the married lecturers exposed to it than those in the control group. Furthermore, the within groups analysis showed that there was negligible amount of mean difference of 0.09 between pre-test scores ($\bar{X} = 12.05$ & $SD = 0.77$) and post-test scores ($\bar{X} = 12.14$ & $SD = 1.98$) of the control group which suggested that there was no improvement in the mean scores of married lecturers assessment of their financial independence. But, there was large amount of mean difference of 10.20 between pre-test score ($\bar{X} = 11.73$ & $SD = 0.94$) and post-test scores ($\bar{X} = 21.93$ & $SD = 2.15$) of the experimental group which indicated that marital counselling improved the mean scores of married lecturers' assessment of their financial independence. Hence, the mean scores of the experimental group is higher when compared to the control group on financial independence by married lecturers.

Testing of Hypotheses

The hypotheses were tested using analysis of covariance (ANCOVA) at 0.05 level of significance

Hypothesis 1: There is no significant difference between experimental and control groups on posttest sexual compatibility.

Table 3: Summary of Analysis of variance (ANCOVA) between Experimental and Control groups' Pre-test Scores of Married Lecturers' Sexual Compatibility.

Source	Sum Squares	of Df	Means squares	of F-Cal	Sig.	Remark
Corrected model	24.23	2	12.11	8.75	0.000	
Intercept	86.02	1	86.02	62.16	0.000	
Pre-test	0.038	1	0.038	0.28	0.869	Sig.
Groups	24.18	1	24.18	17.47	0.000	
Error	106.56	77	1.38			
Total	188858.00					

The result in Table 3 is an ANCOVA analysis conducted to compare the means of experimental and control group on the effect of marital counselling on married lecturers' sexual compatibility. The analysis shows that the calculated F-ratio value of 17.47 with a p-Value of 0.000 ($F(1, 77) = 17.47, p < 0.05$) and therefore the mean difference is statistically significant at 0.05 levels of significance since the p-Value of 0.000 is statistically less than 0.05 level of significance. This implies that, the experimental group has a significant effect on control group on the measurement of married lecturers' sexual compatibility. Therefore, the null hypothesis should be rejected indicating, there is a significant difference in post test scores of married lecturers' sexual compatibility. Thus, married lecturers exposed to marital counselling were found to sexual compatibility better than those who were not exposed to marital counselling sessions in Sokoto state university.

Table 4: Post-test on Financial Independence

Group	Mean Difference	Std. Error	Sig
Experimental	9.94	0.264	0.000
Control	- 9.94	0.264	0.000

Table 4 Post tests showed there was a significant difference between experimental and control group ($p=0.000$). Posttest comparison indicated that the mean score for experimental group ($\bar{X} = 23.75$ & $SD=3.14$) was significantly different from the control group ($\bar{X} = 13.81$ & $SD=2.83$). These results suggested that marital counselling have statistically significant effect on married lecturers' financial independence.

Hypothesis 2: There is no significant difference in the post test scores of married lecturers' financial independence between experimental and control groups on financial independence.

Table 5: Summary of Analysis of Covariance (ANCOVA) between Experimental and Control Groups' Post-test Scores of financial independence.

Source	Sum of Squares	Df	Means squares	F-Cal	Sig.	Remark
Covariate	12.182	2	6.091	5.861	0.004	
Main effects	44.890	1	44.890	43.197	0.000	
Financial Independence	2.382	1	2.382	2.292	0.134	Sig.
Marital counseling	4.496	1	4.496	4.326	0.041	
Error	80.018	77	1.039			
Total	1892.00	80				

The result in table 5 is an ANCOVA analysis showed the calculated F-ratio value of 4.326 with a p-value of 0.041 ($F(1,77) = 4.329, p = 0.041$). Therefore, the null hypothesis is rejected. This means that marital counselling has a significant effect among experimental subjects on the measurement of financial independence. Thus, married lecturers exposed to marital counselling were found to be more financially independence than those who were not exposed to marital counselling sessions in Sokoto state University.

Table 6: Summary of Analysis of Covariance (ANCOVA) between Experimental and Control Groups' Post-test Scores of Sexual compatibility

Source	Sum of Squares	Df	Means of squares	F-Cal	Sig.	Remark
Covariate	11.485	2	5.742	5.9509	0.004	
Main effects	47.503	1	47.503	49.219	0.000	
Sexual compatibility	3.035	1	3.035	3.144	0.080	Sig.
Marital counseling	3.393	1	3.393	3.516	0.044	
Error	74.315	77	0.965			
Total	19182.00	80				

The results in Table 6 is an ANCOVA analysis showed the calculated F-ratio value of 3.516 with a p-value of 0.044 ($F(1,77) = 3.516, p = 0.044$). This means that marital counseling has a significant effect on experimental subjects on the measurement of sexual compatibility. This implies that, married lecturers' exposed to marital counseling is significantly better than those not exposed to marital counselling.

Table 7: Post Test on Sexual compatibility

Group	Mean Difference	Std. Error	Sig
Experimental	11.81	0.245	0.015
Control	- 11.81	0.245	0.015

Table 7 Post-tests on sexual compatibility showed that there was a statistically significant difference between experimental and control group ($p = 0.015$). Post comparison indicated that the mean score for experimental group ($\bar{X} = 26.13$ & $SD = 3.42$) was significantly different from the control group ($\bar{X} = 14.32$ & $SD = 3.63$). These results suggested that marital counselling treatment have statistically significant effect on married teacher's sexual compatibility.

Discussion of findings

The study was aimed at finding out Effect of Marital Counseling on Marital Stability Among Married Sokoto State University Lecturers Sokoto Nigeria. It was found that, marital counseling has effect on sexual compatibility of experimental and control groups. This implies that exposing married teachers with sexual problems to the marital counselling significantly adjusted the sexual relationship. This implies that marital counseling is effective in adjusting to good sexual relationship. This finding is in agreement with Oyewo (2014) carried out research on effect of marital counselling on sexual satisfaction which revealed that marital satisfaction scale the majority of participants (63.6%) were very satisfied and none of them was very unsatisfied. In sexual satisfaction scale, most of the participants (56.4%) expressed extremely satisfaction rate and only (0.7%) were not satisfied with their sexual relationship. This meant that marital satisfaction was significantly associated with sexual satisfaction. The study aligned with the present study because the present study examined the effect of marital counselling on family stability among the area of concern which determined the level of family stability among Sokoto State University Married lecturers.

Similarly, it agrees with Bilgin and Ayla. (2018) revealed that levels of sexual satisfaction were shown to be higher among women and men in the experimental group who had attended premarital sexual counselling education than the women and men in the control group.

In the same vein, it confirms Lotfi and Vaziri, (2011), who reported that, sexual skills training on marital satisfaction” and revealed that sexual skill training has significant effect on positive feelings toward spouse, marital relationship, conflict resolution style, sexual relationship and total marital satisfaction.

Conclusion

The focus of this study was on the effect of marital counselling on family stability among Sokoto State University Married lecturers in Sokoto Metropolis. The study sought to develop a counselling to the problems in marriages which has hampered the success of marriages. Based on the findings of the study, the researcher concluded that marital counselling has significant effect in overcoming marital problems of sexual compatibility and financial independence among Sokoto State University Married lecturers.

Recommendations

Based on the conclusions of this study, it was recommended that workshops, counselling clinics, orientations, seminars be organized so that:

1. Marital counseling should be organized for Married lecturers with problem of sexual compatibility to help them resolve difficulty.
2. Married lecturers with issues of financial independence can be helped to overcome with the use of marital counselling techniques such as eclectic counselling.

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EFFECTIVENESS OF COGNITIVE RESTRUCTURING AND GRADED EXPOSURE COUNSELLING TECHNIQUES IN MANAGING AVOIDANT PERSONALITY DISORDER AMONG SENIOR SECONDARY SCHOOL STUDENTS IN SOKOTO STATE, NIGERIA

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Abstract

This study investigated the effectiveness of cognitive restructuring and graded exposure counselling techniques in managing avoidant personality disorder among senior secondary school students in Sokoto State, Nigeria. Avoidant personality disorder is associated with low global functioning, high interpersonal problems, and reduced quality of life, it is one of the personality disorder manifested on students in schools. Four research hypotheses were formulated in the study. Quasi experimental design, the target population of the study was SS II students in 125 public Senior Secondary Schools in the State. Purposive sampling technique was used to select two mixed schools (boys and girls) 267 samples in the State who exhibited the symptoms of avoidant personality disorder. Multistage sampling technique was also used to select samples of students with high avoidant personality disorder based on the pre-test scores who met the criteria for DSM-IV-TR. The sample arrived at 44 highest scorers among the students. Participants were assigned into experimental and control groups and were exposed to intervention sessions for a period of eight weeks. Avoidant Personality Disorders Test (APDT) by Lawal, instrument with construct validity and a reliability index of 0.90. The data collected from the study were analyzed using t-test. The findings of the study showed significant effectiveness of cognitive restructuring and graded exposure in managing avoidant personality disorder among Senior Secondary School in Sokoto State, Nigeria. The study further found out that although the two counselling techniques were used on different groups but analysis of data received proved that they had similar effectiveness in managing avoidant personality disorder among the Students and was recommended among others that cognitive restructuring and graded exposure should be used in managing avoidant personality disorder.

Keywords: Cognitive Restructuring, Graded Exposure and Avoidant Personality Disorder

Introduction

The school is a type of service organization vested with the primary function of educating the child, but with an increasing incidence of maladaptive behaviours among secondary school students in Nigeria as it is in other countries. These maladaptive behaviours prevent these students from fulfilling their developmental tasks thereby making them not to achieve the stated academic objectives. Personality disorders play a major role in today's psychiatric clinical practice. They are defined as enduring patterns of inner experience and behaviour causing distress and leading to maladaptive functioning in the areas of emotion, cognition, interpersonal relationships and impulse control (ICD, 10) WHO, 1992). According to Gelford, Jenson and Drew in Ekemia, Otta and Ogbuokiri

(2013), untreated problems sometimes gradually grow into more serious and chronic disorders as the child passes with the problem into adulthood through adolescence or they manifest themselves later as different disorders.

Avoidant personality disorder among students has been an issue of concern in our schools and societies for many years, it is in cluster 'C' types of personality disorder in which individuals demonstrate behaviours described as fearful or anxious, where the person appears painfully shy, socially inhibited, feels inadequate and is extremely sensitive to rejection (APA, 2013). They may have intense anger and rage due to fear of abandonment or rejection (Bienenfeld, 2013; Hoermann, Zupanick & Dombeck, 2015c). The term avoidant personality disorder has been used in Diagnostic and statistical manual of mental disorders (DSM), while anxious personality disorder is used in International classification of mental and behavioural disorders (ICD-10). Persons with avoidant personality disorder tend to avoid all academic activities that require group work or express their views in public. They tend towards poor academic performance and achievement, and are socially isolated. They also manifest low self-esteem, low global functioning, high interpersonal problems, and reduced quality of life. Avoidant personality disorder is associated with other personality disorders, including mood and anxiety disorders, dependent, borderline, paranoid, schizoid or schizotypal personality disorder (APA, 2013; Bienenfeld, 2013). Intuitively, this would lead to the concern that such behaviour would result in academic failure, thereby severely limiting a student's chances of future success in life. This is a pertinent course of study, because Avoidant personality disorder is one of the main personality disorders manifested by students in schools. It is also associated with an increased risk of having psychiatric disorder, It occurs about equally between males and females. Skodal in Hageman, Francis, Field and Carr, (2015) found that as many as 35.2% of individuals with APD were also diagnosed with major depressive disorder. With respect to anxiety disorders, in particular, generalized social phobia (GSP), reported comorbidity ranges widely between 25% to nearly 100% (Rettew, 2000). Further evidence suggests that current anxiety and/or depression may influence recall of childhood experiences (Lewinsohn & Rosenbaum in Hageman, Francis, Field & Carr, 2015), which is relatively widespread and is currently on the rise in Sokoto State, Nigeria (Musa, 2021).

The helping relationship can be defined as a systematic and intentional attempt, using a specified cluster of inter personal skills, to assist another person to make self- determined improvements in behaviour, feelings or thought. The therapeutic relationship helps the client work through feelings of isolation, a condition that the existentialists such as (Kaiser, & Yalom in Musa, 2013) consider the "universal symptom" of humanity. The only cure is communication with someone who is sensitive, receptive, neutral, interested and psychologically healthy. Avoidant personality disorder can be treated using different counselling approaches such as cognitive restructuring and graded exposure techniques, which encourage patients to identify the fears of rejection and criticism that underlie APD and then modify these distorted thought processes, have proven particularly helpful in the treatment of APD.

Cognitive restructuring technique is cognitive behavioural technique that focuses on changing a person's perceptions and irrational assumptions of self and world. . Cognitive restructuring gives people new ways of thinking and talking to themselves about their problems. This technique believes that man's maladaptive behaviour is hinged on irrational thoughts, beliefs, self-talks or verbalizations. According to Nwamuo (2005),

cognitive learning theory assumes that individuals are not passive observers in their environment, rather they are active, goal oriented and capable of taking responsibility for their decisions, actions and consequently exercise control over their behaviours.

Graded Exposure Technique (GET) is a psychological treatment that was developed, to help people confront their fears. Graded exposure therapy rests on the idea that graduated exposure to the fear provoking situation (in this case, social interaction) will help the individual overcome their fear and bring about behavioural change. Exposure therapy has been scientifically demonstrated to be a helpful treatment for a range of problems, including: Personality disorder, Phobias, Panic Disorder, Social Anxiety Disorder, Obsessive-Compulsive Disorder, Posttraumatic Stress Disorder, Generalized Anxiety Disorder (Tolin, & Carbonel in Shina, 2016). It is against this background that this study is set to assess the effectiveness of cognitive restructuring and graded exposure counselling techniques in managing APD among Senior Secondary School Students in Sokoto State, Nigeria.

The theoretical Framework that guided this research work was Attachment theory which was developed by John Bowlby as an attempt to link human social and psychological behaviour. Attachment theory provides an ethnological, biological, and psychoanalytic framework for revealing how human infant attachment to their caregivers correlates to attachment styles in relationships as an adult. The theory proposes that non-existent or under-developed bonds between an infant and a parent provide attachment patterns for future relationships through adolescence into adulthood. These attachment patterns or styles are likely to be similar between generations due to transmission from parent to child (Hines & Saudino, 2002). Bowlby developed a model that includes self, important others, and their shared relationships. Bowlby (1979) posited an important part of healthy development was having a close and caring relationship with parents and other caregivers. Proximity to attachment figures helps infants to have increased chances of protection and survival from an evolutionary standpoint. In addition to the biological necessity of attachment, it is also satisfying for both the parents and the infant (Bretherton in Mcvay, 2012). As the bonds strengthen between infant and parents, the infant begins to grow an inner representation of the parent, which develops “internal working models” of self, others, and self-other relationships (Bowlby, 1973). The higher parental sensitivity and responsiveness are to the infant’s needs, the more secure and healthy the attachment that develops. Infants begin to feel they are deserving of their parents’ care-giving and that they have a secure base on which to rely in the future. Parental insensitivity and unresponsiveness contribute to insecure attachment by the infant, leading the infant to internalize these experiences and find the world to be unsafe and rejecting, which makes forming relationships difficult and dangerous. Ainsworth in Mcvay, (2012) developed a method for assessing infant attachment known as the “strange situation.” This experiment first separated infants from their parents, then exposed them to the presence of a stranger, and finally reunited them with their parents. The infant expressed proximity seeking behaviour, a displayed desire or lack of desire for closeness, and the responses and behaviours were classified into patterns. Two dimensions were used to determine the infant’s attachment behaviour classifications, anxiety and avoidance. The degree of anxiety experienced from abandonment and the avoidance of closeness to the stranger contributed to the classification.

In the course of this study related empirical studies were reviewed such as Ngwoke, Davidson, Micheal and Ngoke (2013) this study investigated the effect of cognitive

restructuring on achievement orientation of low-achieving students. A quasi-experimental, nonequivalent control group, pretest /s posttest, involving one treatment group and control group. The sample of 135 low-achieving senior secondary class two students purposively drawn from four public senior secondary schools, two from each educational zone of Yenagoa and Okolobiri in Yenagoa Local Government Area of Bayelsa State, Nigeria. Findings showed that cognitive restructuring significantly enhanced achievement orientation of low-achieving students. Three randomized controlled studies have compared the efficacy of graded exposure with verbal coping skills (Sheslow, Bondy & Nelson in Shina, 2016), vicarious exposure (Menzies & Clarke in Shina 2016) or computer aided vicarious exposure (Dewis, Kirkby, Martin, Daniel, Gilroy & Menzies, 2001) in children with school phobias or assessed as having severe fears, 32 children in private day care aged 4-5 years were recruited via a parental survey report on children's fear of the dark. Finding revealed those children in the two treatment conditions that included direct exposure to the dark demonstrated significant increase in ability to tolerate the dark. Adeusi (2013) Examine the efficacy of Cognitive Restructuring and Behavioural Rehearsal on Conduct Disorder in Adolescents in Special Correctional Centres in Lagos State. Finding reveals a decrease in the participants conduct disorder when the pre-test and post test results were compared.

Research Hypotheses

The following null hypotheses were tested in this research, at 0.05 level of significance.

- Ho₁ There is no significant difference in the effectiveness of cognitive restructuring counselling technique in managing avoidant personality disorder among Senior Secondary School Students in Sokoto State.
- Ho₂ There is no significant difference in the effectiveness of graded exposure counselling technique in managing avoidant personality disorder among Senior Secondary School Students in Sokoto State.
- Ho₃ There is no significant difference in the effectiveness of cognitive restructuring counselling technique in managing avoidant personality disorder among male and female Students in Sokoto State.
- Ho₄ There is no significant difference in the effectiveness of graded exposure counselling technique in managing avoidant personality disorder among male and female Students in Sokoto State.

Methodology

This study employed a quasi-experimental design involving pre-test post-test experimental design. The population of this study consisted of all 27,307 senior secondary school students in 125 public senior secondary schools in the State. Deliberate sample selection was used to select 2 mixed schools (boys and girls) in the state. The subjects were identified after the scoring of the pre-test which was administered on the SS II students of the purposefully selected schools. Therefore 267 students who exhibited the symptoms of avoidant personality disorder were identified. The sample was typically heterogeneous as the students were of different ethno-cultural backgrounds. This was owing to the nature of the general population as cosmopolitan Schools. The deliberate selection of the subject is what Fox in Musa, (2013) referring to purposive sampling as deliberate selection which is often sensible and simple to justify. According to him, if within a population there are some elements which a research believes are particularly

crucial to his study, then the only way to ensure this is to deliberately select them. The rationale for using a separate school was for the following reasons:

- i. To get members of the experimental group from the same environment with the control group;
- ii. To pick the experimental group members who have the same characteristics with the control group. It could have been difficult to justify male students in experimental group but females in a different school being the control group or vice versa;
- iii. To ease closer watch of the three groups by the researcher;
- iv. To prevent some extraneous variables caused by difference in location from influencing behaviour changes in the groups;
- v. To justify claims that changes observed in experimental groups were purely results of the treatment.

Also a multistage sampling selected was used to select samples of students with high avoidant personality disorder. The sample was therefore forty four (44) highest scorers among the students who met the required points to qualify as highest level of avoidant personality disorder as stated in the manual of diagnostic criteria for Avoidant Personality Disorders that was published in (DSM-IV-TR, 2000) that is any score from 28 to 44. Among the 44 samples 11 were assigned to each (Cognitive Restructuring and graded exposure counselling techniques) in the two schools. Fourteen subjects in each group were considered ideal for group counselling according to William and Trochim (2006). Group counselling members could vary as between 3 to 14 persons. They further stressed that better results are achieved in smaller groups and that there will be effective concentration and understanding of the treatment procedures by the group. Therefore, the sample size was based on respondents who have the highest scores in the levels of symptom of APD.

Table 1: Students with Avoidant Personality Disorder

Schools	CR	GE	Total
A	11	11	22
B	11	11	22
Total	22	22	44

Key words:

CR= Cognitive Restructuring

GE= Graded Exposure

The adopted version of Avoidant Personality disorders Test (APDT) by Lawal (2016) was used as the pre-test to ascertain those who benefitted from the treatment. It was also used as a posttest to test the effectiveness of the counselling techniques. To obtain the validity of the instrument, Lawal (2016) exposed the instrument to test and measurement experts/reviewers in the field of psychology and guidance and counselling unit Ahmadu Bello University, Zaria. Based on their assessment the test items were adjudged to possessed strong construct validity. The researcher adopted the instrument for use in this study. To obtain the reliability of the instrument, Lawal (2016), subjected the instrument to test re-test at the interval of four weeks between the first and the second administration. After the second administration, the two set of scores were subjected to Pearson product moment correlation coefficient 'r' and a reliability index of 0.90 was obtained. This was

considered reliable enough for use and the researcher adopted the instrument for use in this study.

Results

Data collected from the study were analyzed using t-test statistical methods at 0.05 level of significance.

H₀₁: There is no significant difference in the effectiveness of cognitive restructuring counselling technique in managing avoidant personality disorder among Senior Secondary School Students in Sokoto State.

This hypothesis was tested by subjecting the pretest and posttest scores of the students to a t-test analysis and result was presented in table 2

Table 2: Difference in the effectiveness between pre-test and post-test scores of cognitive restructuring in managing Avoidant Personality Disorder

Variables	N	Mean	Std	Df	t-Cal	t-Value	Decision
Pre-Test	22	41.22	1.621				
Post-Test	22	17.50	.651	42	32.125	.033	H ₀ Rejected

From the result of table 2, effectiveness of cognitive restructuring in managing students' avoidant personality disorder was positively significant, $t(21) = 32.125$, $p = .033$. This indicates significant effect of using cognitive restructuring in managing avoidant personality disorder because the p -value is less than the .05 level of significance. Therefore, H₀₁ which states that there is no significant difference in the effectiveness of cognitive restructuring in managing avoidant personality disorder among senior secondary school students in Sokoto State was rejected.

H₀₂: There is no significant difference in the effectiveness of graded exposure counselling technique in managing avoidant personality disorder among Senior Secondary School Students in Sokoto State.

This hypothesis was tested by subjecting the pretest and posttest scores of the students to a t-test analysis and result was presented in table 3.

Table 3: Difference in the effectiveness between pre-test and post-test scores of graded exposure in managing Avoidant Personality Disorder

Variables	N	Mean	Std	Df	t-Cal	t-Value	Decision
Pre-Test	22	38.50	1.241				
Post-Test	22	17.20	1.452	42	19.952	.000	H ₀ Rejected

From the result in table 3, effectiveness of graded exposure in managing students' avoidant personality disorder was positively significant, $t(21) = 19.952$, $p = .000$. This indicates significant effect of using graded exposure in managing avoidant personality disorder because the p -value is less than the .05 level of significance. Therefore, H₀₂ which states that there is no significant difference in the effectiveness of graded exposure

in managing avoidant personality disorder among senior secondary school students in Sokoto State was rejected.

H₀₃: There is no significant difference in the effectiveness of cognitive restructuring in managing avoidant personality disorder among male and female Senior Secondary School Students in Sokoto State.

This hypothesis was tested by subjecting it to t-test analysis and result was presented in table 4.

Table 4: Difference between male and female Exposed to cognitive restructuring in managing Avoidant Personality Disorder

Variables	N	\bar{X}	SD	t-Cal	Df	t-Crit.value	Decision
Male	13	26.10	9.634	.063	20	.938	H ₀ Retained
Female	9	25.90	6.172				

From the result in table 4, difference in the effectiveness of Cognitive Restructuring in managing avoidant personality disorder among male and female students was positive but not significant, $t(20) = .063$, $p = .938$. This indicates no significant difference in the effectiveness of cognitive restructuring in managing avoidant personality disorder among male and female students because the t -value is greater than the .05 level of significance. Therefore, H₀₃ which states that there is no significant difference in the effectiveness of cognitive restructuring in managing avoidant personality disorder among male and female Senior Secondary School Students in Sokoto State was retained.

H₀₄: There is no significant difference in the effectiveness of graded exposure in managing avoidant personality disorder among male and female Senior Secondary School Students in Sokoto State.

This was tested by subjecting the hypothesis to t-test analysis and result was presented in table 5.

Table 5: Difference between male and female Students exposed to graded exposure in managing Avoidant Personality Disorder

Variables	N	\bar{X}	SD	t-Cal	Df	t-crit.Value	Decision
Male	13	25.90	6.172	.060	20	.518	H ₀ Retained
Female	9	27.50	9.058				

From the result in table 5, difference in the effectiveness of graded exposure in managing avoidant personality disorder among male and female students was positive but not significant, $t(20) = .060$, $p = .518$. This indicates no significant difference in the effectiveness of graded exposure in managing avoidant personality disorder among male and female students because the t -value is greater than the .05 level of significance. Therefore, H₀₄ which states that there is no significant difference in the effectiveness of graded exposure in managing avoidant personality disorder among male and female Senior Secondary School Students in Sokoto State was retained.

Discussion

Findings from hypothesis one which sought to determine the significant difference in the effectiveness of cognitive restructuring counselling technique in managing avoidant personality disorder among senior secondary school students in Sokoto State is rejected because the realized p -value.033 is less than 0.05 level of significance. This finding confirmed the study of Ngwoke, Davidson, Michael, and Ngwoke, (2013) which investigated the effect of cognitive restructuring on achievement orientation of low-achieving students. Two research questions and two null hypotheses guided the study. The design of the study was a quasi-experimental, nonequivalent control group, pre / post test, involving one treatment group and control group. The sample of this study consisted of 135 low-achieving senior secondary class two students purposively drawn from four public senior secondary schools, two from each educational zone of Yenagoa and Okolobiri in Yenagoa Local Government Area of Bayelsa State, Nigeria. These schools were randomly assigned to experimental and control groups. One instrument, Achievement Orientation Questionnaire and Cognitive Restructuring Intervention Package were developed, validated and used for the study. The treatment group was exposed to the cognitive restructuring intervention package while the control group received placebo programmed on examination malpractice and prevention. The data obtained were analyzed using means and standard deviation for research objectives and ancova for the hypotheses. Results showed that cognitive restructuring significantly enhanced achievement orientation of low-achieving students.

The result of hypothesis two showed its acceptance in that a statistically significant effect exist among students with avoidant personality disorder that were exposed to graded exposure is rejected because the realized p -value .000 is less than 0.05 level of significance. This findings supports the finding of Sheslow, Bondy & Nelson in Shina, (2016), Menzies & Clarke in Shina (2016) and Dewis, et.al (2001) on three randomized controlled studies have compared the efficacy of graded exposure with verbal coping skills, vicarious exposure or computer-aided vicarious exposure in children with fear of the dark or assessed as having severe fears. The finding was that children in the two treatment conditions that included direct exposure to the dark demonstrated significant increase in ability to tolerate the dark.

Findings from hypothesis three showed no difference that exists in the effectiveness of cognitive restructuring counselling technique in managing avoidant personality disorder among male and female Senior Secondary School Students in Sokoto State Nigeria. Null hypothesis is retained because table 4 hypothesis three above, $t(20) = .063$, $p = .938$. The realized t -value is greater than the 0.05 level of significance this shows that male and female students do not differ significantly in the effectiveness of cognitive restructuring in managing avoidant personality disorder. This hypothesis is retained. This finding agrees with the result of Adeusi, (2013) who maintains that the difference in conduct disorder of male and female participants that were exposed to cognitive restructuring revealed that there was no significant difference in the conduct disorder of the participants that were exposed to the cognitive restructuring treatment. However, the mean indicated that the female participants displayed more conduct disorder compared to the male participants.

The fourth hypothesis aimed at determining the difference in the effectiveness of graded exposure counselling technique in managing avoidant personality disorder among male

and female Senior Secondary School Students in Sokoto State, Nigeria. This null hypothesis was retained. Result of finding from table 5 hypothesis four above, $t(20) = .060$, $p = .518$. In which the t-value .518 is greater than 0.05 level of significant, indicated that male and female students do not differ significantly in the effectiveness of graded exposure in managing avoidant personality disorder. This confirmed that counselling technique such as graded exposure is effective in managing avoidant personality disorder which is in line with the findings of Shina, (2016) confirms that male and female student exposed to graded exposure on phobias had reduced the phobias in the post-test significantly.

Conclusion

The study concluded that, the use of cognitive restructuring technique and graded exposure in helping students to reduce their avoidant personality disorder has been very successful, considering the significant drop in the mean scores of the students 'avoidant personality disorder after the treatments. It is also concluded that the two counselling techniques were very effective in reducing avoidant personality disorder among students in Sokoto State, Nigeria.

Recommendations

Based on the findings of this study the following recommendations were made;

1. Since cognitive restructuring technique positively managed students' avoidant personality disorder, it is recommended that it should be used to manage APD.
2. Students' avoidant personality disorder can be adequately managed by graded exposure technique it is recommended to be use in managing APD.
3. Male and female students do not differ significantly in the effectiveness of cognitive restructuring in managing avoidant personality disorder, so the technique can be use for male and female management.
4. Male and female students do not differ significantly in the effectiveness of graded exposure in managing avoidant personality disorder so it is recommended that graded exposure counselling should be use for both male and female.

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INFLUENCE OF SINGLE PARENTING ON EDUCATIONAL ATTAINMENT OF PRIMARY SCHOOL PUPILS IN UKWUANI LOCAL GOVERNMENT AREA OF DELTA STATE

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Abstract

The study examined Perceived Influence of Single Parenting on Educational attainment of Primary School Pupils in Ukwuani Local Government Area of Delta State. Four research questions and two hypotheses guided the study. The research design employed in this study was the survey design. The population of this study comprised all teachers and parents in Ukwuani Local Government Area of Delta State with sample size of 176, comprising of 110 Primary school teachers and 66 parents. Eleven primary schools and ten teachers from each of the schools were purposively selected as Six parents were also randomly selected from the vicinity were the 11 chosen schools are located. 4 schools out of the 11 sampled were private. The instrument used for data collection was a structured questionnaire titled: Influence of Single Parenting Inventory (ISPI). The likert type scale of strongly agreed [SA] 4 points, agreed [A] 3 points, strongly disagreed [AD] 2 points and disagreed [D] 1 point were used. The data collected were analyzed with frequency distribution, descriptive statistics and Independent sample test. Hypotheses were tested at 0.05 significant levels. The analysis revealed that the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State is high. There are enormous causes and mammoth consequences of single parenting on primary school pupils' social adjustment to societal norms. There are many ways of ameliorating the challenges facing single parenting. There is no significant difference between teachers and parents as well as between male and female on the influence of single parenting on primary school pupils' educational attainment in Ukwuani Local Government Area of Delta State. Conclusion was drawn and useful recommendations made, which includes that government should create academic and counselling units in schools with adequate funds to care for the psychological needs of students, especially those single parent homes.

Keywords: Single parenting, broken homes, divorce and Education

Introduction

Education is of great importance to every home, society and Nation at large. It is a proved fact that education has been and will continue to be described as the best legacy parents or Nation could bequeath for her children and generation unborn.

The home, which is the traditional nuclear family, is the smallest unit and microcosm of the larger society. The home is the first environment within a family and an essential place in the upbringing of children. Therefore, the family is a universal organization and it is hard to imagine how society can function without the family (Anderson cited in Ekeke & Dorgu, 2014). It is unfortunate that most families today are divided, separated and unstable.

The incidences of broken marriages are on the increase and bring about consequential failure of children in all levels of education (Bubelwa, 2014). Children need the care of both parents for their affective, cognitive and psychomotor development. If parents are not emotionally connected to their children, they will struggle to learn how to regulate his emotion and interact with others appropriately (Moges & Weber, 2014). A broken home can result in single parenting, and is like losing part of the body (Landucci as cited by Igbinosa, 2014).

Family is the children's first place of social organization where they acquire initial education and socialization. Family lays the psychological, moral and spiritual foundation in the overall development of the child. Where and when there is harmony within the family, it translates to a happy home for children where healthy and peaceful coexistence prevail amongst family members.

Historically, single parenting was only manifested when there is a death of one the partners or divorce but in recent times, there has been an upsurge in the number, and a revolution on how the society perceives single parenting due to the western education. Among other reasons people decide to adopt this style of family structure include; domestic violence, physically and emotionally abuse of weaker spouse, teenage pregnancies and feminism. Azuka-Obieke Uchenna (2013) stated that single parenting could be as a result of divorce, separation of various kinds or death of any of the spouses. Factors such as divorce, separation, death of a parent, unintended pregnancy or birth to unmarried couples and single adoption are the major causes of single parenthood in our society today (Ekpeyong & Lawrence, 2016). Pupils from this type of family structure often lag behind academically and in coordination.

The rate of marriage failure is on the increase in our contemporary society. As the saying goes when two elephants fight, it is the grasses that suffer. Amadu and Moses (2013) observed that the basic school pupils from single parenting are the most fragile because they are at their formative years and any disruption in development could have lasting consequences. Amodu and Moses (2013) asserted that most of the pupils from single parent home experience low parental involvement in their academic activities compared with pupils from two parent families which have a high level of parental participation in their academic work. According to Kimani and Kombo, (2010), there is a strong correlation between street life, sex and defilement offences. Children brought up in a step parent home had a strong inclination towards substance abuse with greater correlation for stealing and refusing school. Children from single parent homes are more likely to suffer deprivations and denial of some rights and opportunities that will have negative psycho-social impact on them in school years. Studies have equally shown that children from broken homes are usually associated with anti-social behaviours and poor academic records (Anderson cited in Ekeke and Dorgu, 2014).

When a child's needs are not properly addressed, his learning ability could be affected due to lack of motivation. Mothers who are more educated and have higher self-esteem have children who receive higher test scores (Eamon 2005). Also, mothers who delay childbearing have been shown to provide more "cognitively stimulating" and supportive environments at home which has a positive effect on school performance (Eamon 2005). Guidubaldi and Perry (2005) found that boys in divorce household exhibit more adverse effect than girls in terms of behaviour, school work and happiness. Ardavan and Mahmoudi (2010) indicated that boys and girls had similar levels of adjustment. Amede

(2017) found that motivation can positively influence students' academic performance, including those from single parent homes.

Poor educational attainment has over the years become rampant, more pronounced and a peculiar feature in the institutions of learning. This has generated a lot of concern among parents, teachers, counsellors, educational administrator, as well as in government circle. The influence of single parenting on pupil educational attainment cannot be overlooked which therefore forms the hub of this study in Ukwuani Local Government Area of Delta State.

The family has enormous influence on the education of their children both directly and indirectly. In the formative years of the child, the home transmit culture and knowledge to the child correcting him where he goes wrong and directly him in other various aspects of his life in the society.

The influence of both parents on the education and general upbringing of a child is very crucial of which when left in the hand of a single parent might misdirect or halt the educational pursuit of the child. The range of feeling that students encounter due to single parenting ranges from: denial, sadness, loneliness, depression, anger, anxiety, fear, relief and hope. Responses to these feelings are often in diverse levels of intensity depending on their age, gender, available help/guidance, motivation and so on.

Majority of school children in Ukwuani Local Government Area of Delta State Government Area experience changes in family dynamics which manifest in schools with indicators such as depression, decline in academic achievement, poor attendance, loss of confidence and disorganization. These problems call for concern among the academia which necessitated this research work to examine the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta state.

Purpose of the Study

This study examined the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State. Specifically, the study intended to:

- i. Examine the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State.
- ii. Determine the causes of single parenting in Ukwuani Local Government Area of Delta State.
- iii. Investigate the consequences of single parenting on primary school pupils' social adjustment to the societal norms
- iv. Evaluate the ways in which the challenges facing ingle parents' homes can be ameliorated in Ukwuani Local Government Area of Delta State.
- v. Evaluate the difference between teachers and parents on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State
- vi. Explain the difference between male and female viewpoints on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State.

Research Questions

The following Research Questions guided the study;

- i. Does single parenting influence the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State?
- ii. What are the causes of single parenting in Ukwuani Local Government Area of Delta State?
- iii. Has single parenting any consequences on primary school pupils' social adjustment to the societal norms in Ukwuani Local Government Area of Delta State?
- iv. In what ways can the influence of single parenting on the educational attainment of primary school pupils be ameliorated in Ukwuani Local Government Area of Delta State?

Research Hypotheses

- H₁: There is no significant difference between teachers and parents on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State
- H₂: There is no significant difference between male and female on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State.

Methodology

The research design employed in this study was the survey design. This type of design was preferred because the studies sought to find out the influence of independent variable (Single Parenting) on dependent variable (pupils 'academic performance. The population of this study comprised teachers and parents in Ukwuani Local Government Area of Delta State government area of Lagos. The population of this study consisted of 110 senior secondary school teachers and 66 parents. Eleven primary schools and ten teachers from each of the schools were purposively selected from Ukwuani Local Government Area of Delta State. Six parents were also randomly selected from the vicinity where the 11 chosen schools are located. Four schools out of the 11 sampled were private.

The instrument used for data collection for this study was a research questionnaire titled: Influence of Single Parenting (ISP).The instrument was constructed by the researcher. The questionnaire contained structured questions which were meant to facilitate responses by the respondents. The researcher-made questionnaire was constructed in three sections. Section A: The demographic information which included variables as gender, age, educational qualification. Section B was designed with items that measure the influence of single parenting on pupils' academic performance, Section C comprised of items on the causes of single parenting while Section D deals with issues on ways of ameliorating the consequences of single parenting. Respondents were asked to report their level of agreement on a four-point likert scale ranging from 1 (Strongly disagree) to 4(Strongly agree).The questionnaire covered areas relating to the case under study.

Validity of the instrument was done by experts in test and measurement in the Faculty of Education, National Open University of Nigeria to ensure that the items of the instrument

were not ambiguous and that options were in line with the research questions and hypotheses. The reliability of the instrument was determined by administering it on a sample of 30 school teachers in the Etio-Osa South Local Government area of Lagos state, which was not part of the original sample population. The data from both tests were analysed with the Cronbach alpha statistics. A coefficient of 0.79 was established which shows that the instrument is reliable by this high coefficient.

The researcher first visited the schools used for the study and introduced himself and stated the purpose of visit to the principals. After some discussion with the principals on the topic of the research and its importance to the school, the principal of the schools permitted the researcher to come in any time to administer the questionnaire on teachers. The questionnaires were administered by the researchers to ensure that copies of the questionnaire got to the respondents at the right time and subsequently retrieved. 176 respondents were administered with the instrument and 155 were retrieved, thereby constituting about 88%. The data that was collected from the selected respondents was analysed using statistical packages for social sciences (SPSS). Descriptive statistics, mean rating and t-test was used to determine the independent variable on the dependent variable. All the research hypotheses were examined at 0.05 alpha levels of significance. The weighted mean of 2.5 was used to evaluate the statistics.

Results

Research questions 1: Does single parenting influence the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State?

Table1: Mean rating on the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State government area of Lagos

S/N	Influence of single parenting	Sum	Mean	Std. Dev.
Q1	single parenting inability to motivate their children to study	467.00	3.01	.71
Q2	Depression and aggressive often overwhelm single parents which may affect children academic exercise	482.00	3.11	.53
Q3	single parenting may exhibit poor leadership style may affect children academic activities	470.00	3.03	.55
Q4	Single parenting may not be able to pay fees due to economic pressure	498.00	3.21	.82
Q5	single parenting may encourage child labour because poverty	412.00	2.66	.57
Q6	Children from single parent homes may withdrawal or drop out of school	493.00	3.18	.67
Q7	Single parenting may not be able to monitor kids academic progress	479.00	3.09	.45
Q8	Children from single parent homes may experience psychological trauma that may affect children academic progress	432.00	2.79	.61
Q9	Children from single parent homes may experience poor interpersonal communication.	395.00	2.55	1.01
Q10	Single parenting may not be able to protect children of school age from negative peer influence.	488.00	3.15	.34
Total		4616.00	2.97	.63

Table 1 above revealed the mean rating on the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State government area of Lagos. Single parenting may not be able to pay fees due

to economic pressure tops the list with average mean score of 3.21, closely followed by Children from single parent homes may withdrawal or drop out of school (3.18); again by Single parenting may not be able to protect children of school age from negative peer influence (3.15). Next was Depression and aggressive often overwhelm single parents which may affect children academic exercise average mean score of 3.11. The total average mean was 2.97, which was above the average mean of 2.5. The implication is that the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State government area of Lagos is high.

Research question 2: What are the causes of single parenting in Ukwuani Local Government Area of Delta State?

Table 2: Descriptive statistics on the causes of single parenting in Ukwuani Local Government Area of Delta State

S/N	causes of single parenting	Sum	Mean	Std. Deviation
Q11	Wrong choice of Partners	505.00	3.26	.42
Q12	Selfishness	494.00	3.19	.45
Q13	Parental interference	510.00	3.29	.48
Q14	Economic Pressure	487.00	3.14	.46
Q15	Lack of trust and suspicion	474.00	3.06	.44
Q16	Wife battering	522.00	3.37	.52
Q17	Barrenness	519.00	3.35	.56
Q18	Adultery	491.00	3.17	.49
Q19	Poor communication.	434.00	2.80	.46
Q20	Unemployment status	481.00	3.10	.42
Total		4917	3.17	.47

Table 2 revealed the descriptive statistics on the causes of single parenting in Ukwuani Local Government Area of Delta State. The analysis shows the total sum of 4917, an average mean to be 3.17 and the Std. Deviation of .47. The total average mean of 3.17 was above the weighted mean of 2.5. The implication is there are enormous causes of single parenting in Ukwuani Local Government Area of Delta State.

Research question 3: Has single parenting any consequences on primary school pupils' social adjustment to the societal norm?

Table 3: Descriptive statistics on the consequences of single parenting on primary school pupils' social adjustment to societal norms

S/N	Influence do broken homes	Sum	Mean	Std. Deviation
Q21	Children from single parent homes are easy recruits to banditry that instigates insecurity	505.00	3.26	.31
Q22	Single parenting breed crime and violence	490.00	3.16	.43
Q23	there exist a correlation between street life and single parenting	516.00	3.33	.53
Q24	brawny relationship between sex and defilement offences with single parenting	501.00	3.23	.42
Q25	Single parenting predispose pupils to child labour	508.00	3.28	.54

Q26	Children from single parent homes have strong fondness towards substance abuse	524.00	3.38	.67
Q27	Children from single parent homes constitute a higher percentage of out of school children and school drop outs	530.00	3.42	.45
Q18	Single parents' kids are susceptible to cultism	502.00	3.24	.61
Q29	there is a link between mental health and single parenting due to stress and depression	395.00	2.55	.22
Q30	there is a connection between theft and single parenting due to hardship	519.00	3.35	.36
Total		4990	3.22	.45

Table 3 revealed the descriptive statistics on the consequences of single parenting on primary school pupils' social adjustment to societal norms. The analysis shows the total sum of 4990, an average mean to be 3.22 and the Std. Deviation of .45. The total average mean of 3.22 is above the weighted mean of 2.5. The implication is there are mammoth consequences of single parenting on primary school pupils' social adjustment to societal norms.

Research question 4: In what ways can the influence of single parenting on the educational attainment of primary school pupils be ameliorated in Ukwuani Local Government Area of Delta State?

Table 4: Mean rating on the ways in which the challenges facing single parenting be ameliorated in Ukwuani Local Government Area of Delta State

S/N	Influence do broken homes	Sum	Mean	Std. Deviation
Q31	Single parents should learn to encourage their children to study	484.00	3.12	.40
Q32	Single parents should promote inter-personal communication that bothers on education	499.00	3.22	.31
Q33	Single parents may exhibit good leadership style that inspire children academic activities	504.00	3.28	.41
Q34	Single parents should work hard to wad of economic pressure and pay children school fees	473.00	3.05	.44
Q35	Single parents should discourage child labour	482.00	3.11	.47
Q36	Children from single parent homes should solicit for assistance where necessary	525.00	3.39	.53
Q37	Single parents should create time to monitor kids academic progress	521.00	3.36	.59
Q38	Children from single parent homes should be given special attention by teachers	507.00	3.27	.48
Q39	Government should subsidize education cost to reduce economic burden on single parents	527.00	3.40	.33
Q40	Single parents should protect children of school age from negative peer influence.	496.00	3.20	.45
Total		5018	3.24	.44

Table 4 above revealed the ways in which the challenges facing single parenting be ameliorated in Ukwuani Local Government Area of Delta State. Government should subsidise education cost to reduce economic burden on single parents tops the list with average mean score of 3.40, closely followed by Children from single parent homes should solicit for assistance where necessary (3.39); again by Single parents should create time to monitor kids academic progress (3.36), Single parents may exhibit good leadership style that inspire children academic activities (3.28), and the next was Single parents should promote inter-personal communication that bothers on education with average mean score of 3.22. The total average mean was 3.24, which was above the average mean of 2.5. The implication is that there are many ways in which the challenges facing single parenting be ameliorated in Ukwuani Local Government Area of Delta State.

Test of Hypotheses

Hypothesis 1: There is no significant difference between the views of teachers and parents on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State.

Table 5: T-test analysis on the difference between views of teachers and parents on the influence of single parenting on primary school pupils' educational attainment in Ukwuani Local Government Area of Delta State

Status	N	Mean	df	t	Sig.
Parent	54	1.53			
Teacher	101	1.46	143	.820	.813

At .05 level of significant.

The result in Table 5 shows that there is no significant difference between the views of teachers and parents on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State, at $t(.820) = df=143, P<.05$, with a mean of 1.53 for Parent and 1.46 for Teacher. The implication is that there is no significant difference between the views of teachers and parents on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State.

Hypothesis 2: There is no significant difference between the views of male and female on the influence of single parenting have on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State.

Table 6: T-test analysis on the difference between the views of male and female on the influence of single parenting have on primary school pupils' educational attainment in Ukwuani Local Government Area of Delta State

Gender	N	Mean	df	t	Sig.
Male	80	1.69	143	.819	.109
Female	75	1.63			

At .05 level of significant.

The result in Table 6 demonstrate T-test analysis on the difference between the views of male and female on the influence of single parenting on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State, at $t(819) = df=143, P<.05$, with a mean of 1.69 for male and 1.63 for female. The implication is that there is no significant difference between the views of male and female on the influence of single parenting on primary school pupils' educational attainment in Ukwuani Local Government Area of Delta State.

Discussion of findings

Research question 1 sought to determine the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State? The analysis revealed that the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State government area of Lagos is high. This conclusion is in agreement with the views of Uchenn (2013) and Amede (2017) who stressed that living in a single parent family is unconstructively related with children's educational performance compared to living with biological parents after separation, the quality of parental involvement decreases. Thomas, Konstantina, Vassilis, and Panagiotics (2014) sited that among the factors that lead to decreased school performance in children who come from single-parent families. Low academic expectations of lone parents, lack of parental involvement in their children's education, low socio-economic status of the family, consequent stress of the lone parent to cope with the requirements of the new family patterns, poor quality of children's interpersonal relationships with both parents, time phase of the traumatic experience of separation/divorce (before, during, or after divorce) and the supporting frame-assistance provided to the single-parent family from parents, siblings, friend, family, school, state and other networks.

Research question 2 sought to establish the causes of single parenting in Ukwuani Local Government Area of Delta State? The outcome revealed enormous causes of single parenting in Ukwuani Local Government Area of Delta State. The finding agreed with Azuka-Obieke Uchenna (2013), who stated that causes of single parenting could be as a result of divorce, separation of various kinds or death of any of the spouses. Factors such as divorce, separation, death of a parent, unintended pregnancy or birth to unmarried couples and single adoption are the major causes of single parenthood in our society today (Ekpeyong and Lawrence, 2016).

The question as to whether single parenting has any consequences on primary school pupils' social adjustment to the societal norm was addressed. It was concluded that single parenting has mammoth consequences on primary school pupils' social adjustment to societal norms. According to Kimani (2010), there is a strong correlation between murder and a child having come from an intact family. For a single parent family parenthood, there was a strong correlation between street life, sex and defilement offences. Children brought up in a step parent home had a strong inclination towards substance abuse but the correlation was even greater for stealing and refusing school. Children from single parent homes are more likely to suffer deprivations and denial of some rights and opportunities that will have negative psycho-social impact on them in school years. Studies have equally shown that children from broken homes are usually associated with anti-social behaviours and poor academic records.

Findings from the study also established many ways in which the challenges facing single parenting be ameliorated in Ukwuani Local Government Area of Delta State. This finding concurred with view of Amede (2017) who found that motivation can positively influence students' academic performance including those from single parent homes. According to Azuka-Obieke Uchenna (2013), the process of socialization depends on both parents playing complimentary roles in raising such children; which will positively impact positively on the children during school years.

Answer to research hypothesis 1 revealed that there is a no significant difference between the views of teachers and parents on the influence of influence of broken homes on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State. This conclusion agrees with Mothers who are more educated and have higher self-esteem have children who receive higher test scores (Eamon 2005). Also, mothers who delay childbearing have been shown to provide more "cognitively stimulating" and supportive environments at home which has a positive effect on school performance (Eamon 2005).

Result of hypothesis 2 shows that there is a no significant difference between the views of male and female on the influence of influence of broken homes on primary school pupils' educational attainment of Ukwuani Local Government Area of Delta State. This outcome is in consonant with Guidubaldi and Perry (2005) who found that boys in divorce household exhibit more adverse effect than girls in terms of behavioural work effort and happiness. Ardavan and Mahmoudi Armin. (2010) indicated that boys and girls had similar levels of adjustment.

Implication for Counselling

This research work examined the influence of single parenting on primary school pupils' educational attainment in Ukwuani Local Government Area of Delta State. The implications of this study to school counsellors are numerous. Knowledge of single parenting would help them to be aware of the peculiar features of pupils from single parent homes and device appropriate strategies to manage them adequately. The study would bring to the light the need to work towards improving family cohesion and minimize incidents that predispose separation and divorce.

Conclusion

This research work examined the influence of single parenting on primary school pupils' educational attainment in Ukwuani Local Government Area of Delta State. The analysis revealed that the influence of single parenting on the educational attainment of primary school pupils in Ukwuani Local Government Area of Delta State government area of Lagos is high. There are enormous causes and mammoth consequences of single parenting on primary school pupils' social adjustment to societal norms. There are many ways in which the challenges facing single parenting be ameliorated in Ukwuani Local Government Area of Delta State. There is no significant difference between the views of teachers and parents and male and female on the influence of single parenting on primary school pupils' educational attainment in Ukwuani Local Government Area of Delta State. However, government should make create academic and counselling units in schools with adequate funds to care for the psychological needs of students, especially those from single parent homes.

Recommendations

From the results of the study, the following recommendations are made;

1. The government should create academic and counselling units in schools with adequate funds to care for the psychological needs of students, especially those single parent homes.
2. More learning materials should be provided to the pupils from single parent homes by their governments, parents and guardians for effective learning.
3. Principal and teachers should monitor the affairs of students from single parenting in their respective schools.

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EFFECT OF THE USE OF SCIENCE PROCESS SKILLS APPROACH IN TEACHING ENVIRONMENTAL EDUCATION CONCEPT ON SENIOR SECONDARY SCHOOL BIOLOGY STUDENT'S ACADEMIC PERFORMANCE IN SABON-GARI LOCAL GOVERNMENT AREA OF KADUNA STATE

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Abstract

The research titled "Effect of the Use of Science Process Skills Approach in Teaching Environmental Education Concept on Senior Secondary School Biology Student's Academic Performance in Sabon-Gari Local Government Area of Kaduna State. The study was based on two (2) research objectives and in order to achieve these objective; two (2) research questions and two (2) hypotheses were formulated. The experimental research design was employed in the conduct of this study. The study total population comprised of one thousand eight hundred and eighty seven (1887) SS II Biology students from ten (10) senior secondary schools in the study area, five (5) schools were purposively selected and used for the study with total population of four hundred and twenty (420) SSII biology students with sample size of two hundred (200). The research instrument that was used in the study consist of performance multiple-choice objective test developed by the researcher which will be main primary source of collecting data. A pre-test was given and data collected. After three weeks treatment, post-test was given. Data collected for pre and post-test were subjected to analysis of variance (ANOVA). Findings from the study indicated that there is no significant difference on effect of learning environmental education using science process skills on secondary school students' academic performance in Biology; there is significant difference in the academic performance of students in biology when taught with science process skills and when taught with lecture method. Recommendations were made as follows environmental education should be taught using science process skills as it encouraged maximum student participation in the learning activities and the acquisition of knowledge in the field of science, in senior secondary schools in Sabon-gari local government area of Kaduna State; Teachers should also impore appropriate approaches in teaching and learning environmental education in senior secondary schools in Sabon-Gari local government area of Kaduna State

Keywords: Environmental Education, Science Process Skills, academic performance, Test,

Introduction

Environment denotes a broad and comprehensive term referring to all that surrounds human: air, water, soil and light. It is a condition or circumstance that affects living beings. Environment could be said to consist of all external factors and forces with which one interacts from conception until demise. It includes the physical, chemical, biological, psychological and socio-cultural dimensions and in fact everything that makes up the context in which the individual lives (Mbalisi and Ugwu, 2012). Learning about them and their interrelationship could be termed Environmental Education (EE). But in reality in the field the learning process that trains students' science process skills is not optimal. Based on the results of several studies on science process skills, the results obtained in the aspect of predicting. This is because students only memorize concepts without ever seeing them

directly or practicing them, Ilma, *et al* (2020). In developing a process of sense of responsibility and increasing the importance of research methods in the learning process students need science process skills that are formed through an independent learning process (Harahap, 2019) Therefore, it is important to be understood by teachers because of the importance of these skills in science learning (Harahap, 2019). Teachers are often more concerned with learning outcomes obtained by students, especially in the cognitive domain, rather than the processes experienced by students. Environmental Education (E.E) desires much attention, due to the environmental challenges that are facing the society, most especially the developing nations. Education seems to be the major tool to combat environmental degradation, climatic challenges, flooding, and indiscriminate dumping of refuse, poor knowledge of refuse disposal, unhygienic living, and unkempt or untidy environment (Mbalisi and Ugwu, 2012).

Environmental Education is the acquisition of knowledge of how man can manage environment to bring about comfortable, healthy and worthwhile living. It is also about the study of environmental challenges. It is aimed at preventing human factors that constitute environmental challenges, and to have awareness of the challenges to be surmounted and to make environment habitable for people's survival, and comfort. Environmental Education is a process in which individuals gain awareness of their environment, acquire knowledge, skills, values, experiences, and also the determination and enablement to act individually and collectively, to solve present and future environmental problems. Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, awareness of how to help solve these problems. Environmental Education stimulates motivation towards finding solutions as potential dangerous trajectory of the globe based on humans' activities become more evident (Mbalisi and Ugwu, 2012).

The Basic Science Process Skills (BSPS) include the following:

- i. **Observing:** Noting the properties of objects and situations using the five senses. It is description of what was actually perceived.
- ii. **Measuring:** Expressing the amount of an object or substance in quantitative terms.
- iii. **Inferring:** Giving an explanation for a particular object or substance in quantitative terms.
- iv. **Classifying:** Relating objects and events according to their properties or attributes.
- v. **Predicting:** Forecasting a future occurrence based on past observation or the extension of data.
- vi. **Communicating:** Using words, symbols, or graphics to describe an object, action or event.
- vii. **Controlling variables:** Manipulating and controlling properties that relate to situations and events or the purpose of determining causation.
- viii. **Hypothesizing:** Stating tentative generalization of observations or inferences that may be used to explain a relatively larger number of events but that is subject to immediate or eventual testing by one or more experiments.
- ix. **Experimentation:** Testing a hypothesis through the manipulation and control of independent variables and noting the effects on a dependent variable: interpreting and presenting results in the form of a report that others can follow to replicate the experiment.

- x. **Data Interpreting:** Arriving at explanations, inference, or hypotheses from data that have been graphed or replace with table (Afif and Majdi, 2015).

Science is a great enterprise which nations depend on, in order to advance technologically. Science education occupies important position in the growth and development of a nation (Odunnusi, 2011). Muhammad (2014) observed that the economic and political strength of a nation is always assessed in terms of its achievement in science and technology. The awareness of the importance of science and technology as the basic tools for industrialization and national development has made science educators to continually seek for avenues in making teaching and learning of science very effective (Muhammad, 2014).

In essence, studying biology is the process of finding facts, concepts, and principles that are not just mastery of science. But it is necessary to learn about how to obtain information through scientific skills. Biology as an integral part of science provides various ways to acquire knowledge through a number of science process skills activities by means of inquiry, observation and experiment. Biology learning must emphasize the process by which students build the knowledge obtained from the learning activities they experience. Biology learning should be designed to provide students with opportunities to discover facts, construct concepts, and discover new value through the process as scientists discover knowledge (Muhammad, 2014).

Science educators and Specialists believe that teaching science must be divided into two parts (materials and methods). The first one includes the facts, concepts, laws and theories, while the second part includes scientific thinking, critical thinking and scientific processes. In general, teachers evaluate the first part and ignore the second because they feel that teaching thinking skills and science processes is a waste of time and effort. According to Blooms taxonomy, educational objectives are divided into three "domains": cognitive, affective and psychomotor. In the Nigerian schools, science teacher's focus on the cognitive outputs rather than the other outputs such as those related to the effective domain which includes students' attitudes toward science. The aim of this study is to evaluate the effect of the Use of Science Process Skills Approach in Teaching Environmental Education Concept on Senior Secondary School Biology Student's Academic Performance in Sabon-Gari Local Government Area of Kaduna.

Objectives of the Study

The study is guided by the following objectives:

1. Examine the effect of learning environmental education using science process skills can impact secondary school students' academic performance in Biology.
2. Examine the difference on the academic performance among Biology students in environmental education using the science process skills approach and those taught using the Lecture method of instruction.

Research Questions

The following research questions were formulated for this study;

1. How does the learning of environmental education using science process skills impact secondary school students' academic performance in biology?
2. What is the difference in the academic achievement among biology students in environmental education using the science process skills approach and those taught using the Lecture method of instruction?

Research Hypotheses

The following hypotheses were tested for this study:

- i. There is no significant difference on the effect of learning environmental education using science process skills can impact secondary school students' academic performance in Biology
- ii. There is no significant difference in the academic performance among biology students in environmental education using science process skills approach and those taught using lecture method of instruction

Methodology

The study adopted a Pre-Test & Post-Test intact class quasi-experimental design. The study was conducted in Sabon-Gari Local Government Area Kaduna State, Nigeria.

The study population comprised of one thousand eight hundred and eighty seven (1887) SS II Biology students from ten (10) secondary schools in the study area, five (5) schools were purposively selected and used for the study with population of four hundred and twenty (420) SS11 biology students were used for the study.

According to Krejcie and Morgan, 1970 sample size determination table drawn out from four hundred and twenty (420) in five (5) schools were two hundred (200) SS11 biology students.

Table 1: Sample Population

S/N	Name of Ward Selected	No of People Sampled
1	Dogon Bauchi Secondary School S/Gari, LGA, Kaduna State	52
2	Aminu Government Secondary School S/Gari, LGA, Kaduna State	54
3	Muchia Secondary School S/Gari, LGA, Kaduna State	42
4	Government Secondary School Chindit BarrackS/Gari,LGA, Kaduna State	32
5	Government Secondary School KwangilaS/Gari, LGA, Kaduna State	20
Total= 200		

Source: Field Survey 2022

The research instrument that was used in the study consist of performance multiple-choice objective test developed by the researcher which was the main primary source of collecting data. A pre-test was given and data collected. After three weeks treatment, post-test was given.

Data collected for pre and post-test were subjected to analysis of variance (ANOVA).

Table 2: Analysis of Students performance test questions in biology

S/N	Questions	Objective Options	Answers	Percentage%	
			Right answer	Failed%	Passed%
1	Environment consists of factors and force which human interacts with includes the following except	a. Physical b. Chemical c. Biological d. Thermal	√	58%	42%
2	Environment is broad term which refers to all that surround man EXCEPT:	a. weather b. Air c. soil d. water	√	59%	41%
3	Human activities have effects on the environment in the following ways except:	a. global warming b. ozone layer depletion c. green house effect d. drought	√	60%	40%
4	_____ has caused serious environmental damage	a. mechanization b. industrialization c. overpopulation d. humanization	√	35%	65%
5	_____ causes rise in atmospheric temperature.	a. gases b. bush burning c. noise d. weather	√	46%	54%
6	_____ is not good for the environment:	a. over-population b. reproduction c. building of houses d. farming	√	59%	41%
7	Urban centers are becoming more noisy and filthy as a result of _____	a. overpopulation b. unemployment c. industrialization d. weather	√	50%	50%
8	Increase in the number of vehicles and industries have resulted in high rate of _____	a. noise b. pollution c. gas emission d. mechanization	√	60%	40%

Source: Field Survey 2022

The table above shows that, item 1 58% of biology students who attempted the achievement failed while 42% passed, in item 2, 59% biology students failed 41% passed, in item 3, 60% biology students failed 40% passed, item 4, 35% biology students failed 65% passed, in item 5, 46% biology students failed 54% passed, in the item 6 also, 59% biology students failed 41% in item 7, 50% biology students failed 40% passed, passed, while in the item 8, 60% biology students failed 40% passed respectively, this indicated that, the percentages of the failure students of biology in environmental education has the highest percentages.

Table 3: Analysis of Students performance test questions in biology

S/ N	Questions	Objective Options	Answer	Percentages	
			Answer	Failed%	Passed %
9	Throwing of waste indiscriminately causes one of the environmental problems:	a. noise pollution b. air pollution c. sand pollution d. house pollution	√	40%	60%
10	One of the impact of the monthly environmental sanitation is to:	bring people together monitor people's cleanliness c. bring about an healthy environment	√	71%	29%
11	The existence of the following in the same place has pose serious problems EXCEPT:	d. to know if people can work or not a. factories	√	64%	36%
12	Exploitation of the environment can cause ___ to the environment.	b. workshops c. residential houses d. vehicles a. serious havoc	√	65%	35%
13	The study of ___ using science process skills develops skills in the learner which he or she could use in solving everyday problem.	b. renew c. replacement d. repair a. Environmental education b. Environmental knowledge	√	30%	70%
14	Environmental education is:	c. Environmental issues d. Environmental studies Acquisition of education on man acquisition of education on how man can manage the environment	√	25%	75%
15	Environmental education using science process skills encourages	acquisition of education on the environment acquisition of education on how the environment isinfluenced a. maximum student participation in the learning activities	√	35%	65%
16	Environmental education aims at:	b. the acquisition of knowledge in the field of science c. all of the above d. none of the above producing a citizenry that	√	49%	51%

has knowledge on the environment, its problems and how to solve these problems
 motivating people to study the environmental education
 solving environmental problems
 providing knowledge on the environment

Source: Field Survey 2022

The table above shows that, item 9 40% of students who attempted the achievement failed while 60% passed, in item 10, 71% students failed and 29% passed, in item 11, 64% students failed 36% passed, item 12, 65% students failed while 35% passed, in item 13, 30% students failed 70% students passed, in the item 14 also, 25% students failed 75% passed, in item 15, 35% students failed 65% students passed, while in the last item on the table item 16, 49% students failed 51% passed respectively, this indicated that, the percentages of the failure students of in environmental education has the highest percentages.

Table 4: Analysis of Students performance test questions in biology

S/N	Questions	Objective Options	Answers	Percentages	
			Right answers	Failed%	Passed%
17	Problems associated to the environment includes the following	a. pollution b. industrialization c. resource use d. energy utilization	√	48%	52%
18	EXCEPT:	a. awareness b. knowledge c. attitude d. responsibility	√	55%	45%
19	The following are the objectives of environmental education EXCEPT	a.environmental knowledge b. environmental studies c. environmental education	√	32%	68%
20	___ is often used to imply education the school system from primary to post primary	d. science knowledge a. living and non-living b. natural and man-made c. living and natural d. man-made and non-living	√	47%	53%
21	In Nigeria, the environment is riddled with _____ problems:	a. AKADEM b. PESADN c. AKASEP d. MASEPK	√	74%	26%
22	Objectives of environmental education can be summarized :	a. skills that student use to become scientist b. skills that teachers use to become scientist c. inquiry skills used by scientists in their scientific investigation d. all of the above	√	43%	57%
23	Science process skills can be seen as:	a. basic process skills and	√	50%	50%

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24	Science process skills can be categorized into__and__	enquiry process skills b. intergrated process skill and basic process skills c. basic process skills and inquiry process skills d. inquiry process skills and inquiry process skills facilitate the learning of science ensures active students participation develop the sense of understanding and responsibility d. to be a scientist	49%	51%
	Science process skills helps to EXCEPT:			

Source: Field Survey 2022

The table above shows that, item 17 48% of the students who attempted the achievement failed while 52% passed, in item 18, 55% students failed and 45% passed, in item 19, 32% students failed 68% passed, item 20, 47% students failed while 53% passed, in item 21, 74% students failed 26% students passed, in the item 22 also, 43% students failed 57% passed, in item 23, 50% students failed 50% students passed, while in the last item on the table item 24, 49% students failed 51% passed respectively, this indicated that, the percentages of the passed students of biology in environmental education has the highest percentages.

Table 5: Analysis of Students Performance test questions in biology

S/N	Questions	Objective Options	Answers	Percentages	
			Answers	Failed %	Passed %
25	Science process skills requires the following except:	a. collecting data b. processing data c. interpretation of data d. reaching conclusion	√	79%	21%
26	Science process skills are classified into__	a. 3 b. 4 c. 2 d. 5	√	52%	48%
27	The five science process skills that can be achieved through the study of	a. observing b. inferring c. manipulating materials d. hypothesizing	√	46%	54%
28	environmental education are as follows EXCEPT: Science process skills are the building blocks of__ and __	a. critical thinking and critical solving b. inquiry and enquiry c. critical thinking and inquiry d. inquiry and solving	√	51%	49%
29	of__ and __	a. observing b. classifying c. inferring		60%	40%

30	Basic process skills are the following EXCEPT:	d. transforming data a. predicting b. interpreting data c. manipulating materials d. identifying and defining variables	√ √	53%	47%
31	Integrated science process skills are the following EXPECT:	a. seeing b. hearing c. feeling d. thinking	√	69%	31%
32	Observation in the basic science process skill include the use of the following senses except: The importance of science process skills in environmental education towards academic achievement of students are the following EXCEPT:	a. develops skills in the learner b. motivates interest c. encourages student participation in learning activities d. none of the above	√	48%	52%

Source: Field Survey 2022

The table above shows that, item 25 79% of students who attempted the achievement failed while 21% passed, in item 52, 55% students failed and 48% passed, in item 27, 46% students failed 54% passed, item 28, 51% students failed while 49% passed, in item 29, 60% students failed 40% students passed, in the item 30 also, 53% students failed 47% passed, in item 31, 69% students failed 31% students passed, while in the last item on the table item 32, 48% students failed 52% passed respectively, this indicated that, the percentages of the failure students of biology in environmental education has the highest percentages.

Table 6: Analysis of Students performance test questions in biology

S/N	Questions	Objective Options	Answers	Percentages	
			Answers	Failed%	Passed %
33	___ is referred to as an intelligent guess.	a. observation b. manipulation c. hypothesis d. none of the above	√	32%	68%
34	Science process skills are use by scientists in their _____	a. observation b. investigation c. experimentation d. scientific investigation	√	50%	50%
35	Prediction can be seen as:	a. making an intelligent guess b. making educated guesses about outcome c. making inferences d. making hypothesis	√	55%	45%
36	The ability of learner to test the hypothesis formulated based on observation is _____	a. manipulation b. experimentation c. hypothesis d. classifying	√	44%	56%
37	The ability to read, make meaning and draw valued statements from obtained data is called_____	a. referemce b. interpretation c. manipulation d. observation	√	49%	51%
38	A ___ is a physical representation of explanation that sums up an observation made before	a. chart b. drawing c. model d. map	√	75%	25%
39	___ is very critical for implementation of inquiry-based teaching	environmental education science process skills scientific skills environmental knowledge	√	37%	63%
40	___ and _ are important in any scientific investigation such as conducting projects and carryout experiment	a. basic skill process and science process skill b. basic skill process and inquiry process skill c. integrated process skill and inquiry process skill d. integrated process skill and basic process skill	√	57%	43%

Source: Field Survey 2022

The table above shows that, item 33 32% of students who attempted the achievement failed while 68% passed, in item 34, 50% students failed and 50% passed, in item 35, 55% students failed 45% passed, item 36, 44% students failed while 56% passed, in item 37, 49% students failed 51% students passed, in the item 38 also, 75% students failed 25% passed, in item 39, 37% students failed 63% students passed, while in the last item 40, 57% students failed 43% passed respectively, this indicated that, the percentages of the failure students of biology in environmental education has the highest percentages.

Results of the finding

Answering research questions

Hypothesis one: There is no significant difference the effect of learning environmental education using science process skills can impact secondary school students' academic performance in Biology.

Summary of one way analysis of variance (ANOVA) on the the effect of learning environmental education using science process skills can impact secondary school students' academic performance in Biology.

Status	Sum of square	Df	Mean square	F Calculated	Prob.	F critical
Between Groups	.484	4	.128	.241	.860	3.84
Within groups	44.287	196	.407			
Total	44.670	200				

Source: Field survey, 2022

The test indicated that there was no significant difference in the respondents i.e F-ratio value (.241) at 4df 196 and at the level 0.05. The critical value (3.84) is more than F ratio value (.241). The probability level of significance P (.860) is more than 0.05. This means that there is no significance difference in the senior secondary school students towards environmental education. Therefore, the hypothesis is retained, meaning that there is no significance difference in the senior secondary school students towards environmental education.

Hypothesis Two

There is no significant difference in the academic performance of students in biology when taught with science process skills and when not taught with lecture method.

Summary of one way analysis of variance (ANOVA) on the cademic performance of students in biology when taught with science process skills and when taught with lecture method.

Status	Sum of square	Df	Mean square	F Calculated	Prob.	F critical
Between Groups	.680	4	.227	.191	.002	3.84
Within groups	124.642	196	1.187			
Total	124.421	200				

Source: Field of study 2022

The test indicated that there was no significant difference in the respondents ie F-ratio value (.191) at 4df 196 and at the level 0.05. The critical value (3.84) is more than F ratio value (.191). The probability level of significance P (.002) is less than 0.05. This means that there is significance difference in the academic performance of students in biology when taught with science process skills and when not taught with it. Therefore, the hypothesis is rejected, meaning that there is significance difference in the academic performance of students in biology when taught with science process skills and when taught with on lecture methods.

Discussion of findings

Hypothesis One which states that there is no significant difference in the attitude of senior secondary school students towards environmental education was retained. The hypothesis was tested using analysis of variance and the result of the analysis revealed $F(3.84 = .241, P = .860)$. Findings from the study indicated that there is no significant difference in the senior secondary school students towards environmental education.

After five weeks of science process skills based instruction, the researchers found that the students in between group attained significantly higher scores in biology than the students in within group. It may be argued that students exposed to the Basic Science Process Skills (BSPS) had the opportunity to observe, measure, record and interpret data as they were involved in the investigative activities. It can further be suggested that the science process skills emphasized in this study might have assisted the experimental group to perform better in biology than the control group. Studies carried out by Khan *et al.* (2011) showed that inquiry-based teaching approaches enhanced students' achievement in science subjects, which are in agreement with the findings of this study. Raminarian and Hlatswayo, (2018) research findings were also in agreement with the findings of this study by indicating that active participation of the students in science lessons contributed to effective learning. Therefore, sciences process skills may be the desired instructional approach to teaching biology. This study gives support to the fact that achievement of students in biology could be greatly improved if they are exposed to science process skills teaching approach. However, it is important to note that the success of the approach may depend on the competence, enthusiasm and confidence of the biology teacher and the ability of the students in making use of the opportunity provided.

Hypothesis two which states that there is no significant difference in the academic performance of students in biology when taught with science process skills and when not taught with on lecture method is rejected. The hypothesis was tested using analysis of variance and the result of the analysis revealed $F(3.84 = .191, P = .002)$. Findings from the study indicated that there is significant difference in the academic performance of students in biology when taught with science process skills and when not taught with on lecture method

Also, the study by Olutola *et al.*, (2016) corroborates with the present study since their findings on comparative effect of science process skills on students' academic performance reported a significant effect. Their findings on a comparative effect of science process skills on students' academic performance in Biology in Ilorin, Nigeria reported a significant effect. This means that acquisition of large number of skills influence students' academic performance. Eric (2013) also reported a significant effect of SPS on students' academic performance. The implication therefore is that, acquisition of SPS in large numbers has significant effect on students' learning outcome in practical components of science subjects. The findings of this study however contradict Raj and Devi (2014) who reported a non-significant effect on academic performance but rather sees science process skills acquisition as tools for facilitating the process of learning. Nonetheless, the significant interaction effect as revealed in this study could be attributed to the facts that students may have reasonably acquired science process skills which must have impacted positively on their academic performance in practical biology.

Conclusion

From the findings of the study, it is concluded that acquired skills of classifying, measuring and problem-solving significantly interact with students' academic performance in practical biology. Furthermore, the study has projected biology to both teachers and students as an action as oppose to one of mere talking and listening. On the basis of the findings, it was concluded that; Acquired classification, measurement and problem-solving skills only showed significant interaction effect on students' academic performance in practical Biology.

Recommendations

Based on the findings of this research, the following recommendations were made:

1. Environmental education should be taught using science process skills as it encouraged maximum student participation in the learning activities and the acquisition of knowledge in the field of science, in senior secondary schools in Sabon Gari local government area of Kaduna State
2. Teachers should also impore appropriate approaches in teaching and learning environmental education in senior secondary schools in Sabon-Gari local government area of Kaduna State

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THERAPEUTIC RESOURCES AVAILABLE FOR COUNSELLING AMONG SCHOOL COUNSELLORS IN SENIOR SECONDARY SCHOOLS IN SOKOTO SOUTH LOCAL GOVERNMENT AREA, SOKOTO STATE

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Abstract

The paper investigated on Therapeutic resources available for counselling among school counsellors in Sokoto South local government area, Sokoto state. Descriptive survey design was used and the population of the study comprises of 37 School counsellors in 25 public and 12 private Senior Secondary Schools in Sokoto South Local Government Area. The sample size consist of all the 37 identified School counsellors in the study area. Two research questions and One hypothesis were formulated. Researcher developed questionnaire called Availability of Resources for Counselling questionnaire (ARCQ) was used to collect data from the respondents. The instrument obtained items` validity of 0.7 and test re-test and inter-rater reliability of 0.8 and 0.75 respectively. The data collected were analysed using the Non parametric test of Man Whitney test for testing the hypothesis. The finding revealed that Resources for counselling were grossly unavailable for school counsellors in the senior secondary schools and the unavailability has no significant difference among school counsellors of both public and private secondary schools. And it was finally recommended that Urgent steps should be taken by Sokoto State Government to build counselling centers in all the secondary schools all over the state and equip them with required counselling resources.

Keywords: Therapeutic Resources, School Counsellors

Introduction

Resources to Counsellors are just like to instructional materials to teachers. Counselling resources provide a useful, additional tool for Counsellors wanting to provide as wide-ranging a service as possible to all their clients. Resources will also enhance a counsellor's personal skills and increase the level of knowledge and support a counsellor can offer through the practice of their skills. They will become more confident in their ability to provide clients with the best possible counselling service, and also be able to offer other avenues the client can explore. Using resources also allows the professional counsellor an opportunity to explore his own abilities, career development and personal skills and requirements. Reflective research explores the counsellor's skills and self-awareness and may provide renewed interest in the expansion of a counsellor's career. Being able to access information about the latest developments in the field of counselling also supports further training.

Studies have shown that learning largely depends on available resources in educational institutions which the learners interacts with, Ojo and Olaniyan (2019) found out that instructional materials do enrich students' performance, stimulate and motivate students interest in learning and help them to develop a continuity of reasoning, coherence of thought and in concretizing abstract issues or topics. A soldier cannot be effective without a gun so is a farmer without a hoe. Hence a guidance counsellor cannot effectively

discharge his duties without resources for counselling. Varieties of Human and material resources are abound both within the school and the community, an effective counsellor would comb the environment to identify and access the available resources, then make their maximum utilization for the benefits of his/her clients.

For effective counselling activities to thrive, there must be adequately furnished and conducive spacious office facility for group and individual counselling sessions and to accommodate two auxiliaries to the counsellor. A situation where the counsellor shares the general staff room with the rest of the school staff should be stopped. The counsellor needs cabinet, shelves and other hardware for data storage. In view of the realities of globalization, a computer outfit is necessary for easy storage and retrieval of data. The management of huge amount of data is facilitated by the use of computer and its accessories. Again, there are a number of computer software packages that can aid information retrieval and appraisal services. Furthermore, the work of the counsellor can be greatly enhanced with the availability of telephone and other communication gadgets.

Finally, for the counsellor to prosecute functional guidance programmes such as the careers day, field trips, guidance workshops and seminars, adequate funds are needed. According to Adana (2014) the provisions of these facilities are of utmost importance for the counsellor to carry out his/her functions in the school guidance programme; otherwise manpower/human resource development in Nigeria will remain a mirage.

Conceptual Framework

Resource is something functional to man. The term 'functional' denotes functional character, i.e., the capacity of satisfying human wants. These refer to things of certain values for satisfying human need. The Wikipedia free encyclopedia defined resource as a source or supply from which benefit is produced. Typically resources are materials, services, staff, or other assets that are transformed to produce benefit and in the process may be consumed or made unavailable. Implying that resources for counselling are human and materials that are at the disposal of a counsellor which can be utilized by the counsellor in the process of counselling. Human, financial and political resources are required at the implementation stage of the guidance programme. Human resources include the counsellor/student ratio, and the number of committee members and teachers who actually offer their services. Financial resources include the school budget for Guidance and Counselling, other sources of finance, and the adequacy of Guidance facilities. Finally, political resources are related to policies and procedures, resistant staff members, implementation guidelines and administrative support.

“A school counsellor, also known as a guidance counsellor, offers academic, career, college, and social advice and guidance to children in primary schools through tertiary institutions. A school counsellor might assist a student with social challenges such as dealing with bullying, or might help a student find a tutor, or deal with problems at home” (Ebgule, 2002). “A school counsellor also assists students in setting academic goals, and may also help students prepare themselves for college or careers. School counsellors may also help mediate student/teacher conflicts, and help students through challenging situation taking place at home or school. Many schools Counsellor's have studied psychology at the undergraduate level. Others receive a Master's Degree from the Council for Accreditation of Counselling and Related Education Programs” (CACREP).

Due to shortages of trained counsellors, some teachers who undergo training in some aspects of principles and practice of guidance and counselling are appointed in the secondary schools to perform the duties of a guidance counsellor. Most of these Para-counsellors only offer career guidance to students and not all aspects of guidance and counselling. The teacher counsellors are themselves inadequate as far as counselling practice is concerned, but they are useful in the educational setting as they assist in creating career awareness among the students. If the Para-counsellors are assisting in understanding the process of acquisition and utilization of resources for counselling their work will be enhanced and the target population who are the students will be benefit immensely from their services

Mcdonald, Thomas and Erickson (2002) defined the availability of a resource as "the quantity accessible to the animal (or population of animals) during that same period of time." Similarly, Johnson (as cited in Judge and Hurst, 2008) defined "the availability of that (resource) component is its accessibility to the consumer." Samuel and Fuller (as cited in Besley, 2002) noted that "availability represents the amount of area of each habitat type that is available for use by the population or an individual animal." With each definition, there is an assumption, either stated or implied, that availability considers the amount and accessibility of a set of resources to the animal or population under study.

According to Kolo and Adamu (2001), the counsellor is an important human resource the guidance programme has. However many guidance programmes though designed by the counsellor themselves, seem to forget about themselves as a crucial factor to the operation of the programme. They also stated that the basic tool counsellors" have at their immediate disposal for the guidance programme delivery is themselves.

Furthermore, Kolo and Adamu (2001) opined that "the use of the self by the therapist is an integral part of the therapeutic process and it should be used consciously for treatment purposes". The counsellor like any other human being is blessed with personal resources like the eyes, ears and intuitive senses but specifically endowed with skills on how to use these resources within him in picking up non-verbal as well as verbal cues, noting inconsistencies among tone of voice, body posture and verbal content. Not only this, the counsellor is trained to have the energy to enter the world of the troubled client, to self-disclose comfortably to the client and he is supposed to be disciplined enough to help the client state specifically their concerns. These resources within the counsellor make them therapeutic in themselves and so must see themselves as a focal point to the effectiveness and otherwise of the guidance programme. The ineffective way the counsellors themselves handle their roles in a guidance programme essentially accounts to a certain extent for the ineffectiveness of the programme in schools. It is therefore worthwhile to note that counsellors release themselves from previously held assumptions and misconceptions about our central role in any guidance programme so that we know our roles and be opened to new experiences. Knowing oneself and directly appreciating the unlimited potentials one has as a counsellor are crucial in the application of one's self as an important human resource in the entire guidance programme.

Quality guidance and counselling services require a number of facilities. These include: office space, bookshelves, drawers, files, finance, time, reference books, guidance and counselling manuals, psychological test materials among other things. Despite the importance of resources in the success of the guidance programme, the most important resource in counselling; the counsellor, is grossly inadequate, majority of secondary

schools in Sokoto South Local Government had no trained counsellors. The counselling positions in all the public secondary schools are occupied by career masters who are not trained counsellors but Para-counsellors. It is assumed that trained teachers can serve as providers of guidance and counselling service in secondary schools. This in itself is a serious setback to implementation of effective guidance and counselling programme in the schools.

Related to this is the dearth of counselling centres talk less of the materials required in the counselling centres. This in the view of the researcher is likely to hinder the effectiveness of the guidance programme in the secondary schools. The importance of making resources for counselling available and utilized by the counsellor is that professional and effective counsellors can foster real and lasting changes in their clients only if they can harness and utilize the environmental resources judiciously. It is therefore necessary to examine the extent of availability and utilization of resources in Sokoto South Local Government, Sokoto State

Research Objectives

- i. To find out the availability of counselling resources for counsellors in public and private senior secondary schools in Sokoto South Local Government Area, Sokoto State
- ii. To examine the differences in availability of counselling resources for counsellors between public and private senior secondary schools in Sokoto South Local Government Area, Sokoto State

Research Questions

Are there any counselling resources available for the school counsellors in public and private secondary schools in Sokoto South Local Government, Sokoto State?

Research Hypotheses

The following hypotheses were tested at 0.05 level of significant:

HO₁: There is no significant difference in the availability of counselling resources for the School counsellors between public and private secondary schools in Sokoto South Local Government, Sokoto State

Methodology

Descriptive research design was used. Survey design is the process of collecting representative sample data from a larger population and using the sample to infer attributes of the population. The motive behind choosing the survey method “is to enable the researcher estimate, with significant precision, the percentage of population that has a Specific attribute by collecting data from a small portion of the total population” (Olayinka, 2011). Population of the study comprises of 37 School counsellors from (25 public and 12) private senior schools in Sokoto South Local Government Area, Sokoto State. The sample size consist of all the 37 identified School counsellors in the study area. Researcher developed questionnaire called Availability of Resources for Counselling questionnaire (ARCQ) was used to collect data from the respondents. The instrument

obtained items` validity index of 0.7 and test re-test and inter-rater reliability of 0.8 and 0.75 respectively. The data collected were analysed using the Non parametric test of Man Whitney test. This is because the variables are in form of ordinal scale perception, between two independent groups, hence the appropriate test of non-parametric test of Man Whitney rank test. Hypothesis was tested at 0.05 level of significant.

Results

Table 1: Availability of Resources for Counselling

S/N	Resources	SA	A	D	SD	Total
1.	Do you make Intelligent tests for students?	8(21.6%)	3(8.1%)	19(51.4%)	7(18.9%)	37(100%)
2.	Does your school have Storage facilities? (filing cabinet where only the counsellor have the 2. key)	8(21.6%)	3(8.1%)	19(51.4%)	7(18.9%)	37(100%)
3.	Do you make Achievement tests for students?	8(21.6%)	14(37.8%)	12(32.4%)	3(8.19%)	37(100%)
4.	Computer for operations and data storage	3(8.1%)	16(43.2%)	9(24.3%)	9(24.3%)	37(100%)
5.	Do your make a Career Week/Day	5(13.5%)	7(18.9%)	13(35.1%)	12(32.4%)	37(100%)
6.	Do you received any monthly Allocation from the Ministry for counselling programme	3(8.1%)	5(13.5%)	22(59.5%)	7(18.9%)	37(100%)
7.	Does your School has a Para-Counsellor who perform duties of a counsellor	13(35.1%)	19(51.4%)	4(10.8%)	1(2.7%)	37(100%)
8.	Does your has availability of Internet Facilities	5(13.5%)	7(18.9%)	13(35.1%)	12(32.4%)	37(100%)

Table 1 above shows the responses on the availability of resources for counselling. On item 1 of the questionnaire which stated if the counsellors make intelligent test for students; 8(21.6%) and 3(8.1%) of the respondent strongly agreed, agreed with the statement, while the majority of the respondents (19(51.4%) and 7(18.9%)) disagreed with the statement. This clearly shows that majority of the school didn't make 1Q for the students.

On item number 2 of the questionnaire the table show that much respondents didn't agree with the statement saying that if they do achievement test for the students, this clearly shows that, 14(37.8%) and 12(32.4%) respondent disagree and strongly disagreed while 8(21.6%) and 3(8.1%) respondent agreed and strongly agreed with the statement respectively.

On item 3 of the questionnaire whether if there is computer for operation and data storage 16(43.2%) of the respondents strongly agree with the statement, 9(24.3%) of the respondents also disagree with the statement, while 3(8.1%) and 9(24.3%) of the respondent strongly agree and agreed with the statement. This mean that majority of the

secondary schools in Sokoto metropolis doesn't have the availability of computer operation and data storage facilities in school.

On item 4 of the questionnaire majority of the respondents didn't make career week/day in their schools. This can be seen as the table shows the responses of 10(27%) and 16(43.2%) for strongly agree and agree while 5 and 6 responses for agree and strongly agree respectively.

On item no 6 of the questionnaire, on 3(8.1%) and 5(13.5%) respondents strongly agree and agree with the statement saying if they are receiving any monthly allocation from the ministry, while majority of the respondents disagree and disagree with the statement and thus, occupied 22(59.5%) and 7(18.9%) responses.

On item no 7 of the questionnaire, the responses are as follows: 13(35.1%) and 19(51.4%) responses shows that their schools has a para-counselor who perform the duties of a counselor. While only 4(10.8%) and 1(2.7%) responses showed that their school doesn't have counsellor who performs the duties of a counselor.

On item 8 of the questionnaire, majority of the responses shows that their schools doesn't have access to internet facilities with 13(35.1%) and 12(32.4%) responses while only 5(13.5%) and 7(18.9%) respondents responded that their schools has access to internet facilities. This clearly shows that majority of secondary school in Sokoto South Local Government doesn't have internet facilities to make use of it for effective counselling.

Research Question One

Are there any counselling resources available for the school counsellors in public and private secondary schools in Sokoto South Local Government, Sokoto State?

Table 2: Mean Descriptive statistics on the availability of counselling resources for counsellors in public and private secondary schools in Sokoto South local government area

	Type of School	N	Mean Rank	Sum of Ranks
Ranks Availability of Counselling Resources	Public	25	97.66	11816.50
	Private	12	104.85	8283.50
	Total	37		

There is no difference in availability of counselling resources for counsellors of public and private secondary schools. Their mean ranking on availability of counselling resources were 106.60 and 91.35 in Public and Private schools respectively.

Hypothesis One:

There is no significant difference on the availability resources of counselling for counsellors in public and private secondary schools in Sokoto South Local Government, Sokoto State

Table 2: Mann-Whitney Test on difference in availability of counselling resources between counsellors of public and private secondary schools in Sokoto South Local Government, Sokoto

Ranks	Type of School	N	Mean Rank	Sum of Ranks
Availability of Counselling Resources	Public	25	97.66	11816.50
	Private	12	104.85	8283.50
	Total	32		

Table 3: Mann-Whitney U Test

Test Statistics		Availability of Counselling Resources
Mann-Whitney	U	4435.50
Wilcoxon	W	11816.50
Z		-.86
. Sig. (2-tailed)		.39

a. Grouping Variable: Type of School

There is no significant difference between Public and Private schools in the availability of counselling resources. Reason being that the calculated p value of 0.39 was found to be higher than the 0.05. Their mean ranking on availability of counselling resources were 97.66 and 104.85 in public and private schools respectively. The null hypothesis is hereby retained.

Discussion of Findings

Research question one sought to ask on the availability of counselling resources for counsellors in both public and private schools, and the finding revealed that there is inadequate counselling resources in both private and public schools. No much difference in availability of counselling resources for para counsellors of public and private secondary schools Sokoto South local government area. Their mean ranking on availability of counselling resources were 106.60 and 91.35 in Public and Private schools respectively. The finding concord with a study on evaluation of guidance and counselling resources in secondary schools in Oyo state by Isiugo-Abanihe and Odeniyi (2011) reveals that only few of the sampled schools had career album, 25.6% had psychological tests such as VII, SPI MOPS. Also only few of the sampled schools had record of daily activities.

Null hypothesis one sought to find out the difference in availability of counselling resources between para counsellors of public and private secondary schools in Sokoto South Local government Area of Sokoto State, it was found out that Resources for counselling are grossly unavailable in the secondary schools, the unavailability has no

significant difference among school counsellors of public and private secondary schools. This finding is in agreement with the findings of the study titled Assessment of Challenges facing Secondary School Guidance and Counselling Teachers in Nyamira District, Kenya by Nyamwange, Nyakan and Kisii (2012) indicate that the available guidance and counselling facilities are inadequate.

The study indicates that although most of the guidance and counselling personnel had an office, a lot which is a high percentage did not. This is a great challenge which conforms to Achieng's (2017) views that without a private accommodation delivery of counselling services will not be effective. Besides, contrary to Kiragu's (2012) recommendation, most school counsellors' offices do not have the basic guidance and counselling facilities such as reference books, guidance and counselling manual and career resource materials. This is related to the findings of a study by Nyamwaka, et al., (2013) shows that the majority of counsellors have stationery and posters and pamphlets. However, only a few of them have access to a counselling office, reference materials and electronic devices such as television, radio or video for screening film strips. Also a survey by Kolo and Yaroson (2015) showed that in most schools in Kaduna and Zaria where guidance programme is operation, the counsellors only use the human resources mainly for career talks in the guidance programme.

Conclusion

Based on the findings of this study, the following conclusions are reached: Human and material resources for counselling; especially the trained counsellors are not adequate in both public and private secondary schools located in Sokoto South Local Government Area of Sokoto state. Therefore, the few counselling units available are managed by either para-counsellors who are professionally untrained.

Recommendations

Urgent steps should be taken by Sokoto State Government to build counselling centers in all the secondary schools all over the state and equip them with required resources. Counsellors; under the auspices of the Counselling association of Nigeria, should be encouraged to produce psychological tests, the available psychological tests are grossly inadequate.

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