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Web: <http://www.mcser.org>

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About the Journal

The "Journal of Educational and Social Research", published by MCSER, is a professional, double-blind, peer-reviewed, open-access journal publishing high-quality scientific articles. The journal has a distinguished editorial board with extensive academic qualifications, ensuring that the journal will maintain high scientific standards and have a broad international coverage. Articles related to all branches of education are published. The editorial board intends to publish papers which cover applied and theoretical approaches to the study of education and its related disciplines. The purpose of the journal is to serve as a forum for researchers around the world to present and discuss common concerns in local, national, global, international and transnational issues in social studies education. The journal is an invaluable resource for teachers, counselors, supervisors, administrators, curriculum planners, and educational researchers as they consider the structure of tomorrow's curricula. Special issues examine major education issues in depth. Topics of recent themes include methodology, motivation, and literacy. The Journal of Educational and Social Research publishes original empirical and theoretical studies and analyses in education that constitute significant contributions to the understanding and/or improvement of educational processes and outcomes. The Journal focuses on significant political, cultural, social, economic, and organizational issues in education, and explores the processes and outcomes of teaching, learning, and human development at all educational levels and in both formal and informal setting. Although the JESR does not publish validation studies, the editors welcome many varieties of research--experiments, evaluations, ethnographies, narrative research, replications, and so forth. JESR publish research that representing a wide range of academic disciplines and using a wide range of research methods.

Editor in Chief, Prof. Francesco Randazzo
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TABLE OF CONTENTS

Editorial	9
<i>Jacinta A. Opara</i>	
Performance Evaluation of Teachers in Universities: Contemporary Issues and Challenges	11
<i>Hassan Danial Aslam</i>	
Time Management and School Administration in Nigeria: Problems and Prospects	31
<i>C.S. Ugwulashi</i>	
School Location and Secondary School Students' Awareness of Human Immuno-Deficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) in Imo State of Nigeria	39
<i>Adelakun Kayode; Malachy N. Ogu</i>	
Influential Factors Affecting the Attitude of Students Towards Vocational/Technical Subjects in Secondary Schools in Southeastern Nigeria	49
<i>Ozioma C. Azubuike</i>	
An Integral Approach for Computation of Cost-Benefit and Returns to Investment in Education	57
<i>Etukudo, Udobia Elijah; Nwokocha, Azubuike C.</i>	
Geography, Gender and Money Profits in Sudanese General Private Education: The Example of Khartoum State	63
<i>Samir Mohamed Ali Hassan Alredaisy</i>	
Diversification of Educational Funds for Quality Assurance in Open and Distance Education in Nigeria	77
<i>Chris C. Chukwurah</i>	
Mathematics for Daily Living: Implication for the Society	83
<i>Richard U. Utubaku; Aniah-Betieng, Elizabeth I.</i>	
Age and Gender as Predictors of Academic Achievement of College Mathematics and Science Students	89
<i>R.Bada Abubakar; O.Dokubo Oguguo</i>	
Experiences of Government Politicization in Participating Over Policies and Programmes of Primary Education in Nigeria	95
<i>Anero Nnamdi</i>	
National Philosophies of Education and Impact on National Development	103
<i>Bassey Ubong</i>	

Gender Equity in Science Teacher Education for Sustainable Development: An Emerging Perspective	109
<i>Ejifugha, Anthonia U.; Ogueri, Emmanuel</i>	
Analysis of the Awareness and Safeguarding Against Social Engineering: A Case Study of Federal Polytechnic, Ilaro	115
<i>Fagoyinbo, I.S.; Akinbo, R.Y.; Ajibode, I.A. ; Dosunmu, A.O.</i>	
Mechanisms of Resource Mobilization for Support of Universal Free Primary Education by Women of Mbale District, Uganda	121
<i>Kagoda, A. M</i>	
Analysis of Adult Female Clothing Made with Adapted Patterns and Free Hand Cutting: Constraints and Prospects	135
<i>Efajemue Omofoweuvie Omoavowere; and Lilly Gloria</i>	

Editorial

Throughout history, the concept of teaching and learning had become a crucial dynamics of defining development and sustainability. In this Special Edition of the Journal of Educational and Social Research published by the Mediterranean Center for Educational and Social Research, a collection of selected papers mediated on some of those aspects of teaching and learning that determine development with special reference to the global south.

Providing a fascinating picture of the identities, bodies, citizenship, securitization and politics of education and policy analysis through culture, space and time, this richly illustrated volume explores the allure, context, depth, texture and variety of teaching, learning, change and other related indices of development. The volume is written by contributors who represent a cross-section of the field. It utilizes snapshot metaphors to focus on representative, construction and symbolic points in concurring to the global south landscape.

The entire of staff of International Association for Teaching and Learning; International Society for the Scientific Research and Mediterranean Center for Educational and Social Research were serviceable by copyediting the work, managing the graphic production with grace and aplomb. Special thanks go to the Provost, Management, Staff and Students of Federal College of Education(Technical), Omoku-Rivers State, Nigeria for providing the venue for the conference which led to the selection of papers that made this publication possible.

The mission throughout the long correspondences, discussions and meetings that preceeded this publication was to produce a readable and highly insightful account to the contemporary debate on teaching, learning and change. No doubt we have succeeded to produce a publication that is essentially a reference material for the social scientist, educator and general reader.

Jacinta A. Opara, PhD

Visiting Associate Professor, Universidad Azteca, Mexico
and
President, African Association for Teaching and Learning

Performance Evaluation of Teachers in Universities: Contemporary Issues and Challenges

Hassan Danial Aslam

*Faculty of Management Sciences,
The Islamia University of Bahawalpur, Pakistan.*

Abstract Achieving effective performance of human resources is primary goal of every organization. In this regard performance management practice of human resource management provides the sound basis of evaluating and developing employee performance in order to get enhanced organizational success. Similar to any organization, universities or higher education institutions evaluates its employees/teachers performance for effective human resource management. Although, both teaching and non-teaching (administrative) staff in universities play an important role in escalating institution's performance, yet teachers are considered to be imperative human resource of higher education institutions. Performance evaluation of teachers in terms of their teaching and research outcome is the primary area of concern for any university and highly unaddressed issue in case of universities in developing countries like Pakistan. The current research explores performance evaluation mechanisms of public and private universities of Pakistan which they employ for their teaching faculty. The aim of this exploratory study is to investigate the performance gaps of public and private universities of Pakistan by focusing teaching faculty performance. It elaborates their performance evaluation procedures and strategies and unearths the influential factors and challenges which are faced by these universities regarding performance evaluation systems. A case study research approach has been adopted by the researchers in which one public and private university of Pakistan has been taken for case analysis. A combination of quantitative and qualitative approach has been adopted for in depth analysis of performance evaluation issues in said universities. Research has been undertaken by the methods of interviews and questionnaires, from teaching staff of universities and results are analyzed for the basis of discussion. Research has shown that the factors like decreased motivation for evaluation, least participation in decision making, organizational competitive culture, semester system norms, obsolete performance evaluation method and lack of training for evaluating performance proves to be potential barriers for effective performance evaluation system in universities of Pakistan. Proposals with their implications for both universities have also been discussed in order to improve the system.

Keywords: Performance Evaluation (PE) , Performance Management (PM) , Higher Education

Introduction

All over the world, universities play a vital role for active participation in the knowledge societies which ultimately leads towards faster economic growth. Because universities in any country develop human capital (students) for not only better contribution in different professions but in society as whole. They are responsible for successful development of an open and democratic civil society, universities where they give their students deep insight of specific subject knowledge; they also provide the social norms of communication and interaction. A quality education providing institute is always proves to be a model for modern civil society (Batool and Qureshi, 2007).

Although universities always run by teaching faculty and administration both, yet major responsibility of developing students as professionals comes in teacher's hand. To achieve world class standards, effective performance management of university teachers is always major concern in any university. A sustainable and progressive performance evaluation mechanism for teaching faculty of the universities ultimately benefits major stakeholders who are students in terms of enhancement of employment opportunities, improvement of education and training of upcoming human capital, flourishing the learning environment and enriches academic and intellectual knowledge management of university as a whole. Quality of higher education in universities cannot be achieved without continuous assessment and improvement of teacher's performance. A teacher's primary task or generally known function is teaching, which itself is not an easy task. It involves student learning, creating context in which they learn, and providing feedback on their strengths and

weaknesses in a positive and encouraging manner. In this modern age teacher is not only suppose to do teaching but many other tasks. Today's world of knowledge where explosion and information flood is everywhere, university teacher has to be an active learner and organizer of knowledge. Now university teacher is responsible for creating knowledge through research, get it publish in journals, making inter relation between academic and professional world in order to share the ideas and advancement of knowledge, review and update curriculum and create its relevancy with practical field. He is also expected to offer mentoring for his junior faculty members. His research skills should be as much polished which not only help him in his research but also his students and peers for undertaking required research initiatives. By achieving these tasks university teachers can develop their students for active participation in administration and governance with considerable knowledge of relevant theory and context. This matrix of tasks for university teachers makes their job more demanding, changing, growing and creative. Thus, professional development of university teachers requires an effective performance evaluation system throughout their professional career, by which teachers not only informed by the fact that what they are expected to do, but also what resources they have to achieve their tasks and how their performance will be evaluated.

This research focuses performance evaluation of teaching faculty of universities of Pakistan. Although various efforts have been made for university staff performance and development in Pakistan by a government institution known as Higher Education Commission (HEC) yet very little empirical research has been conducted on implications and execution of these initiatives in Pakistani universities (Batool and Qureshi, 2007). This research will undertake in depth study of private and public universities of Pakistan to analyze their performance evaluation system by exploring challenges and influential factors associated with implementation of systematic performance evaluation system.

Higher Education in Pakistan

In 1970s the universities in developed countries gradually started giving more emphasis to new knowledge and research and higher education started offering curricula more relevant to the socio-economic needs of the society. The post-war concept of the university is likely to be career oriented. Higher education in UK appears to focus more on transmission of knowledge, research and training, relevant to the society and service to the community (Skerritt, 1992). The public and private universities in Pakistan do not seem to give a high priority to 'relevance' and 'service to community' aspects in their functioning. This mismatch of higher education with the socio-economic demand is said to be increasing educated unemployment in Pakistan. The other significant difference is universities priorities, like in UK for example, it seems that priority is to research while in Pakistan the primary focus is teaching. However, private universities in Pakistan claim that they have taken teaching to the level of learning and brought it up to international level (Safdar, 2009).

Higher Education Commission (HEC) is responsible for higher education in Pakistan. It operates under the federal ministry of education through a Chairman and the Executive Director who is appointed as the head of the secretariat. HEC is further divided into five main departments, headed by members and advisors. The departments are:

1. Human Resource Development
2. Research and Development
3. Academic and Extra Curricular Affairs
4. Quality Assurance and Learning Innovation
5. Finance, Planning & Development

The ultimate task given to HEC in Pakistan is to help eradicate poverty, promote sustainable human development and share knowledge and information by promoting science and technology as well as research. HEC works with the vision that higher education is to play a central role to the development of the country and with the belief, that through quality education the country can achieve the millennium development goals. Historically speaking, Inter-University Board was established in 1952 to manage higher

education in Pakistan that was changed into University Grants Commission in 1974. Then its name and authorities were changed as Higher Education Commission in 2002 with more powers and autonomy in order to enhance relevance, quantity and quality of higher education in Pakistan.

Since 1955 the five year plans indicate significantly slow progress in higher education. In 9th five year plan (1998-2004) the target was set to increase universities or degree awarding institutions only up to 66. However, in the last five years (2004-2008) this figure has been raised up to 109 including private universities. Currently, there are 57 public and 52 private sector universities approved by HEC.

In recent past HEC has played a significant role to uplift higher education in Pakistan. It has given generous funds to public sector universities and also encouraged private sector to establish universities to meet the socio economic need of the country with a strict policy of quality and standards. HEC appears to be successful through effective interaction of many factors including infrastructure, good governance, admission policies, and curriculum development, quality of faculty and students, strategic planning, research provisions and linking higher education with the labor market (Amna Malik, 2009).

Universities in Pakistan offer both conventional and modern programs. The departments of each discipline are grouped under a faculty. The most common faculties are Faculty of Science (Physics, Chemistry, Mathematics, Statistics, Biology, Earth sciences), Faculty of Arts (Political Science, International Relations, History, Journalism), Faculty of Languages (English, Urdu, Arabic, Persian), Faculty of Commerce (Economic, Commerce, Business management, computer Science) and Faculty of Pharmacy (Pharmacy, health Sciences, MBBS, Conventional Medicine). Each department generally offers masters, M.Phil and PhD programs.

Private universities in Pakistan offer programs only in popular subjects. This sector has limited itself to only business, computer and commerce related degrees. The infrastructure, quality of staff, socio-economic background of the students and performance management system are claimed far better than public sector (Safdar, 2009). HEC has a strict monitoring and assessment procedure in place for both Private and public universities but it is relatively new and universities are taking time to adopt it. The administrative structure is different in both sectors. Public university is headed by a vice chancellor and work through Senate, Syndicate (responsible for recruitment of academic staff), Academic Council and Advanced Study and Research Board. The academic heads are deans and chairpersons. In private sector however, there is generally a president, who is rector and director working through a board of governors. In public sector universities, teachers are generally employed on regular basis while in private universities all appointments are contractual. Quality assurance and performance management system are claimed to be well established in private institutions.

The public sector universities in Pakistan claim to offer good public service and better socio-economic contribution by offering programs in science, humanities, religious studies and languages. The private sector claims that it is producing though in limited disciplines, but better skilled professionals are required desperately by the labor market. The private sector claim is substantiated by the fact that their graduates win better positions in the labor markets. Without having mega physical, financial and human resources the private sector with smart management and effective academic planning has emerged itself in Pakistan as an attractive option to learn for those who can afford to pay almost equal to overseas students (Amna Malik, 2009).

The purpose of this research is to explore the influential factors in performance evaluation systems within Pakistani universities. This research will firstly analyze different perceptions of university teachers about their current performance evaluation mechanisms, different perceptions of appraisers and appraisees towards the government rule of higher education quality and their own institute performance evaluation policies, and will identify gap between them. The findings of this research maybe expected to provide considerable insights towards critical elements and challenges which can be faced in implementation of university performance evaluation system in Pakistani context. In short this research will focus on answering following questions:

Research Objectives

- To analyze and understand the performance evaluation systems executed by public and private universities of Pakistan.
- To identify that what are the potential factors affecting the efficiency of Performance evaluation systems in universities of Pakistan (Public and Private)?
- To identify, what are the challenges and issues that are faced by public and private universities of Pakistan for effective staff performance evaluation and what efforts can be made to improve it?

Literature Review

For every organization (small or big) there are some objectives, goals or missions to accomplish. These goals can be achieved by better planning, implementing strategies and smart management of human resource. One of the important concern however, is the measurement that whether people are doing their work at right time in right manner. This process leads to the area performance management.

What is performance management? It is according to Aguinis (2007) "a continuous process of identifying, measuring and developing the performance of individuals" He further adds that this continuous capacity building needs clear objectives, observing and measuring performance and regular feedback. PM primarily focus on its employees to develop their capabilities. It does not only do capacity building but "Performance management helps managers to sense earlier and respond more quickly to uncertain changes" (Cokins, 2004).

PM is neither a technique nor a single process, it can be considered as a set of process, or a concept, a holistic philosophy that includes motivation of employees to perform well, employees knowledge about what their managers expect of them, development of employees, monitoring and measuring performance in order to know what areas are to be improved (Wilson, 2005). Armstrong and Baron (2005) highlighted the same point saying that "PM is a strategy which relates to every activity of organization and its implementation depends on organizational context and can vary organization to organization".

Literature highlights (Greer, 2001, Koontz and Weihrich, 2005) two major intentions of PM, first it affirms that when people are involved in goal setting they will consider themselves responsible for its results and second intention state that achievement of these goals depends upon degree of support (resources, processes, systems) that employees get from their management in order to meet these goals. Bascal (1999) explains the essence of PM that it is an ongoing partnership between employee and supervisor with regard to major job functions, employees involvement in goals generation, and discussion that how both can work together to accomplish these goals. It also deals with performance measurement procedures and how the constraints in achieving high performance will be removed? Before discussing PM further it seems appropriate to review briefly the background of performance evaluation.

Performance Evaluation to Improve performance

Every organization (small or big) requires maintaining performance of its employees in order to get their best. Similarly, in university administration, higher management consistently searches different ways of evaluation and development for their faculty members. This evaluation process provides basis for promotion, tenure and remuneration of faculty members (Reddy, 2006). The concept like "Teachers are born and not made" or "Teacher is only effective if he can deliver lecture" are no longer exist. Today teacher is involved in so many activities like planning updating course, developing learning environment, facilitating discussion, creating interactive environment where students can suggest solutions, preparation of tests, assignment setting, providing feedback and proper counseling of students. Today university teacher is not only responsible for giving his students proper insight of subject but also responsible to make his overall personality and vision in

order to make him successful professional and human being. Such varied and widespread responsibilities demands a systematic evaluation system for university teachers, but keeping in mind its trivial nature, this evaluation system should be fully supported by administration and the students so that faculty members can not overlook or disregard it at any stage (Sheikh, 2007).

Evaluation of faculty members is not as much new. It always existed in any form like evaluation of teacher research publications or casual observation by the students. Students surface teacher's abilities in class and his grip on subject. They appraise him in every lecture at every single phase because they are his keen observer for the whole lecture nearly every day. But more systematic evaluation system let teacher know about his weak and strong points as they are pointed by his students and peers. The literature (Miller, 1974; Seldin, 1980; Kahn, 1993; Stronge, 2006) illustrate various types of evaluation methods like evaluation by high ups, students, peers but combination of these methods generally used in different parts of the world to identify the performance gap and to provide opportunities to prevail over these gaps in university teaching faculties (Sheikh, 2007). By and large, faculty members encourage performance evaluation if it results in more satisfaction, improvement and rewards for effective teaching in larger context and also if it ultimately leads to further insight to university priorities regarding teaching environment and towards better learning atmosphere for students who are the major stakeholders in this system (Reddy, 2006).

Purpose of Performance Evaluation

The obvious and principal purpose of performance evaluation is to guide an instructor to improve his teaching capability in order to deliver his best. As Seldin (1980) asserts that as no one is perfect in this world everyone needs to improve at every stage of life. He further emphasized that as students need guidance and advice for their error correction, similarly faculty members need more accurate and honest data for their self improvement in weak areas. Positive improvement in teaching faculty can take place only when they will have large measures of their performance evaluated on kind of facts came out from evaluation results. Any faculty performance evaluation system will not work unless teachers are not been transmitted by the specific instructional elements which have to be improved. Goldstein and Anderson (1977) forced upon teacher responsibility in evaluation system pointing out that teacher should be able to make change and increase his productivity by improving those areas which are being pointed out as evaluation results.

Including the above mentioned central objective, evaluation has many other purposes like accountability of teacher and professional growth of teacher. As Peterson (2000) emphasized on both purposes forcing the idea that accountability is important in order to assure that teacher is delivering the services as per requirements of institution and performance improvement leads to professional growth and development of teacher. Stronge (1995) emphasized the same point saying that accountability and performance improvement are supportive interests that are inevitable for development and enhancement of educational service delivery. He further emphasized that there must be coherent link between multiple purposes of teacher evaluation. McGreal (1988) put it in plain words saying that these multiple purposes of evaluation process can be achieved if this evaluation is considered as one part of larger mission, when this conception not only knotted with teacher improvement but with university improvement at large. Another obvious and old reason of performance evaluation in universities is for personnel decisions of promotion, tenure decisions, for performance rewards, guidance in hiring decisions and termination decisions. Seldin (1980) pointed out that many institutions are now emphasizing on more than traditional evidences (like research publications and employee service period in the institution) for tenure and promotion decisions. He further put forward another purpose of evaluation which is to provide data to major stakeholders like board of trustees, government officials, individual or organizations operating off the campus. Lastly, assessing faculty performance can leads to many benefits to students. By regular and systematic evaluation system teachers will increase their productivity and efficiency in order to provide students with new teaching methods, improved leaning atmosphere and more detailed research on subject outline and contents.

Overall, effective teaching evaluation must have its basis on certain principles and with clear purposes that what an institution wants to get out of it. Evaluation must be consisting of best possible procedure and it must be fundamental part of teaching learning process, not a disruption to the learning process. Data collection for evaluation process should be consisting of well defined parameters which are acceptable by both students and teachers. Teacher evaluation process should be growing process for students and teachers where they should accept their responsibilities. As student should give fair and factual feedback upon teacher performance in class and this is teacher responsibility to make efforts for better learning environment and improve himself in order to deliver effective teaching (Reddy, 2006).

Effective Teaching

Before going into detail discussion of teacher evaluation methods, we have to explore effective teaching for which we are assessing performance. Above discussion is all about performance in effective teaching, but what the effective teaching is? According to Seldin (1980) some faculty members go up against teacher evaluation because they think that how teaching can be evaluated when there are no effective teaching parameters. He further opposes this view by saying that "No one doubts that we are short of many answers to the teaching-learning process, just as we still have missing pieces to the cancer puzzle. But we do have some of the answers". Numbers of research methods like observational analysis, correlation studies, factor analysis and the critical incident approach have been used in order to identify characteristics of effective teaching (Seldin, 1980). As Miller (1974) explored six characteristics of effective teaching are (1) Lesson planning for class, (2) Having deep insight of subject, (3) Giving confidence to students for presenting their own ideas and suggestions, (4) student motivation, (5) fair and unbiased feedback on students performance and, (6) Having genuine interest in teaching subject. Reddy (2006) supports the above mentioned qualities of teacher but he also emphasized that teacher should deliver clear and understandable lectures, be able to interpret complex ideas and assumptions and be able to make good examples in order to relate the idea with real world setting. He further explains a research conducted on senior students (ten years out of university) and junior students who were in final year of university. Both groups agreed that effective teaching includes "adequacy of preparation, stimulation and intellectual curiosity and progressive attitude". Irby (1978) summarizes teaching effectiveness in four key points consisting of "(1) organization/ clarity, (2) enthusiasm/stimulation, (3) instructor knowledge, (4) group interactional skill" (cited in Seldin, 1980). Eble (1976) has divided characteristics in two broad dimensions, one is personal characteristics in which teacher should be enthusiastic, energetic, approachable, broad minded, apprehensive and creative. Other dimension is about mastering a subject in which he should have clear ideas, be able to point out relationships with practical implications, can pose useful questions and be able to create positive learning environment.

Today university teacher is not only an instructor but he has to prove himself as role model for his students because he is not only working on students insight for subject but also making their personality and vision. A good teacher makes his teaching effective by motivating and personifying enthusiasm in his students. He makes his sessions interesting and full of academic excitement. He always tries to develop interest of his students in different subject areas and create an environment where they feel free to explore problems and suggest their solutions. He maintains deep knowledge of his subject and he always shows his willingness to deliver this knowledge whether he is in or out of class (Miller, 1972).

Methods of Performance Evaluation of University Teachers

After determining the evaluation criteria or effective teaching parameters, next question in front of any academic institution is how to know whether these qualities are possessed by teaching faculty? Seldin (1980) emphasized that students, teacher colleagues, administration and teachers themselves take part in this evaluation as "components of the collective judgment of teaching performance". He further explains that

students are always able to provide reliable information about teacher performance and his effectiveness regarding teaching. Similarly peers because they are in same business can give their positive contribution for evaluation process. Teacher self appraisal, if conducted in accurate and constructive manner not only proves to be an authentic part of whole evaluation information but also an abrupt and effective motivation for performance enhancement.

- *Student Evaluation*

There is no doubt in the fact that students are daily observers of their teachers. Also this observation is not limited to the classroom but teachers are also judged by their role as academic advisor and student counselor. Thus students are manifestly potential and valuable source of teacher evaluation which is inevitable. There are many ways of taking students opinion on teacher performance like exit interview, discussion with students about teachers, student testimonial or student questionnaires. Generally, a questionnaire consisting of questions about teacher performance in class throughout the semester is dominant source of collecting student views (Seldin, 1980).

However, many teachers and authors pose question on student rating and teaching improvement. Centra (1974) is of the view that students are not mature enough to rate their teachers. Reddy (2006) adds in this argument by saying that student judgment is more based on entertainment rather than quality of learning environment and long run usefulness. Kent (1967) stressed that students' maturity is necessary so teacher evaluation meetings and questionnaires should be given to students when they leave the university. Seldin (1980) stressed on inconsistent behavior of students saying that unfavorable evaluation of teacher can lead to serious damage to professor's promotion or tenure contract. He explains that students can get biased with the teacher not specifically for his teaching style but for personal conflicts as well or maybe sometime they get more generous if evaluation is for teacher promotion and less generous if it is about teaching improvement.

On the other hand supporters of students rating consider it as an essential part of teacher evaluation but with certain careful measures. As, for instance, Gage (1974) pointed out in his research that student rating can result in improved teaching if students rating questions comes with detail explanation of ideal teacher or ideal behaviours in teaching learning environment. It means that if students are well explained about the difference between real and ideal teacher they would be in better position to give fair feedback. Melnick and Adams (1975) stressed the same point that student rating leads to teaching improvement but with concentration on some influences like teacher should be known about the student rating appraisal and he should be motivated and known by the improving procedure. Pambookian (1972) supported the relation between student rating and teaching improvement presenting his findings that the teachers who rated themselves higher than students they improved, however those whom self rating was low as compare to students they took it easy and thought there is no need of improvement (cited in Seldin, 1980). Doyle (1975) concluded that if student rating data is gathered, interpreted and judged carefully, it can provide constructive contribution to personnel decisions and teaching improvement (cited in Seldin, 1980).

Lastly, no one can deny the fact that students are the major stakeholders of any academic system, so their opinion is necessary in teaching evaluation system as Seldin (1975) put it in plain words saying that "the opinions of those who eat the dinner should be considered, if we want to know how it tastes". But only student rating method of teaching evaluation is not sufficient. It has to be embedded with additional information from other sources and carefully evaluated data in order to have sound performance decisions.

- *Colleague Evaluation*

Gathering evaluation data from colleagues in teacher assessment often proves to be an authentic source in judgment of curriculum development, student assessment, teaching procedures and teaching effectiveness.

Not only teachers but administrative staff of department can give feedback on teacher performance regarding administrative responsibilities in committees, boards and search groups (Reddy, 2006). According to Seldin (1980) colleagues can serve as reviewers of evaluation information which has been taken from different sources during teacher performance assessment procedure. In addition to that colleagues themselves as a result of their own observation can provide judgmental information on teacher's class performance. He further emphasized that colleague evaluation is not only consisting of teacher performance judgments or general view about colleague but also includes examination of instructional material. Although few universities go in for such a review because it is argued that through this procedure teacher privacy and academic freedom is being affected. Still assessment of instructional material which includes course syllabus, course objectives, examination procedure, learning approaches, textbooks and handbooks, reading list or reference lists given to students and many more, if done by senior faculty members in a positive and constructive way no doubt can provide useful judgmental information in teacher evaluation (Seldin, 1980). Miller (1974) emphasized on transparency in evaluation of instructional material and suggests that teacher instructional material evaluation and observation should be conducted by the teacher teaching same subject and one outside teacher of same discipline. They should go through all the material and results should be forwarded to assessed teacher and head of the department. Morton (1961) supports the idea of class visitation and observation of teaching performance and forces that class visitation can be useful if it involves friendliness in constructive, critical and instructional feedback.

But critics like Gage (1974) disagree with this idea and argues that when teacher is being observed by someone whom decision can lead him towards major consequences like promotion or salary, he can get confuse and it can affect his teaching performance for that moment. As Centra (1974) enforced the point that colleague evaluation should not lead to major decisions like promotion and salary increments unless faculty members invest much more time in class visitations, so that teacher feel comfortable and consider it daily routine. Eble (1976) showed same concern and enforced on negative consequences saying that teacher is always get "suspicions towards the visitor's intentions, uneasiness caused by stranger in the classroom, violation of dignity or professional standing and doubts about the outcome of the observation". According to Seldin (1980) generally those institutions who adopted colleague evaluation for teaching improvement but not for personnel decisions have been successful in improving teaching capabilities of their teaching faculty. Also relation of junior and senior teaching faculty for improvement purposes always leads to institutional progress and performance enhancement. He further emphasized that colleague evaluation can be more effective if the teacher being assessed does not get defensive and hide his weak areas, if observer give him positive, objective, informal and factual feedback, if observer receive formal interpersonal training before starting evaluation and if administration put its best in promoting constructive faculty relationship.

- *Self Evaluation*

Self evaluation can be another source of data in teacher evaluation. Bligh (1975) asserts that self evaluation should be most vital and most frequent form of assessment in order to improve ones own teaching. He further explains that teachers should be given choice of methodology by which they will implement their self evaluation, but this choice should be properly justified by them. Sayer and Harding (1975) force the point that self evaluation not only produces the urge to develop course of action or guidelines but also to produce the evidence of his effective teaching. Dressel (1970) pointed out self evaluation as essential step in teacher performance assessment as it provides chance for exploring his weak areas in teaching and to improve it. But authors like Bayley (1967) argues with this viewpoint and asserts that this can lead teacher to self-delusion that he is the best, and maybe hide his weak areas and acquire defensive behaviour instead of being open and realistic about his teaching. As Ozmon (1967) asserted that honest self-appraisal where teacher takes every question seriously and answer in realistic manner is very rare.

No doubt, above mentioned arguments are valid regarding self-evaluation mechanism but if data is carefully gathered in harmonized format and interpreted judiciously, self evaluation can be authentic source of information in evaluation process. This data can also support colleagues, promotion committee and administration judgment but again it should be taken only one data component not the whole data for performance evaluation (Seldin, 1980).

- ***Department Administrator Evaluation***

Major addition in evaluation information is evaluation data obtained from administrator. Usually, head of department writes performance report which includes data from all sources, and his own observation during the tenure period of the teacher. In evaluation capacity administrator acts as an organizer and summarizer of information and forward this report to high level administration for further decisions. The departmental head is manager of his department and is responsible for his department faculty performance and development. Administrator is the person who collects all information from various sources. Information is not gathered from single source like student evaluation and peer evaluation but composite data is collected from different levels of institution.

This composite data is gathered through “three cycle” process (Student evaluation, peer evaluation and self evaluation) from those who are in daily contact with faculty member consisting of negative and positive feedback. This data then evaluated by administrator and summary is forwarded to upper management in order to make proper decisions concerning an individual faculty member. In this way this whole process proves to be improvement oriented and for better performance of teacher in particular and institution in general (Reddy, 2006; Skelton, 2005).

Research Methodology

This exploratory research supported by survey strategy which is conducted to identify the issues of performance evaluation of teachers in higher education of Pakistan. Public and private universities are been taken as case. In-depth interviews and questionnaires were used as key sources of collecting the primary data.

The sampling method used in this research was Stratified sampling. Three strata were selected as Dean, chairman/HOD and faculty. The sample size determined by the researchers was 100 with 1.29 margins of error and 99% confidence level, belonging to all three strata explained above.

A comprehensive questionnaire consisting of 28 questions categorized in 8 major dimensions including space for suggestions was designed in order to get detailed insight regarding research objectives. 100 valid questionnaires were analyzed in terms of percentages by using Microsoft excel.

The results of the questionnaire were discussed to identify which factors contribute the most towards performance evaluation of teachers and what are the problems in their regard.

In order to increase reliability of current research, in depth interviews have also been conducted from 63 teachers of the university belonging to all three strata and were included in discussion.

Findings and Discussion

Islamia University of Bahawalpur (IUB) which is a public sector Case Study University of this research consists of a highly hierarchal organizational structure. Each department is headed by a chair person who is responsible for the PM system in his department. Each faculty consists of five to six academic departments which are headed by Dean of Faculty and deans are bound to report to the Vice Chancellor of the University. IUB is using traditional PM system for managing performance of its faculty teachers. Annual Character Report (ACR) is written by the head of department, each year, which contains the achievements or

weaknesses of the teachers throughout the year. Facts for this report, comes from his student results, teacher research work and from teacher evaluation by students. It is a confidential a report which is not allowed to be shown to anyone else including the person who is being assessed. The only condition in which it is discussable is when this report is too negative and leads to major consequences. This report is then submitted to Dean of Faculty and all the promotional or tenure track decisions are made on the basis of these annual reports. This PM system only focuses on performance evaluation of teachers but as this report is not discussed with teachers its focus on teacher development is minimized.

One of university dean justified the system emphasizing that

“This ACR method for assessing teachers performance is very effective so far, and we have been using it for many years, yes there are some drawbacks like no discussion between appraiser and appraise but now we have instructed our department heads to have informal performance review meetings. But still we cannot change the system on our own because IUB is a public university and funded by the government, we have to follow the traditional performance evaluation system which is being used in other governmental institutions of Pakistan” (Dean, IUB).

On the other hand, Preston University (PU) which is a private sector Case Study University of the current research is chaired by its rector and under the rector; deans are working for their respective departments. However, PU is not using a traditional PM approach, but one designed for its own purposes. According to newly introduced formal PM system; teacher is firstly described briefly about his job description and then receives a week’s training for semester system teaching. Performance parameters are students result, punctuality, communication, research work, evaluation by students etc. According to PM system, observation of teacher while teaching is also included in performance evaluation. Annual performance review is documented as report, written by the head of department, who discusses it with his faculty members in order to let them know what the areas of more attention are. PU also has great focus on professional development of teachers by seminars, training workshops and with mentoring culture within departments. Above mentioned PM systems are formal systems which are being implemented in both universities by their upper managements.

Operational Challenges

Engagement in Setting Objectives and Performance Evaluation Standards

Major theme of performance management cycle is continuous communication. As Fletcher (2004) asserts that PM initiates the process of engagement and discussion between manager and employee for setting objectives, evaluation criteria, resources needed for achieving goals and for continuous professional development. IUB and PU both have clear policy of giving detailed job description of teacher when any teacher joins the university. Results also showed that 91% of the participants (Agree 48% and Strongly Agree 43%) agree with the statement that they have clear and specific objectives. However, concerns are shown, about the continuous communication about these targets, their performance evaluation criteria and about teaching and research development. In total, 40% of (IUB) participants disagree that they have effective communication with their head and 23% are not sure about this statement. Moreover, 45% of the (IUB) participants disagree that they have been involved in goals setting process. However, it is necessary to note here, that communication situation is not same in all departments of IUB as one of the participant portrayed positive picture of his department saying that

“Yes, we are given a feedback by the head of department. I am satisfied with the way it is conducted as the head appreciates all the efforts and improvements made by his teachers at the same time discusses all

the loopholes. Discussions help us to come up with new ideas and suggestions" (Assistant Professor A, IUB). But unfortunately these encouraging views are very few; research shows that this positive communication atmosphere is not true in majority of (IUB) departments.

As one of the interview participant said,

"I have my job description and goals of teaching classes per week. But when I want to discuss my problems relating to resources or any other matter, I find no one to discuss" (Assistant Professor B, IUB).

On the other hand, in Preston University, about communication, percentages (32% disagree that they have effective communication with department head) are not as higher as IUB are, which shows that the majority of the participants are satisfied from their communication with heads, but still people have mentioned some problems of lacking effective communication.

As one participant showed his concern that

"It will not be true if I say that I don't have good communication with my head but often he seems to be very busy or maybe not inclined enough to discuss performance issues with that much energy that should be there. Also there is no discussion on objectives setting, we have been given specified goals and we have to achieve them. University does not engage us at any level for setting our goals." (Associate Professor, PU).

Above mentioned, interview statement clearly indicates, dissatisfaction of teachers regarding their goal setting engagement or discussion. Although, questionnaire results shows that PU participants are more satisfied in comparison to IUB regarding their communication with their heads, yet they have clear concerns about goals setting engagement as 52% participants disagree with the statement that they have been involved in setting their objectives.

These communication problems, when discussed with department heads of both case study universities, explored number of issues in operating effective performance evaluation system by continuous communication between teachers and their department heads.

Time Pressure for Department Heads

One of the major issues, mentioned by heads of both universities, is time pressure. They emphasized the point that a head has to do many other jobs like curriculum planning, admissions, students' problems, administrative meetings and their own lectures. Among all these activities, they stress that one to one performance review meetings with each faculty member on various matters, is nearly impossible. One of the interview participants stressed that

"If I conduct performance review meeting with all the faculty members, I should not do any other duty then." (Department Head, IUB).

Another participant, however, mentioned a bit optimistic view saying that

"I used to have informal meetings with my staff on tea breaks, to me this is the most appropriate way of discussing different departmental issues, and when I feel that anyone needs personal counseling I myself invite him for one to one discussion" (Department Head, PU).

Motivation

Another, issue raised from the research respondents of both universities is, the motivation of heads and faculty members to have effective performance evaluation system. Engaging the teacher for his objective setting and for maintaining effective communication with constructive feedback requires dedicated motivation from both sides (teacher and head). But research shows that this motivation is lacking in terms of initiatives taken by heads or teachers both. In both case study universities (IUB and PU), research shows that teachers and heads avoid having their performance discussion in order to keep themselves away from embarrassment or any disagreements between them.

One of participant (IUB) explained this as

“Teacher seems to be reluctant to have performance discussion because they think they will have to pay heavy cost for this, or maybe more work will be assigned to them by their heads. Every time they think why should I cause problems and put myself in conflicts so just let it go as it is” (Department Head, IUB).

“Sometimes, teachers don’t take initiative to discuss performance problems, because they think that they are their personal problems and if discussed with head, head will consider us weak or poor performer. So they don’t come to us” (Department Head, PU).

On the other side, teachers expect department heads to initiate the process. As participant said that

“This is responsibility of chairman of the department that he should encourage his faculty members to have discussion on performance issues. He should act like a role model and should prove from his behavior that he will not open a new dispute but will give constructive feedback and guidance for effective performance” (Assistant Professor, PU).

When this low motivation issue rose in interviews with deans and department heads, in addition to time problem they showed concern about uneasiness in conducting performance reviews or engaging the teachers in performance discussion. They feel uncomfortable to give negative feedback on a teacher’s performance. Particularly, in Pakistani context where few people can receive negative feedback in positive way without feeling of threat to their self-esteem, it is difficult to convince them that these are the problem issues in their teaching or research performance. In this context, little harsh feedback from department head can lead teacher to low professional motivation and mistrust which can make the teacher mind to leave the university.

As department heads indicated

“I want to give constructive feedback to my department teachers but the thing is that what is the proof that they will take it constructively” (Department Head, IUB).

Another, motivational issue raised by teachers in both case study universities is about appraiser ability to appraise. They insisted that this is not necessary that every head can be good appraiser. Proper communication training and information about performance evaluation system is required in order to get positive and progressive results. It is always very sensitive for head and faculty member to discuss poor performance areas so it needs a department head to discuss these issues with great care and sense of responsibility. This is another reason of lacking motivation among department heads that they have not given any sort of training for conducting performance evaluation in their department. Performance evaluation

system is highly affected when the understanding of the system concept and methods are badly lacking.

One insisted that

“How can a person be a good administrator, teacher, counselor and performance appraiser at the same time? It is possible but difficult, however if there is sufficient training for these roles is provided, it's easy to make it” (Associate Professor, PU).

“I will not blame my department head, because he has not been trained in conducting performance review meetings in effective communication style. What he has observed from his past experience is rigid and dictatorial leading style of staffs in other Pakistani organizations” (Senior Professor, IUB).

Above mentioned factors of low motivation and different participants views reflects their worries about discussing the performance issues because they can lead to negative reactions. However, it does not mean that this is the problem which cannot be resolved, as cultural change is required in order to increase motivation on both sides. This is the major operational challenge in implementing performance evaluation system in any university of Pakistan, that proper communication, and continuous engagement of employees in setting their job objectives, performance evaluation and development methods, is vastly necessary in order to have effective staff performance (Amna Malik, 2009). Also, formal evaluation system program necessitate proper planning, training of faculty members and heads and requires clear description of intentions of administrator about implementing the program as there should not be any confusion and fear among faculty members (Miller, 1974).

Organizational Culture

From brief interview sessions and further examination of appraisal systems, another reason of lacking effective communication between heads and faculty members is strong political environment in government universities like IUB. High power system, strong hierarchal structure where senior employees consider themselves right in every matter, conspiracy, low moral ethics, blame game were some of the common practices among the employees, and one of the major hurdles which create biases or unfair performance evaluation.

One of the basic reasons of power based culture is cultural baggage and a rigid power focused hierarchal structure which is common practice in Pakistani context. This environment where only a head of department thinks himself, perfect in all matters and does not discuss any issue with his subordinates, it is hard for anyone to take initiative for performance discussion with him. Those heads who believe in dictatorial administration style, block the opportunities of open discussion on various matters because they do not like conflicts and only emphasize on following their orders. In this power distance culture, not only employee's performance is affected but also it breaks the whole performance management cycle within the organization.

Moreover, in this scenario those who raise some point of discussion or voice for cultural change are highly disliked by their heads and those who follow the path of 'yes boss' culture, become the favorite group of their head. This concern among IUB participants is very clear that 58% (including 40% with strongly disagree) of the participant disagree with the statement that '*Performance appraisal in my organization is fair and unbiased*'.

Clear dissatisfaction is shown in interview statements as well. As one of the participant expressed that

“if we maintain 'yes boss' culture and salute every decision of our head, we will have good performance review report, but if we raise issues and ask to have discussion, we will have to pay its heavy cost” (Assistant Professor, IUB).

On the contrary, in Preston University, as compare to IUB results, research shows that organizational culture is different from traditional governmental institute in Pakistani context. One of the major advantages of private sector institution is that their employees at any management level take great care of their reputation in terms of their work performance. Because they know if they will not maintain their performance, they might be asked to leave. Results show that teachers in Preston University do not feel that their performance reviews are biased or unfair, as 67% agreed that their performance review is fair and unbiased. According to PU participants, major reason of this less power based organizational structure is that there is check on check. Every head knows that his performance will be assessed by his department performance and colleague reviews. In this case he always put his best efforts to create positive and interactive environment where everyone can raise and discuss the issues.

As one of the PU participant mentioned that

“This sense of responsibility in department heads that they have to maintain performance of department without imposing their decisions on faculty members, comes from the fear of immediate effect of poor performance or rigid behavior, if reported to higher authorities” (Dean, PU).

As above statement clearly states that higher authorities are more concerned about managing their middle management performance in private sector, which is the element lacking in public sector universities and this is major cause of autocratic and power based culture in public institutions.

As one of the Dean of IUB indicated that

“The people who like dictatorial leadership style, they know they are permanent employees of government from last 40 years, maximum what we can do is to disturb their ACR which does not bother them much because they are at highest point of their profession” (Dean, IUB).

Teaching and Research Performance Issues

Above mentioned issues focused on the operational aspects of performance evaluation systems in case study universities in Pakistani context, which should be addressed at departmental and administrative level. But it is necessary to point out here that a teacher's performance in universities is linked with two core duties or responsibilities on which his performance has to be assessed and developed. These duties are 'teaching and research'. After discussing the operational level issues, under this heading, the author will discuss performance issues and challenges faced by university teachers in delivering their core duties.

Evaluation of Teaching in Semester System

Before 2002, all universities in Pakistan were operating under annual system of examination for their university students. In 2002, semester system consisting of two levels of examination in one year, was introduced in some of universities and gradually spread all over the Pakistani universities (Public or Private). As compared to previous system in which teacher who teaches the subject was not involve in paper setting and marking, in this system, teacher is responsible for teaching subject, setting exam papers and paper marking.

Regarding the system, participants from both universities, raised their concern about having only one evaluation method in semester system which is teacher evaluation by students. Research shows that high percentages (58% PU and 48% IUB) of participants have shown their disagreement with the statement that there should be one evaluation method which is evaluation of teachers by students. Various reasons are

presented by interview participants. As teacher has full authority of subject results of students because of no second paper marker system in universities, some teachers keep their students happy from high marks and get highly rated performance evaluation scores. Also because, performance review report is written mainly on the basis of student evaluation and research work, those who do not deserve high rating from students, obtain a good performance review report on the basis of this high rating only because they have favored their students by giving them high subject marks. In addition to this issue, many participants emphasized that only teacher evaluation by student is not enough for evaluating teaching, other methods of evaluation like peer evaluation or lecture observation should be introduced. As this desire of multi source teacher evaluation method (in statement 14 of questionnaire) is supported by 66% percent of PU and 78% of IUB participants. Because according to participants, firstly students are not mature enough to give their opinions. Secondly, sometimes students feel pressure of their academic results and favor the teacher in his evaluation which he does not deserve. These concerns are clearly mentioned from the statements like

"I will not agree with only method of teacher evaluation which is by students because to students those teachers who put pressure and more learning stress are counted to be bad teachers and those who keep them relax throughout the semester and eventually give them good marks at the end considered to be best teachers"(Associate Professor, IUB).

"Biases and favoritism is increased by semester system in Pakistani universities. This two way favoritism between teachers and students not only affect performance of teachers but also of students. In order to control this, comprehensive pattern including all aspects of semester system have to be defined" (Dean, IUB).

Another participant accentuated the problem in different aspect said that

"Why should I be assessed by those students who do not even attend my classes? Also, teacher evaluation for most of the students is not more than filling simple forms, but they do not know what influences they make on our performance review report" (Assistant Professor B, PU).

Research

The Higher education commission (HEC) of Pakistan, as mentioned above, has taken various initiatives in order to improve higher education in Pakistan. Developing the research culture in Pakistani universities is one of the major steps taken by HEC. Previously, research in terms of articles, research papers and journals, was missing element in universities of Pakistan. Considering the high standard of research in high ranked universities all over the world, Pakistani universities are now putting their best efforts in encouraging research culture in their teachers. In order to implement this, HEC has formulated the policy for public sector universities that every promotion within teaching sector of universities will highly be depended on research publications of the person who is applying for the higher post. Also, annual character report for performance review of each teacher must be written on the basis of quality of research work done by the teacher. In addition to this, HEC is also offering full funding for national and international conferences participation to any university teacher and allocating budget for the national institutions who are publishing their own journals.

As compare to past scenario, where the teachers were recruited and promoted on the basis of higher qualification and experience, this research culture is like an organizational change especially in public sector universities of Pakistan. Teachers have welcomed this culture for their professional and organizational development but our research in IUB shows that the major issue is of proper training for this change. Most of the IUB participants expressed their desire to do high quality research work, but they mentioned that they have not been given proper training for this. They emphasized that support from senior colleagues and

department heads regarding research skills development is highly unavailable.

As one of junior Assistant Professor mentioned that

"I want to do research for my professional development, but I need guidance in choosing the area, methodologies and whole context in which I conduct my research. But no senior seem to be highly committed to develop research skills in junior staff" (Assistant Professor, IUB).

"For developing high quality research culture, sense of competition between faculty members has to be eradicated first. Because seniors often think that if we will help juniors today, they might perform better and will get our position tomorrow" (Dean, IUB).

Another, issue regarding research culture, raised by IUB participants is of busy schedule in semester system. According to them there is tight schedule in semester system consisting of regular classes, paper setting, paper marking, conducting presentations and checking assignments etc. Because of these busy activities of semester system, teachers do not have enough time to concentrate on their research work. Also, some teachers stressed that they have been over burdened because of part time lectures in their respective department due to less number of highly qualified staff (like M.Phil or PHD).

One respondent insisted that

"High quality Research needs time, and in this busy schedule of semester system, where teachers are over burden by part time teaching, it is quiet hard to produce high quality research work. This lack of timing and self pressure of professional development, then lead people towards Plagiarism" (Associate Professor, IUB).

Almost all the interview (IUB) participants (when asked about research or teaching emphasis in their university) mentioned that more emphasis in their university is on teaching not on research. They mentioned that this is because of problems of proper time management and lack of training or guidance for enhancing research skills. But all of them agree that there is great pressure from higher authorities to setup high quality research culture. Also, it is interesting to note here that some participants mentioned their concern about emphasis on research. According to them teaching should be improved first. They emphasized that teachers in Pakistani universities context have to enhance teaching skills first and then should concentrate on research side because it is primary need of our students.

One respondent underscored that

"Yes there is huge pressure of research culture has been created from HEC, but we have to understand that the area of teaching should still be of more attention because our teachers still need to learn new teaching methodologies for their students. We are now ignoring teaching side of teacher performance and pushing them towards research culture" (Dean, IUB).

On the other side, in private sector case study university (PU) of our research presents totally opposite picture as compared to IUB. Participants showed high satisfaction regarding research area of their university. In Preston University, there is strong emphasis on research culture, as they provide consistent guidance or mentoring for research skills and ideas to their faculty members. Research skills workshops and seminars are conducted in order to improve research capabilities of their faculty members. Almost all the participants mentioned that there are clear instructions from upper management of the university that every senior teacher has to act as a mentor for their juniors in order to provide him guidance about research areas,

methodologies and new ideas. Also, it is mentioned by PU participants that for improving teachers' research performance, university has established reward system for the teachers for high performance in research area. In addition to that, university takes research projects from different private sector companies and conducts team research on proposing different solutions of their business problems. This is another difference or gain of private sector universities that they emphasize on research not only for professional development of its faculty members but also for their institutional development by increasing their organizational learning.

System Implications and Recommendations

Designing Performance Management System

Research findings revealed that proper performance evaluation system for teacher evaluation and development is highly lacking in case study universities. Specially, in public sector case study university of current research is still working with traditional old PM system without any engagement of teachers while conducting this process, which is raising problems of mistrust, lack of professional development and communication. However, in private sector university newly introduced system is working well initially but research shows clear concerns about knowledge of system that is been given to teachers, training of appraisers, communication and only method of evaluation in semester system which is teacher evaluation by students. As an initial step of improvement, proper design and training of PM designed system to heads of departments and teachers are basic steps in order to have effective staff performance.

Formalizing the Performance Policy

Universities are the places where knowledge is created and evaluated and these professors or high ranked teachers, who are knowledge contributor or evaluator, are the most suitable persons for formalization of the performance management system policy under the umbrella of best theoretical models and present context of their university. One of the major reasons of having no effective PM system in universities is because universities in Pakistan lack proper human resource department which can formulate performance strategy for university (Amna Malik, 2009). So in that case each university could form a committee consisting of high ranked and well experienced professors specifically for the task of PM policy development consisting of performance evaluation and performance development policies. Committee after detail discussion and possible encounters of all scenarios should form a written policy which should be available to all, mentioning that how the system will work and what expected outcomes of this system are.

PM System Training of Department Heads

Whatever the PM system is and whoever has made it, eventually responsibility of facilitation and process conduction comes on department heads. Because they, play role of middle management for effective performance of their staff. As research shows that in both case study universities, department heads are not trained for facilitating the performance evaluation process and this lack of system knowledge and training leads towards low motivation for conducting performance review meetings. After formalization of performance policy department heads need to be fully trained and informed by the whole system and its implications. Different training sessions, workshops and seminars could be conducted as in house training programs in university for enhancing appraisal, counseling and professional development skills of department heads. One major issue of budget constraint at this point for these training sessions can be the hurdle for this process. In order to eradicate this constraint these training programs can be conducted by members of that committee which developed the performance policy for university because they know the actual mechanism, motives

and execution process of performance policy. Considering the communication problem which is mentioned by almost all the participants of this research, training for conducting effective performance review with a positive approach to learning and development is highly needed. Department heads need to be trained for complete performance cycle by equipping them with interviewing skills for appraisal tasks, coaching and mentoring skills for teachers professional development and facilitating and feedback skills for constructive utilization of the process.

Increasing Motivation

Department heads training, for effective performance appraisal and staff development skills, does not guarantee their high motivation of PM process execution. As Longenecker and Fink (1990) insisted that "Knowing how to do appraisals is one thing and wanting to do is another". The feel of department heads that performance review meetings and discussion is additional job for them and they have to manage time for this overburdened job, need to be eradicated. These appraisals need to be part of department head job specifications. Moreover, heads performance should also be evaluated on his appraisals and evaluation to rate his effectiveness at evaluating their faculty members (Gray, 2002). There is no doubt, that pressure on department heads for effective communication and performance reviews conduction, have to be maintained specially in public sector universities. As research showed, that in private sector case study university department heads feels their responsibility and show high motivation because of continuous pressure from upper management. For maintaining these pressures, continuous audits in each department by external team are required in order to obtain real picture of each department situation regarding PM system. These audits can be consisting of faculty satisfaction survey about communication, performance review meetings or about professional development of teachers. Such audits can put continuous pressure on department heads to conduct formal or informal performance review meetings in effective manner. This pressure building maybe disliked specially among public sector universities, but it can be a way to create check upon check system, so that everyone would have in his mind that I have to report someone for my progress, which system is highly lacking in public sector environment.

Conclusion

It is safe to draw conclusion from the results of questionnaire and interviews, that faculty members are not highly satisfied from the current PM systems in both the case study universities. Both universities participants have shown their concerns about lack of communication, less emphasis on performance review meetings and uni-source performance evaluation system. However, Private Sector University has implemented new PM system with more emphasis on training and mentoring culture for research purposes within the university which is highly appreciated by the participants. But still in Public sector universities, because traditional system of annual report (ACR) for performance appraisal is in use, teachers are concerned about their training needs and comprehensive performance evaluation. Current research in this paper, has explored number of operational issues regarding ineffective communication between heads and teachers. The study showed that reality was far from the ideal, heads are stressed because of time pressure, teachers are less motivated because they are not been encouraged by their heads, appraisal process is ambiguous because of no clear guidance for conducting it, teachers and heads use to hesitate performance reviews for avoiding potential conflicts and incompetence of department heads because of no training for this process are hurdles in having effective communication in PM process. Also, research focuses on teaching and research problems of teachers, which show lack of training in research skills and single method of performance evaluation, are key stumbling blocks in delivering expected performance in these two areas.

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Time Mangement and School Administration in Nigeria: Problems and Prospects

C. S. Ugwulashi

*Department of Educational Management
University of Port Harcourt, Port Harcourt Nigeria*

Abstract *It is quite obvious that time is always used as an excuse by many policy planners and implementers for not meeting their expected targets. Others complained about time for other reasons. This paper tries to examine the relative importance of time as a resource available to both planners and administrators in course of carrying out policy formulations and implementation of educational activities to achieve educational goals. It also emphasized that proper time management facilitates qualitative teaching and learning in accomplishing educational goals and objectives. It started with an overview of time, definition of time and time management, application of time management in school administration, scheduling of activities and time tabling process. Finally summary and some recommendations on how to improve school administration through proper time management were highlighted.*

Keywords: *Time management, School Administration, Prospects, Problems*

Introduction

Despite the type of activity to be performed, time is the most crucial resource first to be considered. From primordial to modern administrative settings challenged by technological innovations time still remains major determinant of successful or unsuccessful completion of task. Every activity following due processes of life is facilitated by appropriate allocation of time. Biblically God completed creation on earth for seven days; even the Great Noah Ark was built timely as directed by God before the great flood destroyed the world at that period. All these are time elements. Time determines the imperativeness of any other resources in accomplishing organization set out objectives and goals. Without time management the efficient and effective use of all resources will be impossible. Mullins (2005:265) points out 'that whatever, the attributes or qualities of a successful manager, or the quality of subordinate staff, one essential underlying criterion is the effective use of time'. Hence Drucker (1988) refers to time as 'the limiting factor for effective executives'. Therefore time management stands as an effective tool necessary for organization effectiveness in realization of set out objectives and goals.

In economics, all resources are inadequate relative to the available demand and pressure. This makes it exigent in economic sense for consideration of time as the scarcest resource administrators must look out in the day to day administration of their organization. Based on this Drucker (1988) emphasized that time is a '**unique resource**' which cannot be rent, hire, buy or otherwise obtain more time. He maintained that time is totally irreplaceable and everything requires time and its supply is totally inelastic. To me, time is a valuable resource one has to efficiently use to accomplish stated objectives or goals.

In both private and public profit organizations time is crucial and lead resource in effective running of the system. For example the opening and closing periods of work is based on the individuals and organization agreed time. There must be maintenance of status quo especially the ideographic and nomethetic dimensions to avoid time conflicts between the employer and the employees. Believing Drucker, time itself cannot be rented, hired, bought or obtain more time, but only the personnel or services can be rented, hired or bought for the specific time. For instance in business organizations personnel are paid for extra time used as overtime because it is the personnel that is rented, hired or bought for the time used. Incidentally, this practice is witnessed in the school organization where an extra mural class is privately organized for that purpose the teacher could be paid for the services rendered. An effective school administrator ensures that

school planned time are not arbitrarily abused by staff. As a bureaucratic organization, time management is necessary for enhancing productivity.

Time management philosophy tends to x-ray the importance and appropriate utilization of time as a resource in accomplishing organization objectives and goals. Managing time appropriately leads to achieving results easily with limited resources. Consequently, any productive system, whatever its structure, human, technology or financial support requires efficient and effective time management procedure. To improve quality of school activities requires cooperative effort of all members through time management. Obviously time is very important administrative tool in carrying out daily duties by the administrators, teachers, students, community and government. A time management plan enables effective administrator to identify if he is using his time effectively and doing important activities with the highest energy levels in the system.

The time required in accomplishing given task is carefully analyzed; other resources are also mobilized with time to achieve the desire result. Management techniques are time dependent like Management Information system (MIS), Management by Objectives (MBO), Critical Path Method (CPM), and Programme Evaluation Review Techniques (PERT). Based on this, Mullins (1999:185) refers time as one of the most valuable, but limited resources and it is important that managers (administrators) utilize time to the maximum advantage. For not realizing time as a scarce resource most administrators run out of time before expected result is achieved.

Time management is also important for effective inspection and supervision of school in bringing the much needed quality. Effective time management ensures unambiguous objectives, proactive planning, well defined priorities and actions; participatory and successful delegation of activities. Nevertheless, time is continuum and all activities or roles performance depend on it whether voluntary or involuntary in avoiding conflicts. Time management facilitates the symbolic relations between the school and society in efficient and effective use of available school resources. Without this mutual relationship realization of school needs would be difficult, untimely and other resources wasted as the community may starve it of facilities and assistance required from them. Hence the school success is made easy or destroyed by extension of relations and services timely or untimely from the wider society.

Time management appropriately adopted by school administrators helps to improve standard, save costs, remedy poor situations, leads to value and above all, harmonizes organization focus. Improving school administration requires time to provide all it takes to make a quality school (administrators, teaching and non teaching staff, classrooms, libraries, desks, chairs, tables, environment and entire school plant management etc). It upholds the principle of Just-in-Time approach in managing school process for quality assurance at various levels of education. Improper use of time has been attributed to poor administrative styles by most administrators in handling organizational task. This paper therefore view the following areas of concern

1. What is time and time management?
2. Application of time management in school Administration
3. Scheduling of activities and time tabling process
4. Summary and Recommendation

What is Time and Time Management?

Time is very unique in any particular time zone. The difference in time is its allocation to activities according to ones priority. For example 7.00am is 7.00am and 06.00pm is 06.00pm everywhere in Nigeria. If two persons want to start an activity at a particular place they use the same time for the task. However, if they are at different locations their time for starting the job may differ. One important thing about time is its specificity. As one chooses to start by 07.00am another may start by 07.10am. The choice of an individual or group determines to great extent the use of time in that particular situation. Time however, is very useful for goal setting activities and helps in crisis management which ensures activities are measurably, realistically and specifically carried out. There is obvious need for administrators to be conscious of the value of time, and the

need to timely apply administrative and interpersonal skills to the benefit of the school.

Time is a part of the measuring system used to sequence events, to compare the durations of events and the intervals between them, and to quantify rates of change such as the motions of objects. Time is an evolving thought and it constantly change as we live and carryout our daily activities. On the other hand, time management is defined as the planning, organizing, scheduling, and [budgeting](#) one's time for the purpose of generating more effective work and productivity. A time management schedule boosts job efficiency and reduces tension. Most often we embark on unimportant task and neglect the critical activities. A time management process mends this. Time management enables placing more emphasis on results and careful monitoring of progress through task delegation, team management and cooperative skills in accomplishing school goals.

Application of Time Management in School Administration

There are four main ways administrators can apply time management principles in school administration. They are planning, organizing, implementing and evaluating.

Planned School Time

According to Charles Richard in Lara (2003) states that 'the time we have depends on the time we use'. In order to manage time successfully, administrators must have self knowledge and set out goals to achieve. Such an awareness of what goals to be achieved helps to prioritize activities. Planning school time involves adequate patterning of time according to activities in order to enhance role performance and accomplishing tasks within a set out period. Planning helps to avoid conflict among use of resources based on the fact that resources are limited including time. Time is planned in such a way to enable easy goals achievement with the available limited resources to the administrator. Planned school time therefore means a designed way by school organization to arrange all its activities for efficient and effective role performance in realization of school results.

In school organization, time is managed through the use of time table. Time table is a specific arrangement of time scheduled according to specific activity. It is used to show the uniqueness of activity in every formal organization. In typical school situation time is arranged for various activities to be performed ranging from opening and closing devotion, classroom work, agricultural work,craft,examinations, labour, sports, recreation, prep, dining and closure etc. All these are ways of planned school time. Internal school administration can effectively be done with proper planned time for the various activities utilizing the available resources toward their realization. Education planners make policies and programmes while Administrators see that policies made are carried out within specific period for the effective functions of the school.

One problem of planned school time is the hasty approach to policies by the school planners without given considerable time for planned policies and programmes to be actualized. Changes are made without considerations to obvious facts. Basically the implementation processes of planned school system are not timely leading to transparent failures in the system. For instance, the movement from 6-3-3-4 to UBE (9-3-4) system is still ill prepared. There are crises of insufficient trained administrators, teachers, school facilities and fund to manage the school as pupils are found in most areas learning under deplorable and congested situations. Where some facilities exist like so called modern primary schools built there are pressures due to improper planning. This poses great question on the prospect of the UBE scheme. Obviously, it appears that changes made do not have enough difference in the system. For instance the introduction of UBE has been criticized as appearing to be a new system but it follows the 6-3-3-4 system of education because both have true resemblance in terms of common problems. This situation appears like putting old wine in a new keg.

Planned time is important to avoid failure. It is a Just – in –time Approach that ensures errors detection and correction in time before advancing next stage of the process. The educational changes going on require

proper control and management to assure quality timely, so that they do not have unpleasant effect on the system. Even the 6.3.3.4 does not have the full weight of technical base it requires, if they have, necessary facilities to facilitate technical skills are not easily found in the schools. Changes in the school system must be line with timely societal needs. Reliably, Maduagwu (1998) assertion that ‘education is one of the tools to effect a society’s goal towards development’ supports this reason. The school requires proper time management for good teaching and learning process to take place (enough time to plan enough time to implement). Therefore planners and administrators must budget and legitimate the time to accomplish set out goals as well as compare the total estimated time for expected maturity.

Organized School Time

Organizing is the next stage after successful planning. Organizing involves ordinarily arrangement of all planned activities. At this stage of time management, organizing has to do with time in bringing all the required resources together. It deals with assemblage of resources for facilitating the easy realization of set out goals. Organizing time in its simplest meaning relates to putting time into jobs according to people, place or needs. In this regards, administrators involved in internal school administration must in this process assign role responsibilities to staff accordingly with targets. There must be time line for any administrator to have target met.

Organized time helps (i) analyze allocated time to events (ii) evaluate time for each event (iii) cost time for total events (iv) pressing events to be identified (v) coordinate all events (vi) improve standard (vii) team participation process (viii) easy task implementation.

There is no one best way to organize school time by any administrator but the school as a formal organization is regulated through the instrumentality of the state or federal ministry of education who determine externally school time like reopening and closure of school, period for external examinations (WAEC, NECO). The school internally allocates time to different activities like curriculum, classes, sports, labour and internal examinations among others.

Time management provides an opportunity to create work schedules for easy goal accomplishment. It involves the school organization developing and maintaining a corporate, flexible schedule which leaves room to include the things that are most important to the school. There are different types of schedule for different activities including personal and corporate activity schedule. The resources available to are not only limited but can be efficiently and effectively managed when activities are properly organized, coordinated and controlled by the administrator.

Typical organization of time in a training session

Activity Day	Time						
	0900 - 10.00am	10.00 - 10.15 am	10.15 – 12.00 noon	12.00 - 2.00pm	2.00- 3.00pm	3.00- 3.15pm	3.15 - 4.00pm
1	1 st session	Short break	2 nd session	Lunch break	3 rd session	Short break	4 th session and closure
2							
3							
4							
5							

Extract of school organized time table for typical class SS 3 A

Day	0740-08.00	0820-0900	0900-0920	0920-1000	1000-1040	1040-1120	1120-1200	1200-1240	1240-0120	0120-0200	0200
Mon	Devotion	Eng	Eng	Govt	CRK	Phy	Break	Acct	Agric	Hist	Closure
Tue		Math	Acct	Bio	Econs	-		Lit	Bio	Phy	
Wen		Phy	-	Agric	Agric	CRK		Govt	Chem	Bio	
Thurs		Govt	Econs	Hist	Eng	-		-	Lit	Hist	
Fri		CRK	Lit	-	Chem.	Chem.		Econs	Acct	-	

From the above, it could be seen that various activities are handled without undue interferences. It enables one subject teacher to handle different classes on the same subject but at different periods as shown below for typical English teacher handling SS3 A,

Organizing school time facilitates easy teaching and learning. This Idu (2004:22) points that organizing helps the principal after planning to ensure that the teachers are teaching what they are supposed to teach. It also ensures that all the materials including classroom furniture are maintained for future usage. Organizing time helps to achieve all these purposes in school administration.

Implemented Time

Time planned and organized helps to accomplish not only set out objectives and goals but enables its operators to go extra mile in achieving what necessarily would have not been achievable. Planned and organized time is easily implemented, and engenders facilitative actions. For example time table indicates planned and organized time for classes, recreation, labour, examination, opening and closure of school to mention but a few. One greatest importance of time table is creation of space for simultaneous activities which helps activities to be implemented without conflicts like classroom allocation to various periods and subjects. Implemented time ensures complete mobilization of all planned activities according to schedule. Educational planners and administrators must ensure use of time appropriately in the school through team work. Implementing planned time requires collaborative efforts by staff for quality implementation of school activities.

Evaluated Time

Time cannot only be planned, organized and implemented but must also be evaluated to show its efficient use in accomplishing set objectives and goals. This helps to find out the workability of planned activities whether they can be accomplished within the time allocated to them. For example a teacher covers the class syllabus planned for 10 weeks before the end of term examination is administered to the students establish that the period of teaching – learning has been effective on one hand. On the other hand, their performance in the weekly test or examination may prove whether the whole time served its purpose because poor performance may indicate wasted period. A review of allocated time to activities indicates where deficiency exists.

Evaluated time also helps to determine saved periods at the end of each session, the problem encountered as well as the capabilities of the teachers and students in effective teaching and learning. Today, the efficiency and effectiveness of school administration is determined by the level of students' performance during examinations like NECO, SSCE, Junior WAEC, and GCE etc. Efficient time management is an assurance for accomplishing school activities in time.

Time evaluation serves a lot of purpose by seeking answers to this basic question:

- i) Whether time plan worked for the accomplishment of goals?
- ii) Did it help in accomplishing school result?
- iii) What next needs to be done?
- iv) Are there any changes to be made?
- v) What will be the future of the system?

Time Management Principles

The efficient and effective use of time is a prerequisite for accomplishing task easily. Therefore the following principles need to be adopted.

- 1) **Use of proper time schedule:** This helps to avoid conflict among major actors carrying out school activities and ensure each task is fully accomplished as planned.
- 2) **Avoid too much procrastination:** All planned activities must be carried out according to specific time allocated like subject periods, labour, sports, prep and siesta etc. no particular activity should be put off without sufficient reasons because this may affect time allocated for other activities.
- 3) **Adopt good method of task delivery:** Planned activities can only be accomplished timely if the process of performing the task is well defined. This tends to put self- confidence on the people undertaking the task. This is the basis for equal opportunity of academic and non academic personnel participation in school decision process.
- 4) **Use of appropriate tools for the job:** For instance, classroom, blackboard or pen board, table, chairs, desks, books etc those are required for effective teaching and learning by the teacher and pupils. Basically, where they are lacking accomplishment of result will take time to actualize.
- 5) **Evaluate different task levels:** For instance the senior classes require more teachers and time because of different courses than junior classes'. Likewise larger classes are to be allocated larger classroom than smaller class. This gives room for proper management of school time.
- 6) **Initiate good school climate:** Good climate allow appropriate use of time than sterile climate. Good school climate here refers to the favourable conditions prevailing for effective participation of members in realization of school set out goals. A school where time is not organized there is bound to be poor relationship existing and wastage of resources.
- 7) **Simplified time evaluating process:** Assessment procedures must be standardized, reliable and valid in testing what it intends to test within the allocated time. If the process is too ambiguous much time will be wasted for the particular activity to be accomplished.

Time Management an Instrument of Change

In critically evaluating contingency approach, it has shown realistic instance of changes in variables that constitutes organization structure. It considers the situational variables rather than a number of classical and human relations propositions. Despite its limitations, contingency model depicts the idea of innovative changes in organization management. Schmidt (1968) in Uche (2010) notes "that an organization that lacks viability cannot hope to survive in the world of today and will never see the world of tomorrow". Change

therefore is an instrument of time in organization development. It becomes imperative that for innovative changes to occur time use must be appropriate, else, the expected results may not be achieved. Planned change may not be accomplished in event of poor time management; else, other activities may overrun it. It is absolutely necessary that school planners follow the change processes through timing societal changes.

Time Management as Characteristic of Effective Goal

Effective goal contains a time element (Mills and Friesen, 2001). In school, goal is achieved when those been empowered knows when their progress will be measured. This gives them focus and work towards it. This is why examination bodies like WAEC, NECO and JAMB fixed the examination dates and schedule ahead for the students and schools to prepare on time. The performance of the school in general and students in particular is determined by summation of their level of preparedness before examinations.

Even the internal school examinations are scheduled with specific dates and time. Without this process school set out goal cannot be easily achieved. Significance of time is very important in school administration as Uche (2010) pointed that organization development needs deliberate planning of school resources such as time, energy, money more so longer period of time is required for serious and self sustaining projects to be achieved.

Time Management an Effective Tool for Capacity Building

Time management creates self-assured behaviours on what to be done and when it will be done. In the internal school administration the principal is saddled with a lot of tasks which require proper attention. In meeting this demand there is need for delegation of tasks to teachers like labour, sports, social and disciplinary masters and or committee to assist in the running of the school which the principal cannot do alone.

These functions are rotated periodically amongst staff thus building confidence in achieving set out school goals. Effective delegation process enhances capacity building as time is given to role participants to develop particular skill on the job. It has been shown that many administrative problems are self generated by administrators who failed to delegate task to staff members. The ability to delegate successfully determines the effective use of time in developing other organization members.

Summary

Time management enables teachers and students have some choice in their teaching and learning strategies for successful accomplishment of education goals. Time management principles encourage proper classroom management through planning, organizing and reviewing teaching and learning techniques, situations and proffer possible solutions since the classroom is the teachers' clinic. Effective time management can have a dramatic effect on our life. Time management should be considered by any administrator for effectively managing school resources in meeting the expected school outcome.

Recommendations

For effective and efficient running of school, planners, administrators, teachers and students keep time management log to indicate how time is being used. Important activities should be marked as priorities followed with proper planning. There should be time saving approach through team work and delegation for most activities and proper schedule of time. As a contemporary issue it is adequate if practicing school planners and administrators as well as management students are trained in this area. This will bring the much need quality in the school management system.

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School Location And Secondary School Students' Awareness Of Human Immuno-Deficiency Virus/Acquired Immune Deficiency Syndrome (Hiv/Aids) In Imo State Of Nigeria

Adelakun Kayode
Malachy N. Ogu

School of Science Education, Federal College of Education (Technical), Omoku, Rivers State, Nigeria.

Abstract This paper evaluates the influence of school location on the level of awareness of secondary school students about HIV/AIDS. Research questions and hypotheses were formulated and tested at 0.05 level of significance. The study employed descriptive survey method. A total number of 500 questionnaires tagged "Students Awareness of HIV/AIDS Questionnaires" (SAHAQ), which consist of forty-items each, were administered. Subjects of the study were students in junior and senior secondary school in both rural areas and urban centres. Percentages, bar charts and one way analysis of variance were the statistical tools used for data analysis. The study found out that secondary school students in rural and urban centres are aware of HIV/AIDS, but students in urban centres have more sources of information about HIV/AIDS than their counterparts in rural areas. Also, the study found out that females in urban schools have good knowledge of preventive measures of HIV/AIDS than males in urban schools as well as both sexes in rural areas.

Keywords: Location, Awareness, HIV/AIDS, Education, Misconceptions

Introduction

The spread of Human Immuno deficiency Virus (HIV)/ Acquired Immune Deficiency Syndrome (AIDS) is one of the great health challenges from about middle of 20th century into the 21st century. It is a disease whose cure has not been found despite the global advancement in science, medicine and technology. However, the disease spreads like bonfire without regard to geographical boundary, age limit, sex or creed. Ruxin, Binagwaho and Wilson (2005), state that HIV/AIDS is a global catastrophe, threatening social and economic stability in the most affected areas, while spreading relentlessly into new regions. More worrisome is the fact that the disease mostly affects the productive segments of the society (adolescents and young adults) and more importantly, it decimates the lives of the "future of the country"- the secondary school students. The sentinel surveillance data of the Federal Ministry of Health cited by Hodges (2001) reveals that 4.9% of adolescents between the ages of 15 and 19 are affected, while 8.1%, of young people between the ages of 20 and 24 are affected. The data shows that school age population (secondary and tertiary institution) is worst hit by this disease. Adelakun (2005) states that this problem is a result of liberalization and commercialization of sexual activities among this population since they are very sexually active and sex is the major route of transmission of HIV. Schenker and Nyrienda (2003) attribute 75% cases of HIV to sexual contact. Hodges (2001), states that 80% of the cases are through sexual activities, while Soper (1999) links 90% of the cases to such. What all these emphasize is that sex is the major route of HIV transmission. Many secondary school students also engage in other activities that promote the spread of HIV/AIDS such as tattooing, mucosal piercing, scarifications (especially in rural areas) with unsterilized instruments, incisions from cult-related activities and so on. Some of these students do these things out of ignorance. Many do not even believe that HIV/AIDS is in Africa (Unachukwu 2003). National Action Committee on AIDS (NACA, cited by Elsie (2002) posits that most HIV victims in Nigeria caught the disease as teenagers. Similarly WSHCA cited by Unachukwu (2003) states that in developing countries like Nigeria, up to 60% of new HIV infections are among the 15-24 year olds with generally new infection in young women than men. This fact may not be surprising because Adolescence (secondary school years) is a period that is generally characterized by crises, experimentation, curiosity and rebellions. These explain why secondary school students, engage in risky behaviours that promote the spread of HIV. Adelakun (2005) states that as a result of hormonal

influence, adolescents are physiologically vulnerable to HIV, most of them not only experiment with sex but also uncontrollably engage in unprotected sex. He further explained that, to them, engaging in sexual activities is a sign of "arrival" or "initiation into adulthood and getting infected with sexually transmitted diseases (STD) is a mark of popularity. Many of them are naïve without sound knowledge of the implications of their actions.

The society in general is adding to the problem of these youths. The sex-crazy world in which these adolescents live is not helping matters. For anything to be attractive, interesting and have high market value, it must have sexual appeal. There is large patronage of pornographic materials (journals, books, films, magazines etc) among youths. The lyrics of many hit songs are sexually explicit. There is need to create awareness among these youths about the dangers of contracting HIV/AIDS. Everybody has the right to know. Every individual in the world needs information.

Ignorance is a disease in itself, whereas Education is the social vaccine that can prevent the spread of any disease including HIV/AIDS. The major way to empower the teenager is to let them know the implications of any course of action they are taken because "knowledge" they say, "is power", and "prevention is better than cure". Teaching secondary school students or creation of awareness about HIV/AIDS is the responsibility of all. Formal, informal, and non-formal HIV/AIDS education involves organized HIV/AIDS education or teaching in schools by professionals such as teachers. Health educators, school nurses, guidance counselor etc. Informal HIV/AIDS education involves teaching by parents, knowledgeable members of the society, places of worship etc. while non-formal HIV/AIDS education is mass education through television, radio, magazines, newspapers, journals posters, films etc. the aim of all these forms of HIV/AIDS education is to create awareness about HIV/AIDS. There is a great chasm between health information that is provided in urban and rural areas (villages) most especially, information on HIV/AIDS.

Statement of the Problem

HIV is a serious medical and social problem in Nigeria. It is a serious medical problem because its cure had not been found and researches are on going to find solution to the problem. It is a social problem because it is not age, sex or location-specific. The virus has no regard for social status, educational background or religion affiliation. However, the problem is that the prevalence rate is higher among adolescents and young adults; and these people seem not to take the threat of the disease very seriously. Secondary school age is a period in students life that is characterized by curiosity and experimentation with sexual activities and drug use. This is mostly as a result of hormonal pressure, peer influence and electronic materials that freely promote sexual activities. Secondary school students are among the most sexually active people in the society. Besides many of them seems not to know ways of preventing HIV/AIDS. For instance, UNAIDS/WHO (2008) reported that only 23 percent of young people (on the average) aged 15-24 correctly identified two ways of preventing the sexual transmission of HIV and rejected two misconceptions about HIV transmission in Nigeria. The report revealed a slightly high percentage of twenty-five (25%) for male as against twenty (20%) for female. Similarly, UNICEF (2007) gives the percentage of young males who have comprehensive knowledge of prevention of HIV in Nigeria between the year 2000 and 2008 at twenty-one (21%), while only eighteen percent (18%) females have such knowledge. This explains the high prevalence of HIV in Nigeria between 2000 and 2006 at 21 percent, while only 18 percent females have such knowledge. And this explains the high prevalent rate of HIV/AIDS among the population of 15-19 years. Adequate awareness about HIV seems not to have been uniformly created between rural and urban dwellers. People in Urban areas in Nigeria seem to have an edge over the rural dwellers in terms of access to information perhaps because of poor infrastructural development in the rural areas. This invariably may affect the students in rural areas. Some times, people in urban centers who are in charge of providing information to rural dwellers often fail in their responsibilities either because of logistics problems or because they are unwilling to go to rural areas. This sometimes leaves rural dwellers to wallow in abysmal ignorance. This

problem may create a chasm in the students' knowledge of HIV/AIDS in rural and urban areas. Recent statistics on HIV/AIDS shows that there is still need to worry. It is with this background that this study is designed.

Purpose of the Study

The main purpose of this study is to look at the influence of school location on the level of awareness of secondary school students on HIV/AIDS.

The study is specially designed to:

1. Find out the available sources of information on HIV/AIDS to secondary school students based on school location (rural & urban).
2. Examine the extent of students' knowledge of preventing HIV infection based on their school locations.
3. Determine if there is a difference in the level of awareness of male and female students in urban and rural centres about epidemiology of HIV/AIDS.
4. Find out if there exist misconceptions about HIV/AIDS among both male and female students in rural as well as urban areas.

Research Questions

1. What are the sources of information on HIV/AIDS that are available to secondary school students in urban and rural areas?
2. To what extent are secondary school students in both rural and urban centres aware of ways of preventing HIV infection?
3. How does the level of awareness of male and female secondary school students about epidemiology of HIV/AIDS in urban areas differ from secondary school students in rural areas?
4. What type of misconceptions about HIV/AIDS exists among secondary school students in rural and urban schools?

Hypotheses

H₀₁ There is no significance difference in the level of awareness of male and female secondary school students about epidemiology of HIV/AIDS in rural and urban areas.

H₀₂ There is no significant difference in the level of misconceptions of male and female secondary schools about HIV/AIDS in rural and urban areas.

Research Method

Descriptive survey design was employed for this study.

Population of the Study

The population of the study comprises secondary school students in Imo State.

Sample and Sampling Techniques

The sample of the population comprised of 500 students drawn from six secondary schools. Three schools were drawn from the rural area, while the other three were selected from the urban centre. Two-stage stratified random sampling technique was used to select the schools and the students for the study. Schools

in urban areas were identified and grouped separately, while schools in rural areas were also grouped separately. Thereafter, simple random technique was used to select the sample from rural and urban schools. In selecting students for the study, stratified random sampling was used to group males and females after which, simple random technique was employed to select the desired sample size.

Research Instrument

The research instrument that was used for this study was a questionnaire tagged “Students’ Awareness of HIV/AIDS Questionnaire” (SAHAQ), which was developed by the researchers. The questionnaire was divided into the three sections, A-C. Section A sought background information about the respondents while sections B and C were designed to seek information about the respondents’ awareness of HIV/AIDS. Section C was further sub-divided to take care of various aspects ranging from misconceptions to facts about HIV/AIDS. Respondents were required to indicate their opinion on each item based on a 5-point Likert scale of Strongly Agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD), and Undecided (UN).

Reliability of the Instrument

The measure of reliability of the instrument was determined by the use of split-half reliability co-efficient of internal consistency. The forty-four items of the questionnaire were split into two halves. “Pearson’s product moment correlation” technique was adopted to correlate the two sets of scores. A reliability coefficient of internal consistency of 0.62 was obtained for the half of the instrument (i.e. the 22 of the 44 items). To obtain the reliability coefficient of the whole questionnaire of 44 items, Spearman-Brown prophecy formula was applied. Thus a final reliability coefficient of 0.77 was obtained for the instrument. This final reliability coefficient was considered adequate for the instrument.

Method of Data Analysis

Frequencies, means (X) and standard deviation (SD) were used to take decisions on various questionnaire items. The mean of 3.0 was used as cut off point for accepting or rejecting each of the items. For research questions 1 and 2, simple bar chart was used to compare student’s level of awareness. However, one-way analysis of variance was used to test all hypotheses. All decisions were taken at 0.05 alpha levels.

Results

Table 1: Sources of secondary school students’ awareness of HIV/AIDS by sex and school location. (N= 500 { n= 125})

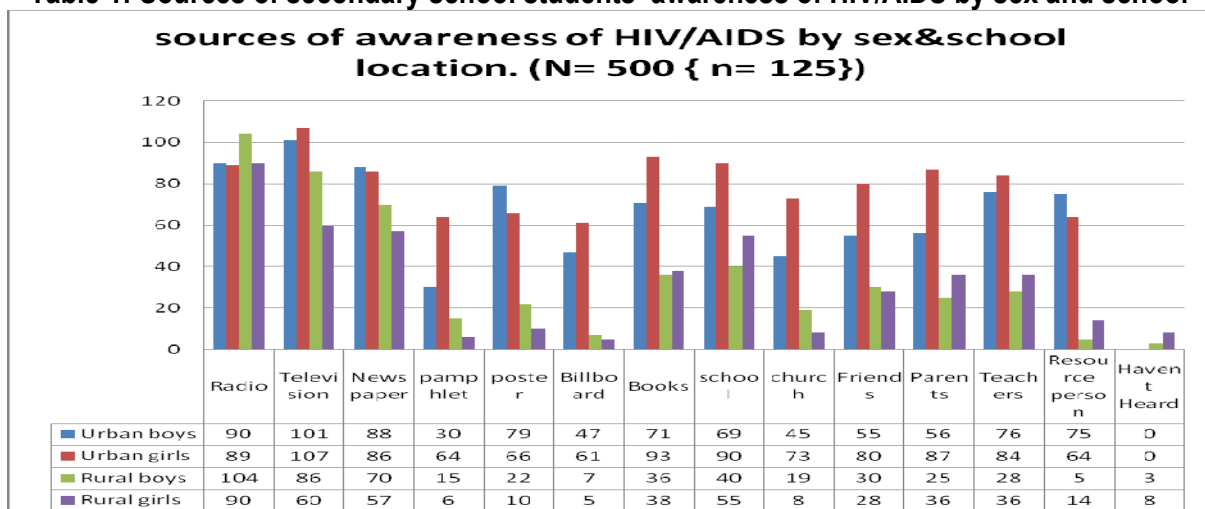
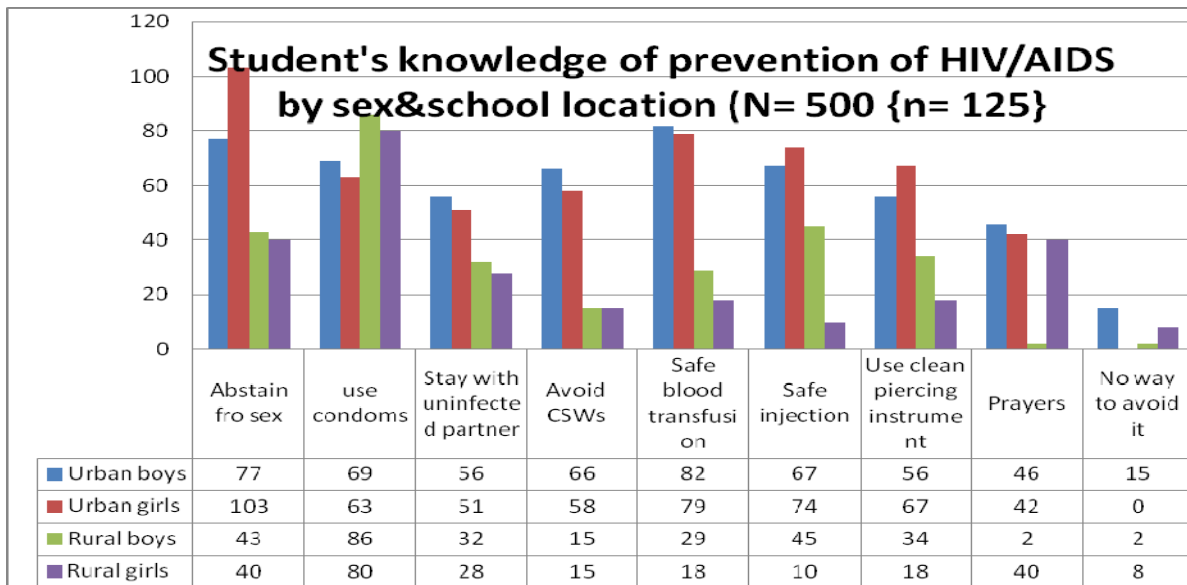


Table 2: Knowledge of students about prevention of HIV/AIDS by school location and sex



NB: CSW means Commercial Sex Workers

Table 3: One-way Analysis of Variance (ANOVA) on the level of awareness of male and female students in rural and urban centres about the epidemiology of HIV/AIDS.

Sources of variation	SS	df	MS	P-value	Decision
Between Groups	65071.14	3	21690.38	0.000377	** S
Within Groups	58358.29	24	2431.598		
Total	123429.4	27			

** Significant

The table above shows the p-value of hypothesis which states that there is no significant difference in the level of awareness of male and female secondary school students about epidemiology of HIV/AIDS in rural and urban areas. The summary of the analysis of variance shows that the result is significant.

Table 4: One way Analysis of Variance (ANOVA) on misconceptions about HIV/AIDS ANOVA

Sources of variation	SS	Df	MS	P-value	Decision
Between Group	104549.5	3	34849.84	0.00171	**S
Within Group	246499.1	56	4401.77		
Total	351048.6	59			

**S=Significant

The table above shows the p-value of hypothesis 2 which states that there is no significant difference in the level of misconceptions of male and female secondary schools about HIV/AIDS in rural and urban areas. The summary of the analysis of variance shows that the result is significant.

Discussion

Considerable efforts have been made by government, Non-governmental organization, media houses, individuals and many other groups to get information about HIV/AIDS across to people including secondary school population. More often, information on HIV/AIDS is presented on radio and television. It is interesting to note that over 70% of students in both rural and urban centre have heard about HIV/AIDS on radio. More male students (83%) in rural areas have had access to information on radio than any group under consideration. This has further confirmed the leading role of radio as a medium of communication. It has larger audiences since it is easily affordable, easy to operate and can be powered by batteries where there is no electricity. Furthermore, its audience can engage in other activities while listening to radio. With these advantages over other means of communication, students in both rural and urban centres have equal access to information about HIV/AIDS on radio. Although Hodges (2001) states that over half of rural households own radio, many students who do not have radio or whose parents do not have radio sets still listen to radio in the homes of friends and neighbours. This finding is slightly different from the national survey on access of women to mass media, which was conducted in 1999 and cited by Hodges (2001). There, it was stated that only 51.3% of females between the ages of 15 and 19 listen to radio and invariably may have had access to information about HIV/AIDS through radio. A further breakdown in the national survey shows 72.2% in urban areas as against 41.9% in rural area. However, this finding shows that almost equal percentages of students in rural and urban centres, (72% and 71% respectively) listen to radio most especially information on HIV/AIDS. The rate is even higher a bit in rural areas, perhaps because female students in urban centres have other better sources of information that are not available to rural students. On the other hand, male students in rural areas listen to information on HIV/AIDS on radio more than their male students in urban areas.

Television is another major source of information on HIV/AIDS for students in terms of access to information through television. Female students in urban area have heard information about HIV/AIDS more than their male counterparts in urban centres and both sexes in rural areas. However, it is worrisome that only about 48 percent of female students in rural areas have heard about HIV/AIDS on television. The national survey of 1999 cited by Hodges (2001) shows that only 39.4 percent of female adolescents between the ages of 15-19 have access to television. This may be as result of non-affordability of television set or lack of rural infrastructure such as electricity, the reason for this is beyond the scope of this study, but its implication is of major concern. 'Seeing is believing' says a popular maxim, if rural students had access to television, majority of them, if not all, would have seen it on their television set that HIV/AIDS is real in Africa. Besides, many of their erroneous beliefs about HIV/AIDS would have been debunked. The visual effect of television would have created real and lasting impression in the minds of the students. This finding notwithstanding, shows that electronic media (radio and television) are at the vanguard of HIV/AIDS awareness creation among secondary school students in secondary schools.

Newspapers and magazines are also playing significant roles in getting information about HIV/AIDS across to the students. However, more students in urban areas have access to newspaper and magazines than students in rural areas. This places students in urban areas at advantage, while female students in the rural areas are more disadvantaged. Students in urban areas have information about HIV/AIDS through pamphlets, posters, handbills and billboards than their counterparts in rural areas. In fact information through these media is almost non-existent in rural areas. (See table 2). The few students who have heard about HIV/AIDS through these media are those that visit towns and cities regularly or periodically. The implication of this is that government agencies and non-government organizations (NGOs) in charge of awareness

creation on HIV/AIDS are neglecting rural areas. Posters, handbills, billboards and pamphlets on HIV litter every nooks and corners of towns and cities, but hardly any could be found in our villages. Rural population need these sources of information if not more than their urban counterparts because most of the time pictures speak louder than voices. Access to books on HIV/AIDS is also a problem in rural areas. While sixty-six percent (66%) of students in urban schools have read about HIV/AIDS in books, only 30 percent of students in rural schools have done so. Various factors could be responsible for this: it could be as a result of non-availability or/and non-affordability of books in rural areas. It is worthy of note that male students lag behind their female counterparts in both rural and urban centres in terms of reading about HIV/AIDS from books. Schools in urban areas equip their students on HIV more than schools in rural areas, most especially Girls Secondary Schools. Female students in both rural and urban centres learn about HIV/AIDS from their schools than their male counterparts from rural and urban areas. Faith-based HIV information is however not encouraging, most especially in rural areas. Only 6 percent of female and 19 percent of male students in rural areas as against 58 percent of female and 38 percent male students in urban centres have heard about HIV/AIDS in their churches and other places of worship. Nigerians irrespective of their ages and sexes are religious people, so the easiest way to pass vital information to them would have been through their religious leaders whom they always hold in high esteem. However, this source of information is not adequately exploited. This may be as a result of lack of adequate knowledge about HIV on the part of the religious leaders.

Parents, most especially in rural areas are not adequately informing their children about HIV/AIDS. Very few children in rural areas have learned something about HIV from their parents. The fact is that some parents in rural areas still hold firmly to the belief that sex matter as it relates to HIV should not be discussed with children. They still believe in the secrecy of discussions on sexual issues. Also, some parents, most especially, the illiterate parents do not know anything about HIV, hence they can not teach their children what they do not know. In urban centres, parents provide information on HIV more to their female children than male children. This may be as a result of the cultural belief that a girl-child should be sexually restricted while permissiveness is tolerated or even encouraged for male children. More worrisome is the fact that teachers in rural schools hardly teach or discuss HIV/AIDS issues with their students. Less than twenty-five percent (25%) in rural areas have heard information about HIV/AIDS from their teachers. This is a serious course of concern because schools play dominant roles in getting information across to students. While schools in urban areas always invite resource persons to talk to students on HIV, reverse is the case for schools in rural areas. Many students in rural areas do not know who a resource person is because they have not seen one. Although it may not be economical to invite resource persons to schools in rural areas, it is worthwhile to do so because students will learn tremendously from the resource person. Besides, the cost of having one HIV victim among students is more than the cost of inviting many resource persons to the school at a time. The most impressive finding in this study is that almost all students have heard about HIV/AIDS. All (100%) students in urban centres have heard of HIV/AIDS while 97 percent of students in rural areas have also heard of the disease.

Presently, HIV/AIDS has no known cure, hence its prevention among the younger population is the only sure ways of curtailing this dreadful disease. Generally in this study, the finding shows that knowledge of various methods of preventing HIV is higher among urban schools population than rural school population. Seventy two percent (72%) of students in urban schools know that abstinence is the major way of avoiding HIV, while only thirty three percent (33) of students in rural areas know this as a fact. Many students in rural areas are not aware of various ways of preventing HIV. However, it is interesting to note that both male and female students in rural areas know that the use of condoms limits the spread of HIV more than their counterparts in urban areas. The implication of this is that students in rural areas are more inclined to use condoms during sexual activities than students in urban areas. However this is dependent on its availability in rural areas. Besides, to what extent are students in rural areas know it s correct usage? (These are beyond the scope of this study). Students in urban centers are more aware of various ways of preventing HIV. They

know that all things being equal, staying with one uninfected partner, non-involvement in sexual activities with commercial sex workers; safe blood transfusion; safe injection and the use of clean, sterilized piercing instruments are some of the preventive measures to HIV. A high percentage of students in rural and urban areas believe that prayers can help in preventing HIV. This portends danger to this population of youths. Some adolescents have been brainwashed that if they 'believe' or have 'faith' they can not be infected, while others believe that even if they are infected, prayers can cure the disease.

There is significant difference in the level of awareness of male and female secondary students in rural and urban centers about epidemiology of HIV/AIDS. Post hoc scheffe Test reveals that the difference is among rural students, both males and females. The test also reveals that the level of misconceptions about HIV/AIDS is very high among rural students. Students still associate HIV/AIDS to witchcraft, most especially in the rural areas. Many believe that it is a disease of white people

Recommendations

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

1. HIV/AIDS and sexuality education should be introduced and be made compulsory in secondary schools.
2. Government through ministry of education should employ and deploy health educators, trained nurses and guidance counselors to secondary schools. These specialists will assist in creating awareness about HIV/AIDS and other related health issues.
3. Posters and pamphlets on HIV/AIDS should be produced and distributed to secondary school students most especially in the rural areas.
4. Principals in secondary schools should as a matter of policy invite resource persons to educate students on HIV/AIDS at least once in a session.
5. Schools' principals should encourage students to form and join HIV/AIDS awareness clubs in their schools.
6. Since most students enjoy sports and inter-house sport as co-curricular activities, school's sports wears and jerseys should carry HIV/AIDS information such as "AIDS is Real", 'Don't Spread the virus', 'Abstinence is the best protection' etc.
7. Government and NGOs should spread their activities in creating awareness about HIV/AIDS evenly to rural areas, because the lives of secondary school students in rural areas are as important as those in urban schools.
8. Distributions of pamphlets and posters on HIV/AIDS should be done extensively in rural areas.
9. NGOs should strive to correct misconceptions about HIV/AIDS that is deeply rooted in rural areas. These misconceptions have led to the development of negative attitudes towards the realities of HIV/AIDS.
10. Parents most especially in the rural areas should create time to educate their children and wards about HIV/AIDS or sexually education.
11. Since people especially adolescents often believe religious leaders (Men of God) more, religious leaders should not mislead or misinform people about HIV/AIDS. They should avoid exaggerating their powers at curing HIV/AIDS.
12. Places of worship should produce pamphlets, handbills, posters etc on HIV/AIDS and distribute to their adherents who fall within the vulnerable group.
13. Government should ban places of worship that claim to be healing HIV through prayers, such as religious leaders should be arrested and tried for misinformation and economic crime.

Conclusion

HIV/AIDS has assumed a centre state among diseases that plague Nigerians in recent times with over three million Nigerians being infected. From a relatively unknown disease among Nigerian households in the 1980s, HIV/AIDS has become a common disease which everybody dreads. Although its spread has no geographical boundary or age limit, its rising prevalence among adolescents and young adults make the disease to be extremely worrisome. Interestingly, the disease is acquired, it is not congenital or inherited (except for babies that may be infected through their mother), and hence it is individual's action or inaction that may make him to be infected. Therefore with adequate knowledge of the disease, positive attitude and practices to stay healthy and uninfected on the part of adolescent and young adults, the spread of the disease can be halted. When these vulnerable groups are well informed, there would be positive attitudinal change that would help to curtail the disease. Providing information or creating awareness about the disease will go a long way in protecting the populace from this disease.

However based on the findings of this study, it is crystal clear that secondary school students are not ignorant of the disease. They know that the disease is not yet curable and it is not a respecter of anybody. They got their information from various sources, but some pieces of information at their disposal are misleading most especially at the rural areas. Much effort is concentrated at urban centres to get the people informed about HIV/AIDS while students in rural areas are hardly cared for, with female students in the rural areas being the worst victim of neglect. If HIV/AIDS is wiped off among urban dwellers without adequate attention on its elimination in rural areas, then nothing has been achieved because there will always be resurgence of the disease from the rural areas.

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Influential Factors Affecting the Attitude of Students Towards Vocational/Technical Subjects in Secondary Schools in Southeastern Nigeria

Ozioma C. Azubuike

Department of Home Economics
Federal College of Education (Technical) Umuze-Anambra State, Nigeria

Abstract This paper was to determine the influential factors that affects the attitude of the students towards the study of vocational/Technical subjects (Home economics) in secondary schools. This was initiated as a result of the students apathy to the study of vocational subjects (Home economics) in secondary schools. In carrying out the research, the focus was to identify the variables or interest, gender, socio-economic status of the parents as it influences the students choice of the study of vocational/Technical subjects (Home economics) were raised top guide the researcher designing the instrument to be used for the study. Structured questionnaires was used for the data collection. A sample of hundred respondents offering vocational/Technical subjects (Home economics) in senior secondary schools were used. The mean frequency distribution and grand mean were used in analyzing the data collected. Major findings were made on the factors that influence the students attitude such as interest, gender, and socio-economic status, the qualification of teachers and instructors and guidance counsellors motivated influence. Based on these findings, recommendations for its improvement was proffered.

Introduction

Vocational/ technical education are among the vital tools an individual can use to be developed. It is a training for useful employment in trade, industries, agriculture, business and home making etc. the emphasis on vocation. technical; education is to prepare one for self reliance.

American vocational association (1971) sees vocational subjects as those designed to develop skills, abilities, understanding, attitude, work habit and appreciation encompassing knowledge and information needed any workers to enter and make progress in employment on a useful and productive basis. It contributes to the production of good citizens by developing their physical, social, civic, cultural and economic competencies.

The advent of formal education in Nigeria neglect vocational and technical education entirely. Despite all efforts made to recognize it, yet little or no attention was given to it. No meaningful development was made in the area of vocational education until 1981, when the National policy on Education was published. Due to total neglect, vocational education suffered a major decline in quality, number, policy and directive in Nigeria due to the total neglect. It was after the oil boom era 1970s that it dawned on the nation that there was acute scarcity of skilled manpower.

Osuala (1999) emphasized that the term either technical or vocational education has no single universally accepted definition but what is common is the various definitions is its goals and objectives that remain the same. Technical education has been defined as that phase of education which seeks to help the people, students and the populace acquire specific mechanical or manipulative skills required in industrial arts or applied science.

The aims of vocational and technical education

The national policy on education (2004), stated the goals and objectives of vocational and technical education as follows:

- (1) to provide trained manpower in applied science, technology and commerce particular at sub-professional grades.
- (2) to provide technical knowledge and vocational skill necessary for agriculture, industries, commercial and economic development.
- (3) to give training and impart the necessary skills leading to the production for craft-man, technicians and

other skilled personnel who will be enterprising and self-reliant.

(4) enable our young men and women to have intelligent understanding of the increasing complexity of technology.

(5) to give an introduction to professional studies in engineering and other technologies.

Yole (1986) reported that occupational areas within which vocational and technical educational education subjects fall largely into are: Agriculture, Home economics, Business and mechanics, capacity, countering, Arts etc. However, Agriculture and carpentry remain improper choices because they do not attract much interest amongst the students.

Anyakoha (2000) emphasized that Home economics is a unique and dynamic field of study. Its central theme is the improvement of lives of individuals, field of study¹ that draws knowledge from many disciplines including science and humanities in order to fulfill its objectives. Being a vocational subject that focuses on the welfare of individuals, families and societies, Home economics contributes meaningfully to the solutions of the problems of the society such as unemployment, poverty, malnutrition (Olcitan 2000).

Osuala (1992) also stressed that Home economics as a vocational subject is required to equip the learner with the knowledge of skill and attitude necessary for thorough effective management of the home, it requires skills, wisdom, dedication, care, intelligence, unusual patience and very strong power of observation and imagination. Therefore, a student that has these qualities should study vocational/ technical subjects especially Home economics rather the reverse is the case.

Federal Government wants vocational/technical education to occupy a prominent position in our secondary schools, Nigerian schools pay little or no attention to vocational/technical subjects. Teachers and students seem not to understand what it is all about and consequently, develop some contempt and aversion for the subjects. As such of vocational/technical subjects remain unhealthy. Many of the occupations and trades are regarded as ignoble and unbecoming. An average Nigerian parents does not want his son to earn a living as a full time farmer, a watch-repairer, a plumber, a house painter, for many Nigerians, these jobs are for the poor and underprivileged. Padunny (1994) stressed that typically the higher the occupational status of the students parents, the positive their attitude towards science. This is to say that higher occupational parents would want their child to be doctors, engineering etc. without considering if the child would actually read science subject to achieve that. The influence of parents in the development of students interest in vocational/technical subjects cannot be over emphasized this is because parent seem to have much influence on children's choice of educational career. The socio-economic status of parent of a child determines the type of career one choose to do, some parents have biased and rigid thoughts regarding the occupational choices of a child/children. Parents forgot that every type of work, once it is beneficial to the individual and society, is worthy and noble. (Nwankwo 1996).

The result of this is a quasi calculated attempt to frustrate the good intention of the federal and state government about vocation/technical education. The quality sign of potential success in students vocational pursuits require the identification of the students interest, aptitudes, abilities, values and judgments, if these will be discovered, it requires a guidance counselor who will give the appropriate occupational information to the student with proper exposition to various opportunities available in the world of work.

It is not surprising that students are not interested in vocational/technical subjects. Osuala (1992) opined that, at the heart of our society and economic problem is a national attitude that implies that vocational/technical subjects are designed for somebody else's children and is meant primarily for the children of the poor. This same attitude is shared by students. Thus, it makes the students lack interest in the study of vocational subjects particularly Home economics.

The skill that teachers exhibit in teaching influences the student enrolment in vocational/technical subjects. Onwuka, (1981) postulated that the method of approach is very vital in any teaching/learning situation. The way the teacher presents the subject matter to the learner may make a student like or dislike a subject. Nwogwugwu (1989) pointed out the need for blending theoretical and practical work in teaching of subjects as to stimulate students interest more especially on vocation technical subjects . the greatest single

factor in teaching learning is the teacher. No technique, no method, no device, no gadget can guarantee success, but only an effective qualified teacher can adequately execute these. (Okafor, 1987). Thus the greatest motivating device yet discovered is the highly motivated teacher of students are to be involved actively in teaching and learning process in a way of projects, field trips, directed field activities etc, note learning and subject centered orientation should be changed to a more practical and child centered out-look. The increase in qualities and quantities of outputs should be primarily due to improvement in the quality of the teacher. It is therefore the trust of this study to explore the influential factors that affects the students on the study of vocational subjects in Nigerian secondary schools.

Problem Statement

Vocational/Technical education subjects ought to attract many students because of its laudable importance but reverse has been the case. the reasons for this probably is due to people's perception that it does not require specialized kind of training. The students have the feeling that even if one is at home at the requisite skills needs to learn have to cook, farm, etc can be acquired without formal training.

People are ignorant of the importance of the vocational subjects which could help males and female students receive formation and be able to work solution to problems. Also, it enables the students to acquire skills, abilities essential for independent life met up with personal and family needs more especially in this economic difficulties.

Purpose of the Study

The study was meant to investigate the influential factors that affects the attitude of the students towards the study of vocational subjects in secondary schools. Specially to:

- (1) determine the influence of student's interest towards the study of vocational/technical subjects.
- (2) Determine the influence quality of the vocational/technical teachers and instruction.
- (3) Determine the influence parental and socio-economic status influence on students choice of vocational/technical subjects.
- (4) Determine the influence of gender in the students choice and enrolment in vocational/technical education.
- (5) Determine if the students are effectively counseled on the choice of vocational subjects.

Research Questions

The following research questions guided the study

- (1) what are the level of students interest in the study of vocational/technical education/subjects.
- (2) What are the influence of teacher qualification on the attitude of vocational/technical subjects.
- (3) What are parents socio-economic status influence on the attitude of students on the study of vocational/technical education/subjects.
- (4) What are the influence of gender/sex on the students choice of vocational/technical education/subjects.
- (5) What are the influence of guidance counselor on the students attitude towards the study of vocational/technical education/subjects.

Methodology

Research Designing

The study made use of descriptive survey research design. The design was suitable for the study since the data were collected through questionnaire from students SSII and SSIII students for their attitude towards the study of vocational/technical education/subjects in secondary schools.

Areas of the study:

The study was carried out in Abia state of Nigeria, comprising five (5) educational zones. The zones are Umuahia, Ohafia, Ugwunabo, Aba south and Aba north. Abia state has schools that study Vocational/Technical education/subjects.

Population of the Study

The population for this study comprised of all the SSIII students in all the Government owned senior secondary schools in Abia State that are offering vocational/technical education subjects.

Sampling and Sampling Techniques of the Study

The sampling technique adopted in this study was the simple random sampling. This was achieved through the application of the table of random numbers.

A sample of five (5) secondary schools were randomly chosen from the educational zones. The level of students chosen were SSIII students. This was because it was perceived that the students have been more exposed to the study of some of the vocational/technical subjects. Thus, a total of 100 students were chosen as the sample size.

Instrument for Data Collection

The instrument used was a structured questionnaire used to collect data for the study. The items were generated based on the information gathered from the purpose of the study. The instrument used a four-point likert-type scale for rating the response options strongly Agreed (SA) Agree(A), Strong Disagree (SD) and Disagree (D) as well as numerical values of 4,3,2 and 1 respectively. For decisions to be made the mean of the scaling point was computed as

$$\frac{4+3+2+1}{4} = 2.5$$

Therefore, response with means 2.5 and above was regarded as agree while mean less than 2.5 would be disagree.

Validation and Reliability of Instrument

The instrument was subjected to face validation by three experts from department of Home economics, federal college of education Umunze. The reliability of the instrument was established using Pearsons' product-moment correlation coefficient formular to find out the internal consistency of the validated instruments.

Data Collection

The instrument was administered to the respondents by the researcher and five research assistance that were employed by the researcher, one from each of the educational zones of Abia state. One hundred copies of the questionnaire were administered and returned.

Data Analysis

The data collected for the study were analyzed using mean and Grand mean to answer the questions.

Results

Table 1: mean ratings of the response of the students level of interest in the study of vocational/technical subjects.

S/N	Items	SA	A	SD	D	EFX	F	X	EX	Remark
(1)	Vocational/ technical subjects	172	105	30	7	3.14	100	3.14	2.85	Agreed
(2)	students interest are sustained thought the lesson period.	136	117	28	13	2.94	294	100	2.94	Agreed
(3)	The number of students that study vocational subjects are very few.	136	102	28	13	2.79	279	100	2.79	Agreed
(4)	Practical in vocational subjects area quite interesting and fascinating.	140	70	24	20	2.54	254	100	2.54	Agreed
Grand mean = Ex = 2.85.										

Table 1 above shows that all the items that could make students develop interest in the study of vocational/technical subjects recorded will above the acceptable level of 2.5. this indicates that almost all the items are high level of interest.

Table 11 means rating of the response of students on Vocational/Technical subject teachers and instructions.

Items	SA	A	SD	D	EFX	F	X	EX	Remark
(1) there are adequate trained vocational subject teacher & instructor.	40	87	86	31	244	100	2.44	2.44	disagree
(2) vocational subject teachers are not committed teachers	72	54	58	31	215	100	2.15		disagree
(3) the teachers teach well with the right method of teaching.	44	30	106	26	206	100	2.6		disagreed
(4) the teacher carryout the practical of vocational/technical subject with much interest and mastery.	92	54	64	24	232	100	2.32		disagreed

From table 2 above, it was shown that all the items contained mean response below the acceptable level of 2.5. which indicates that all the items are factors study of vocational/technical subjects.

Table 111. the mean rating of the response on parental socio-economic status influence on students choice of vocational/technical subjects.

S/W items	SA	A	SD	D	EFX	F	X	EX	Remark
(1) my parents are educated	212	60	36	9	317	100	3.17		agreed
(2) your parents would want you to take up any of the vocational/technical subjects as a career	80	93	40	25	238	100	2.38	2.81	disagreed
(3) My parents react negatively to my study of vocational/technical subjects	108	114	38	14	274	100	2.74		agreed
(4) parents see vocational/technical subjects as the subjects for children from poor parents.	140	123	26	9	298	100	2.98		Agreed

$$\bar{E} X = 2.81.$$

Table IV- means rating of the response on the role of gender in enrolment in the study of vocational/technical subjects

S/N items	SA	A	SD	D	EFX	F	X	EX	Remark
(1) the number of boys that enroll in the study of vocational /technical subjects are greater than girls.	212	60	39	9	317	100	2.73		Agreed
(2) Vocational subject like Home economics are for girls alone	108	108	42	15	273	100	2.73		Agreed
(3) Boys want to study core sciences than vocational subjects	76	42	76	27	221	100	2.21		Disagreed
(4) Boys and girls that study vocational subjects are equal.	36	39	82	35	192	100	1.92		„ „

$$EX = 2.50$$

The above table indicates that gender one of the factors that influences the study of vocational subjects this was because the items in the table recorded an equal Agreed and disagreed as a factor of influence.

Table V- mean rating of the response on the extent the students were counseled to the study of vocational/technical subjects.

S/N items	SA	A	SD	D	EFX	F	X	EX	Remark
(1) There is a guidance counsellor in the school.	104	54	70	21	49	100	2.49	2.49	disagreed
(2) students are counseled on the study of vocational/technical									

subjects and others.	60	63	72	26	221	100	2.21	'' ''
(3) counsellors have counseled students to study vocational/technical education because they are skillful.							9.1	
(4) students were counseled negatively on the choice of vocational subjects because of their lack of interest.	80	60	66	27	233	10	2.33	'' ''
	52	54	66	35	207	100	2.07	'' ''
							EX = 9.1	

The result of the items in the above table showed that guidance counselors were shorting in most of the schools and this influences the attitude of the students towards the study of vocational subjects.

Discussion

The findings of the study revealed that factors of the items presented for analysis where proved to be factors that could influence the attitude of students towards the study of vocational/technical subjects. The level of the interest of the students in the study of vocational/technical subjects are high because the students interest were aroused through the practical/workshops that were being carried out in the class/laboratory. But despite the fact the level of interest of the students are high, still the number of students that study vocational/technical subjects were still very few. This was as a result of other factors treated below.

The study also agreed that parent socio-economic status could make student develop a negative attitude towards the study of vocational/technical subjects. It was observed that those children the parents are educated would not want to study vocational/technical subjects.

Mkpa (1986) opined that the family into which a child is born exerts a profound influence on the child's career, because his occupational life is conditioned by the child education which depends to a considerable extents on the family. Also the position of the parent in one society sometime influence students interest in the study of vocational/technical subjects. Whereas some illiterate parents do not consider any subject/course were important then the other and the student from such parents could not be influenced to choose any particular course of study.

The findings also indicates that gender was one of the factors that influence the study of vocational/technical subjects. Even when a boy would want to study vocational subjects like agriculture, Arts etc. he would still not want to study Home economics.

The finding of the study also revealed that another factor that influence the study of vocational subject in secondary schools was shortage or absence of guidance counselors in one schools. This was because most schools do not have guidance and counselors as a result most of the students that are skillful and have the abilities for the vocational/Technical subjects were not counseled to study subjects that they would do better in. if study of vocational/Technical subjects, there would be a change in the students attitude towards that.

Conclusion

Based on the findings, it was observed that the factors that influence the attitude of subjects towards the study of vocational subjects are interest, shortage of teachers and instructions, parental socio-economic status, gender and shortage of guidance and counselors in secondary schools. Since vocational/Technical education is the development of skills, knowledge, abilities and behaviour necessary for entry into or advancement in a specific occupation, students should be properly integrated into it to enable the students acquire the basic knowledge of vocational/Technical subjects. The issue now is in the direction of self

reliance and national development which, incidentally are twins in womb of vocational/technical education, we will only mature the mother as to receive the babies.

Recommendation

It is recommended that, teachers, students, parents, school administrators and indeed the entire public should have of attitude in favour of vocational/Technical education. It is not for the poor or down trodden, it is for people whose talent and abilities are in the area of manipulative skills leading to technology transformation of Nigerian society.

Parents and relatives should stop discouraging students work towards vocational/Technical education as a careers. Consequently, there should be provision of more funds required for the procurement and installation of machines, and equipment, supply of furniture and fittings, construction of workshop and laboratories and provision of special incentives for vocational teachers in our secondary schools.

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An Integral Approach for Computation of Cost-Benefit and Returns to Investment in Education

Etukudo, Udobia Elijah

*Mathematics Department,
Federal College of Education (Technical), Omoku, Rivers State, Nigeria*

Nwokocha, Azubuike C.

*Michael Okpara University of Agriculture,
Umudike-Umuahia, Nigeria*

Abstract The formulae for computation of cost benefit and return to investment in education given respectively as (2.1) for PV (present value of returns to investment in education) and (2.2) NPV (net present value of returns to investment in education) are reduced to integral form and $(1 + r)^t$ transformed to exponential and logarithmic functions, and simple straight forward formulae proffered for the calculation of PV and NPV.

Keywords: Integral Approach; Cost-Benefit; Returns; Investment; Education

Introduction

The computation of wages returns to investment in education is an important aspect of educational administration which is aimed at determining if the many years spent in school is worthwhile or profitable to the learner in comparable terms when viewed in relation to the alternative of involvement in working or wages earning engagement. Marglin (1963) proposed two alternative rate for estimation of private investments education namely: Social opportunity cost of public investment (displaces private investment) and social time preference of public investment – displaces social time preference.

The computation of return to investment was done with serious uncertainties and errors until a clear picture given by the work of Mincer (1974) avail scholars the opportunity for easy computation of the returns to education. Mincer (1974) created a simple function which made wages a function of the years of education followed by individuals thereby making it possible to estimate the interest one could be earned on investment in education. Romer (1990) pinpointed that these returns are essential for estimation of the possibility of implementing, and developing of new technologies for the purposes of long term economic growth. Barro and Sala-i-Martins (2004) considered human capitals based on these theories as laudable and vital goods which aid the implementation of new technology. This places the returns to education on the industrial parlance as a detector of the supply of skilled labour (Nelson and Phelps, 1966; Welch 1970; Acemoglu, 1998). The rating of returns to education as a very valuable instrument of determining the economic growth of a nation in terms of its importance in supply of labour – skilled labour also held by economic historians (Ravallion and Datt, 2002; Zanden, 2004).

Considering the importance of the returns to economics and social developments, it is therefore very important to provide clear and simple formula which can be used in estimating the returns and cost-benefits.

Existing Formulae

The following two formulae are popularly used in estimating returns to education (Aromolaran, 2002 and Mincer, 1974).

$$PV = \sum_{t=s+1}^T (W_{st} - W_{ot})(1+r)^{-t} - \sum_{t=1}^S W_{ot}(1+r)^{-t} \dots \dots (2.1)$$

$$NPV = \sum_{t=s+1}^T (W_{st} - W_{ot})(1+r)^{-t} - \sum_{t=1}^S (W_{ot} + c)(1+r)^{-t} \dots \dots (2.2)$$

In the formulae W_{st} represents present wages, W_{ot} wages before schooling, c cost of schooling, r rate of returns or discounting rate, S , T total number of working years after schooling and t is the age of the person (individual). PV represents the individual's present capital value while NPV stands for the individual's Net present capital value.

With formulae the estimation is supposed to be done one after the other, year by year and summed up for a particular person. The summation will then cover the number of years the person has put in, in the labour market. This may be time consuming and labourious.

Modification of the Formulae

The modification of the formulae is achieved by transformation of $(1+r)^{-t}$ to exponential form and then logarithmic form. Consider the expressions below:

Let $(1+r)^{-t} = e^{-nt}$
 then $\log_e(1+r)^{-t} = \log_e e^{-nt}$
 hence $-t \log_e(1+r) = -nt \log_e e$
 $-t \log_e(1+r) = -nt$
 and $\log_e(1+r) = n$
 $n = \ln(1+r)$
 $(1+r)^{-t} = e^{-t \ln(1+r)}$

As a result PV can now be presented as

$$PV = \sum_{t=s+1}^T (W_{st} - W_{ot})e^{-t \ln(1+r)} - \sum_{t=1}^S W_{ot}e^{-t \ln(1+r)} \dots \dots (2.3)$$

while

$$NPV = \sum_{t=s+1}^T (W_{st} - W_{ot})e^{-t \ln(1+r)} - \sum_{t=1}^S (W_{ot} + c)e^{-t \ln(1+r)} \dots \dots (2.4)$$

Considering integration as sum, then

$$PV = (W_{st} - W_{ot}) \int_{s+1}^T e^{-t \ln(1+r)} dt - W_{ot} \int_1^S e^{-t \ln(1+r)} dt \dots \dots (2.5)$$

$$NPV = (W_{st} - W_{ot}) \int_{s+1}^T e^{-t \ln(1+r)} dt - (W_{ot} + c) \int_1^S e^{-t \ln(1+r)} dt \dots \dots (2.6)$$

Equation (2.5) gives PV in integral form while (2.6) presents NPV , gives method of integration for the calculation of NPV .

The formulae can further be represented as

$$PV = p \int_{s+1}^T e^{-t \ln(1+r)} dt - q \int_1^S e^{-t \ln(1+r)} dt \quad \dots \quad (2.7)$$

$$NPV = p \int_{s+1}^T e^{-t \ln(1+r)} dt - k \int_1^S e^{-t \ln(1+r)} dt \quad \dots \quad (2.8)$$

where $p = W_{st} - W_{ot}$
 $q = W_{ot}$
 $k = W_{ot} + C = q + C$
 since $n = \ln(1+r)$

then

$$PV = p \int_{s+1}^T e^{-nt} dt - q \int_1^S e^{-nt} dt \quad \dots \quad (2.9)$$

$$NPV = p \int_{s+1}^T e^{-nt} dt - k \int_1^S e^{-nt} dt \quad \dots \quad (2.10)$$

Hence, equations (2.7) and (2.9) give the formulae for computing the individual's present capital value of rewards or cost- benefit to education while (2.8) and (2.10) give the formulae for calculating the net present capital value of the rewards or cost-benefit to education using method of integration.

Analytical Outcome

The integral

$$\int_{s+1}^T e^{-nt} dt = \frac{e^{-nT} - e^{-n(S+1)}}{ne^{-n(T+S+1)}} \quad \dots \quad (2.11)$$

while the integral

$$\int_1^S e^{-nt} dt = \frac{e^{-n(S-1)} - 1}{ne^{-nS}} \quad \dots \quad (2.12)$$

Utilizing the equations (2.11) and (2.12) , the PV and NPV are given as:

$$PV = p \left[\frac{e^{-nT} - e^{-n(S+1)}}{ne^{-n(T+S+1)}} \right] - q \left[\frac{e^{-n(S-1)} - 1}{ne^{-nS}} \right] \quad \dots \quad (2.13)$$

while

$$NPV = p \left[\frac{e^{-nT} - e^{-n(S+1)}}{ne^{-n(T+S+1)}} \right] - k \left[\frac{e^{-n(S-1)} - 1}{ne^{-nS}} \right] \quad \dots \quad (2.14)$$

The integral

$$\int_{S+1}^T e^{-nt} dt = \frac{e^{-nT} - e^{-n(S+1)}}{ne^{n(T+S+1)}} \quad (2.11)$$

while the integral

$$\int_1^S e^{-nt} dt = \frac{e^{-n(S-1)} - 1}{ne^{nS}} \quad (2.12)$$

Utilizing the equations (2.11) and (2.12) , the PV and NPV are given as:

$$PV = p \left[\frac{e^{-nT} - e^{-n(S+1)}}{ne^{n(T+S+1)}} \right] q \left[\frac{e^{-n(S-1)} - 1}{ne^{nS}} \right] \quad (2.13)$$

while

$$NPV = p \left[\frac{e^{-nT} - e^{-n(S+1)}}{ne^{n(T+S+1)}} \right] k \left[\frac{e^{-n(S-1)} - 1}{ne^{nS}} \right] \quad (2.14)$$

Thus 2.13 and 2.14 offer direct formulae extracted from method of integration for computation of PV and NPV with ease. As reminiscence, the constants in the formulae are defined as follows:

- p = $W_{st} - W_{ot}$
- q = W_{ot}
- k = $W_{ot} + C$
- n = $1 + r$

s,T,t,r, Wot, Wst and C are as been defined earlier in which case

- S = Duration of schooling (years in school)
- T = Number of working years (years on employment)
- t = Age of the individual
- r = Discounting rate or rate of returns
- C = Cost of schooling
- W_{ot} = Salary (wages) before schooling
- W_{st} = Salary (wages) after schooling

The figures can be collected from interview and with the help of questionnaire or individuals' work file.

Bases for Modification to Integral and Alternative Formulae

The fundamental reasons for the modification of the formulae for computing the PV in equation (2.1) and the NPV in equation (2.2) are basically that integral

$$\int_a^b ydx = \int_a^b f(x)dx$$

can be expressed as a sum and that

$$(1 + r)^{-t} = e^{-nt}$$

where $n = \log_e(1 + r)$

and $(1 + r)^{-t} = e^{-t \ln(1+r)}$

is continuous, as such integrable. Consider the definition of the values given thus:

let Y be a function $\theta(x)$ of x and suppose that the range from $x = a$ to $x = b$ is divided into n equal sub-ranges each of width δx . Let $Y_1, Y_2, Y_3, \dots, Y_n$ be the values of Y at the middle points of each sub-range. The arithmetic mean of those n values of Y is

$$\frac{(Y_1 + Y_2 + Y_3 + \dots + Y_n)}{n}$$

Since $n\delta x = b - a$, this can be

$$\frac{(Y_1 + Y_2 + Y_3 + \dots + Y_n)\delta x}{b - a}$$

If as $n \rightarrow \infty$ or $\delta x \rightarrow 0$ the expression has a limiting value, the limit is

$$\frac{\int_a^b y \, dx}{b - a}$$

and this called mean value (see Tranter, 1978). Going by the above

$$\sum_{t=s+1}^T (W_{st} - W_{ot})(1+r)^{-t} \quad \text{and}$$

$$\sum_{t=1}^s (W_{ot} + c)(1+r)^{-t}$$

are justifiable integrable with the given limits. For obvious reason $(1+r)^{-t}$ is a continuous function and can be integrated, since $r =$ discounting rate or rate of returns is always > 0 , hence the adoption of the method of integration.

Analytical Comparison

Considering wages before schooling W_{ot} of N200000.00 per annum; wages after schooling W_{st} of N1200000.00 per annum; duration of schooling of four (4) years; rate of returns, r of 0.2 or 20%; and cost of schooling of N50,000.00 the PV and NPV are computed as

$$(a) \quad PV = \sum_{t=s+1}^T (W_{st} - W_{ot})(1+r)^{-t} - \sum_{t=1}^S W_{ot}(1+r)^{-t}$$

$$(b) \quad PV = p \left[\frac{e^{nT} - e^{n(S+1)}}{ne^{n(T+S+1)}} \right] - q \left[\frac{e^{n(S-1)} - 1}{ne^{nS}} \right]$$

$$(c) \quad NPV = \sum_{t=s+1}^T (W_{st} - W_{ot})(1+r)^{-t} - \sum_{t=1}^S (W_{ot} + c)(1+r)^{-t}$$

$$(d) \quad NPV = p \left[\frac{e^{nT} - e^{n(S+1)}}{ne^{n(T+S+1)}} \right] - k \left[\frac{e^{n(S-1)} - 1}{ne^{nS}} \right]$$

Gives PV of N220000.00 and NPV of N90000.00 approximately for $T = 7$. Hence the methods are reliable, only that formulae (a) and (c) are tedious and time consuming especially when larger values of T are involve. This make (b) and (d) preferable.

Conclusion

Considering the importance of cost-benefit and return to education in national and individual planning as well as educational administration, policies and decision making, it is pertinent to avail to quiescence formulae and methods for computation that can be clearly understood and easily used by all stakeholders. In this light, the method of integration and the alternative formulae given above are offered by this paper. They will be of immense help to those who care to calculate the cost benefit and returns to investments in education.

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Geography, Gender and Money Profits in Sudanese General Private Education: The Example of Khartoum State

Samir Mohamed Ali Hassan Alredaisy

Faculty of Education,
University of Khartoum, 406 Omdurman Sudan

Abstract The objective of this paper was to investigate general private education in Sudan with the main focus on the geography, gender and money profits in Khartoum state based on fieldwork and data published by Administration of Non Governmental Education of Khartoum state in 2011. Results depict that private education contribute by 41.7% in the total number of schools in the state. In number of schools in basic education, private schools hold 35.7% while in secondary education it holds 58.1%. There are statistical significant difference into distribution of private secondary schools by locality and there is less dispersion into secondary schools compared to basic schools. There is no compliance into school numbering by locality in private basic and secondary education. the calculated value of chi-square for private secondary schools is less than the private basic schools indicating to less dispersion into secondary schools compared to basic schools. Rank Spearman's correlation value of -0.4 and Kendal's of -0.5 depict to distribution of number of private basic schools as not to be necessarily correlated with number of private secondary schools. From the total number of basic private students males constitute 53.7% and females 46.3% which gives 7.4% excess males. In gender concerns, there is 7.4% excess males. There is significant statistical difference between numbers of males and females in private basic education while there is no statistical significant difference between both sex in private secondary education. There appears to be close correspondence between number of schools and number of students in basic private education contrary to private secondary education. Private education employs 14.33% of teachers involved in basic education and 13.92% of teachers involved in secondary education. Male teachers dominate private secondary education and almost equal to female teachers in basic private education. The total net income of private education is estimated as 39.4% of the total annual income. The author suggests some strategies to recruit government free education to decelerate private schooling to exclude poor Sudanese to save payment on private education to meet the increasing basic life demands in situation of increasing inflation.

Keywords: private education, government education, geography, gender, urban poor, investment

Introduction

Societies are aware that scientific progress, socioeconomic and political achievements are products of educational systems. Therefore, demand for education is increasing worldwide where for example it is projected that higher education will expand from 97 million students in 2000 to 262 million students in 2025 (Apollogrp.2011). In sub Saharan Africa, a large number of children remain out of school and for those who do enroll, less than half complete the primary education (Johnson,2008). There are problems with access to education, quality of learning opportunities and learning outcomes which are unevenly spread geographically, by economic status and by gender. However, efforts to expand secondary and tertiary education is a challenge for all countries in sub-Saharan region (Alain, et al.2010). Enrollments in primary schools grew more than six-fold between 1960 and 2000, and secondary education expanded even more rapidly. Between 1960 and 1989 the number of children in primary schools increased from 12 million to almost 61 million in Africa south of the Sahara and secondary enrolment jumped from almost 800,000 to 12 million (Encyclopedia of African History.2009). This trend continued where from 2000 through to 2008, the number of children enrolled in primary school in sub-Saharan Africa grew from 87 million in to 129 million which represents an increase by 48% (UNESCO, 2011). Overall, enrollment in secondary education is rising in sub-Saharan Africa from 20.6 million in 1999 to 32.6 million in 2006. However, despite this significant trend, the average secondary in sub-Saharan Africa was 25% in 2006. This implies that nearly 78 million of the region's secondary school-age children were not enrolled in secondary school (UNESCO, 2009).

Concerning gender in education, statistics show that for the school year ending in 2005, the median

transition rate from primary to secondary was 62% which was noticeably lower for girls (57%) than for boys (66%) (UNESCO, 2009). Girls' limited access to school is of particular concern in sub-Saharan Africa where in 2006, they accounted for 54% of primary school-age children not in school in the region and 72% of them have never been enrolled compared with 55% for boys (OECD, 2011). In addition, the countries of sub-Saharan Africa combined spend 5.0 percent of their GDP on education, the second highest value after north America and western Europe, where 5.3 percent of the regional GDP is spent on the education sector (UNESCO, 2011).

In sub-Saharan Africa, including Sudan, education system reflect differences in geography, cultural heritage, colonial history, and economic development progress (State University, 2011). Generally, there are two main types of general education in sub-Saharan Africa, governmental and non-governmental or private education. Private school is defined as that school which is not administered by local, state or national governments and are funded in whole or in part by charging their students tuition, rather than relying on government funding (Wikipedia, 2001). However, factors driving the growth in private education in sub-Saharan Africa include demography, unmet and imbalanced demand and supply of education and decline in public funding (Apollogrp.2011). On the contrary, Americans choose private education for their children because of quality academics, a safe and orderly environment, moral and ethical values, caring teachers, supportive communities (CAPE.2010).

- The modern education system in Sudan was inherited from the British who governed Sudan from 1898 to 1956. When Gordon College opened in 1902 as the next step for the first intermediate and secondary schools (State University,2011). The general educational system spanned 12 schooling years distributed as 4 junior or primary school, 4 intermediate school and 4 secondary school. At independence in 1956, education accounted for only 15.5 percent of the Sudanese budget to support 1,778 primary schools, 108 intermediate schools and 49 government secondary schools with 22.9 percent adult literacy rate (U.S.Library.2011).

In 1969, Nimeiri government considered the education system as inadequate for the needs of social and economic development and largely reorganized the education system by the late 1970s. The basic system consisted of a six-year curriculum in primary schools and three-year curriculum in junior secondary schools and then qualified students could go on to one of three kinds of schools, the three-year upper secondary, which prepared students for higher education; commercial and agricultural technical schools; and teacher-training secondary schools designed to prepare primary-school teachers. In the early 1980s, the number of junior or general secondary schools was a little more than one-fifth the number of primary schools, a proportion roughly consistent with that of general secondary to primary-school population. There were only 190 upper-secondary schools in the public system in 1980, but it was at this level that private schools of varying quality proliferated, particularly in the three cities of the Khartoum capital area (U.S.Library,2011). Elite schools could recruit students who had selected them as a first choice, but the others took students whose examination results at the end of junior secondary school did not gain them entry to the government's upper secondary schools. Schools tended to be clustered in the vicinity of Khartoum and to a lesser extent in other urban areas, although the population was predominantly rural. This concentration was found at all levels but was most marked for those in situations beyond the four-year primary schools. By 1990, education system is further reorganized into 8 basic and 3 secondary schooling years. Private schooling has grown rapidly in Sudan following the new economic policies of lifting complete government subsidy to service sectors including education.

The main objective of this paper is to examine geographic distribution, gender and money profits of general private education by taking Khartoum state as an example in order to outline future prospects in lights of rising population and modernization trends. The paper recommends some suggestions some to enhance government education.

Data and Methodology

Khartoum state is located between 15°47' N 32°43' E and consists of the three major town in Sudan, Khartoum, Omdurman and Khartoum north. They are call altogether Greater Khartoum. Khartoum lies between the Blue Nile in the north & the White Nile in the west. Khartoum north started on the fringe of the right bank of the Blue Nile on a small strip (Gleichen 1905) and extended northwards and north-eastwards. Omdurman surrounded by the desert in the west & south, Sabalouqa mountains from the north, and the River Nile from the east, developed as a narrow strip along the River Nile centred on the Imam Mahadi Tomb (Abu Saliem 1970) and extended northwards, southwards, westwards and north-westwards. Such developments are related to population natural increase and rural- urban migration. Administratively, Khartoum state is divided into seven localities. Khartoum includes Khartoum and Jebel Awlia localities. Omdurman includes Omdurman, Umm Bedda and Karary localities while Khartoum north includes Bahri and East Nile localities (Fig.1). Localities are further subdivided into administrative units. Within these localities, government and private schools are distributed according to population density and demand for education.

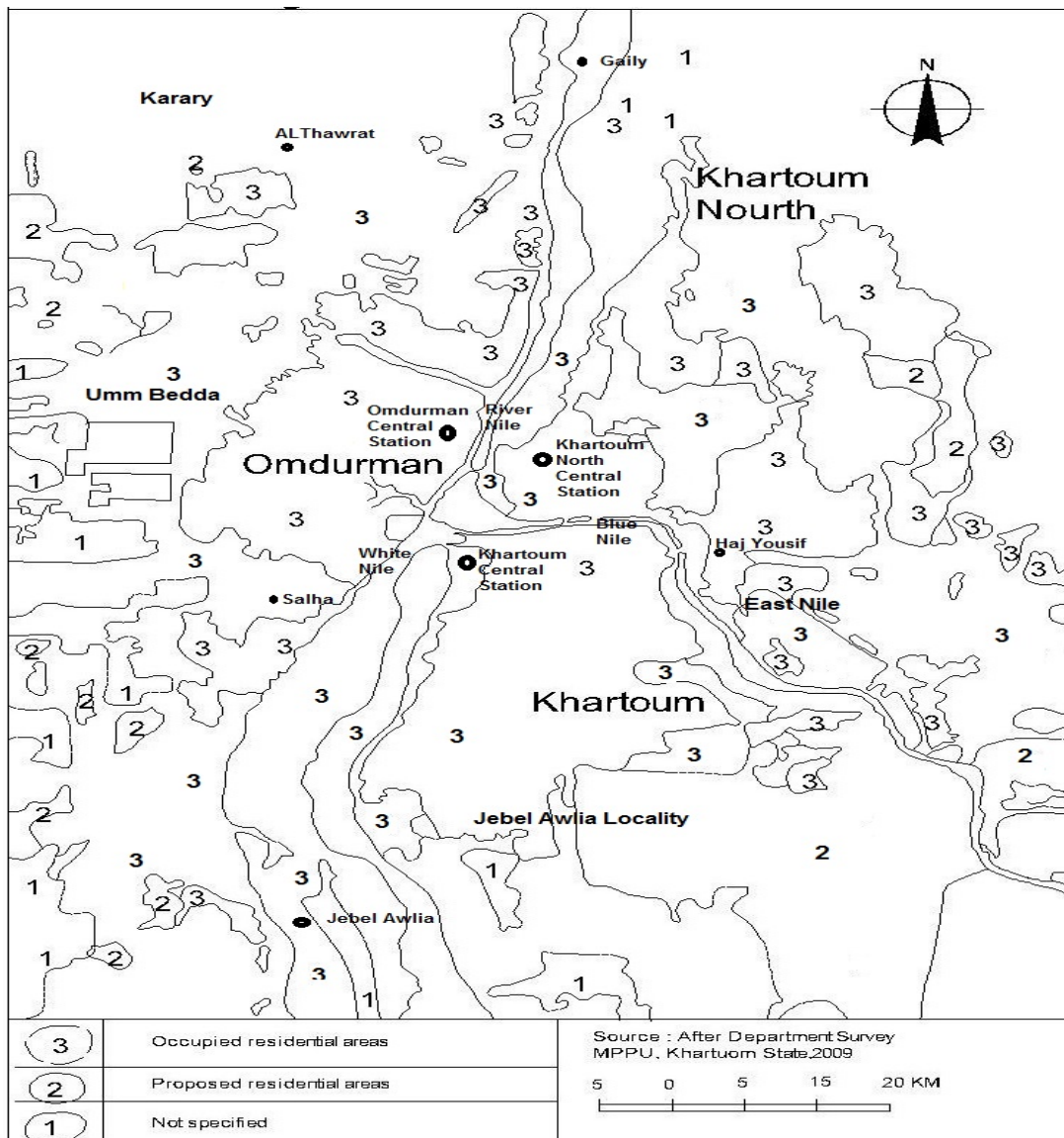


Fig.1. Khartoum state location and localities

Data on number of private schooling, students and teachers are collected from Administration of Private Schools, Ministry of Education, Khartoum state. The available data did not classify schools by gender. School academic tuitions, expenditure on teachers and supporting services as well as maintenance were collected through fieldwork during 2-9 June 2011 into the each locality of Khartoum state. Each locality is divided into three parts, northern, central and southern. Number of private schools were counted in each section. Putting into consideration differences into type of residential areas which consequently vary into peoples' income, selection of schools is done randomly. Field visits were executed while for remote private schools difficult to access, telephone is used.

The collected data was treated statistically. Percents, ranges and means measures are used where appropriate. Spearman's rank correlation is used where the formula $r = 1 - 6 \sum d^2 / N(N^2 - 1)$ is applied. For Kendall's coefficient, the formula used $X/2 N(N-1)$ is used after following the procedure of ranking and summations. The T-test is used for comparison on mean number of males and females in private basic education. The formula : $T = \frac{x - y}{\text{Square root of } (\frac{\sum x^2}{N_x} - \frac{x^2}{N_x} - 1 + (\frac{\sum y^2}{N_y} - \frac{y^2}{N_y} - 1))}$ is used under two-tailed 0.05 significance level. If the calculated t - value is bigger than the critical value, the null hypothesis will be rejected under the specified significance level. The chi-square test formula : $\chi^2 = \frac{(A-B)^2}{B}$ is applied for measuring dispersion or concentration of some variables investigated

Share of teachers from total income by private schools is estimated by multiplying total number of teachers by 700 Sudanese Guinea (estimated monthly income per teacher) by 9 months (actual payment since private schools do not pay to teachers during school vacation). Government annual tax cut 2.5%. Expenditure for renting the building is estimated for 75% of private schools while the remaining 25% own their schools buildings. It is estimated as 5% from the total income. Expenditure on supporting services including water, electricity is estimated to cut 5% from total income and similarly annual maintenance cost of buildings, furniture and others relevant needs. Total net annual income by private education is calculated in USD based on 2.5 Sudanese Guinea exchange rate equivalent to USD.

Results

1- Geographic Distribution of Private Schools

The total number of basic and secondary schools in Khartoum state is 3516. There are 1651 government basic school (46.9%) ; 915 private basic school (26%); 398 government secondary school (11.3%) and 552 private secondary school (15.8%). This gives 2566 basic school (72.9%) and 950 secondary school (27.1%) in whole the state. Private education sector share is 1467 school representing 41.8% of the total number of schools in the state while government education sector share is 58.2%. This depicts that, difference between number of governmental and private schools is 16.6% confirming substantially contribution by private sector into schooling in Khartoum state. Private sector contribute into number of basic schools by 35.7% while government sector contribute by 64.3%. In secondary education, private sector contribute by 58.1% into number of secondary schools and government education sector by 41.9%. By that way, number of private secondary schools exceed governmental ones by 16.2%.

Government and private basic and secondary schools are distributed geographically by localities of the state (Fig.2). In Khartoum locality, out of 375 basic school, there are 195 private ones (52%) and in secondary schooling private sector share by 30.2% (51 out of 169). In Jebel Awlia locality, basic private schooling participate by 28.4% (108 out of 380) and private secondary schooling contribute by 67.2% (86 out of 128).

In Omdurman locality basic private schools contribute by 45% (135 out of 300) and private secondary schools by 50.7% (70 out of 138). Basic private schools contribute by 35% (121 out of 346) In Karary locality and private secondary schools by 56.6% (60 out of 106). In Umm Bedda locality, basic private schools contribute by 27.5% (94 out of 342) and private secondary schools by 73.6% (81 out of 110). Basic private

schools contribute by 40.3% (146 out of 362) in Bahri locality and by 53.2% in secondary schools (83 out of 156). In east Nile locality, basic private schools contribute by 25.2% (116 out of 460) and in private secondary schools by 37.8% (54 out of 143).

Ranking localities by percent of basic private schooling puts Khartoum locality first then Omdurman, Bahri, Karary, Jebel Awlia, Umm Bedda and East Nile localities respectively. In private secondary schooling Umm Bedda locality ranks first and then Jebel Awlia, Karary, Bahri, Omdurman, East Nile and Khartoum localities respectively. There is no compliance into school numbering by locality in private basic and secondary education. Rank correlation by Spearman's and Kendal's gave - 0.4 for the first and - 0.5 for the second (table 1). Distribution of number of private basic schools is not necessarily correlated with distribution of number of private secondary schools. That is to say, if there is excess number of private basic schools in one locality that does not necessarily mean there should be similar excess number in private secondary schools.

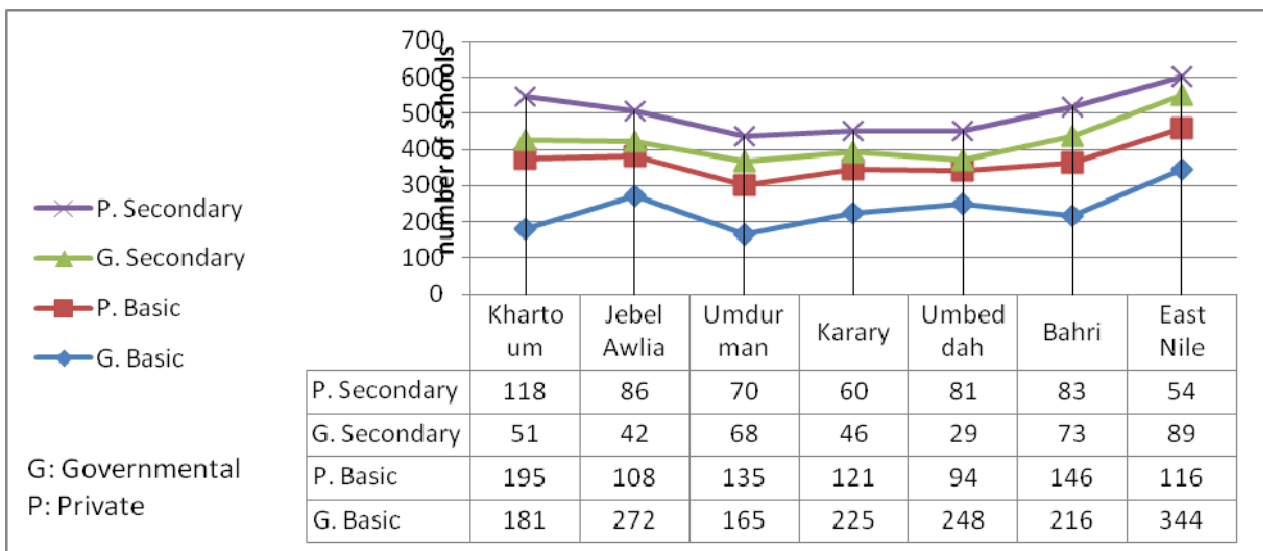


Fig. 2. Geographic distribution of Basic and secondary governmental and private schools by locality

The chi-square test is used to test degree of concentration or dispersion of private basic schools by the state's localities. The calculated value of chi-square is 50.15 and with 6 degrees of freedom under 0.01 significance level gives a critical value of 16.81 which is less than the calculated value. This means that there are statistical significant difference into distribution of private basic schools by localities of the state. There is more concentration of private basic schools in some localities than others. This is clearly shown by Khartoum locality which holds 195 private basic school while Umm Bedda holds 94 by excess of 101 school which is more than double. For private secondary schools, the calculated chi-square value is 33.61 and the critical value with 6 degree of freedom under 0.01 significance level is 16.81 which is less than the calculated value. This means that there are statistical significant difference into distribution of private secondary schools by locality. There is more concentration of private secondary schools in some localities than others. This is clearly shown by Khartoum locality which holds 118 private secondary school while East Nile holds 54 by excess of 64 school which is more than double. However, it is noticed that the calculated value of chi-square for private secondary schools is less than the private basic schools. This might indicate to less dispersion into secondary schools compared to basic schools.

Table 1. Rank correlation by Spearman's and Kendal's for private basic and secondary schools by locality in Khartoum state

locality	Ranking by number of private basic schools	Ranking by number of private secondary schools	Difference	Difference ²	Score due to ranking	ΣScores
Khartoum	1	7	6	36	-6	-6
Omdurman	2	5	3	9	-4 + (+1)	-3
Bahri	3	4	1	1	-3 + (+1)	-2
Karary	4	3	1	1	-2 + (+1)	-1
Jebel Awlia	5	2	3	9	-1 + (+1)	0
Umm Bedda	6	1	5	25	+1	+1
East Nile	7	6	1	1	0	0
total				82	-	-11
Spearman's rank correlation: $r = 1 - \frac{6 \sum d^2}{7(7^2-1)} = 1 - \frac{492}{336} = 1 - 1.4 = -0.4$			Kendal's coefficient: $\frac{11}{1/2 \cdot 7(7-1)} = -\frac{11}{21} = -0.5$			

2- Geographic Distribution of Private Schools' Students

General government and private education in Khartoum state enroll 1,002,556 student. They are distributed as 880,774 basic education students (79.9%) and 201,782 secondary education students (20.1%). Private schools students amount to 12.7% in basic schooling and 26% in secondary schooling. Taking the total number of students in private basic education by place (locality) distribution, Khartoum ranks first followed by Bahri; Omdurman; Jebel Awlia; Umm Bedda; East Nile and Karay respectively (Fig.3).

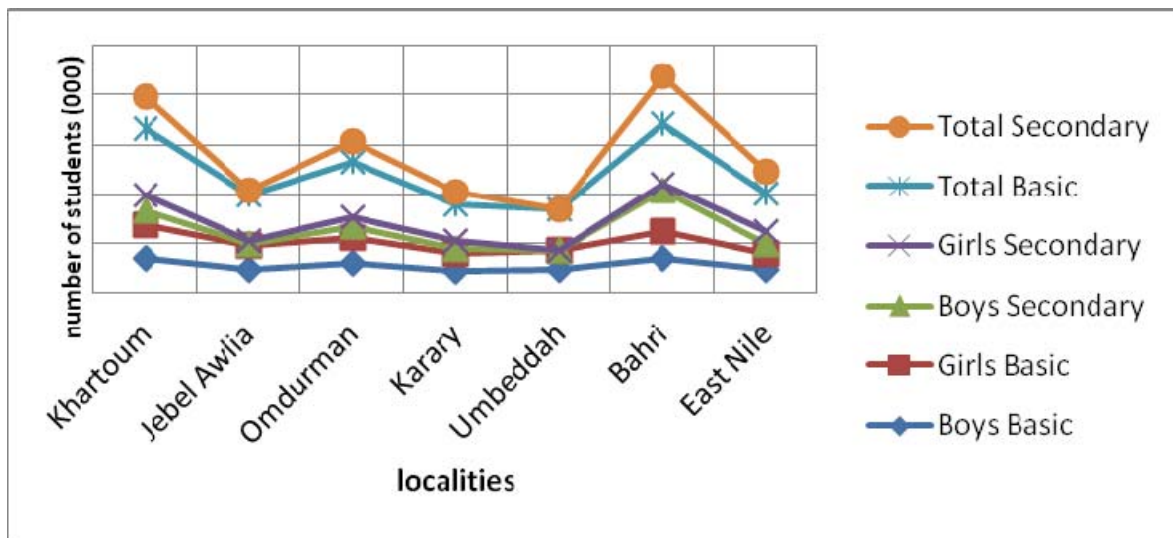


Fig. 3. Geographic distribution of private basic and secondary schools' students by locality

Concerning distribution of total number of students in private secondary schools, Bahri ranks first and followed by Khartoum; East Nile; Omdurman; Karary and then Jebel Awlia while no data is available for Umm Bedda (Fig.3). Ranking localities by number of basic private schools and by number of private basic students puts Khartoum locality first in both. Omdurman locality retreated from rank 2 to rank 3; Bahri advanced from rank 3 to rank 2; Karary retreated from rank 4 to rank 7 while Jebel Awlia advanced from rank 5 to rank 4 and similarly Umm Bedda from rank 6 to rank 5 and East Nile from rank 7 to rank 6. There is progress or retreat

by only one rank which means that there might be close association between number of private basic schools and theirs' student (Fig.3).

Ranking localities by number of students in private secondary schools, Bahri comes first and then Khartoum; East Nile; Omdurman; Karary and Jebel Awlia while Umm Bedda locality has no relevant data. Although Khartoum ranks 7 into number of private secondary schools it progressed to the second rank into ranking private secondary schools by number of students. Omdurman stepped forward from rank 5 to rank 4; Bahri remarkably from rank 4 to the first rank; Karary lost two ranks by retreating from rank 3 to rank 5; Jebel Awlia sharply retreated from rank 2 to rank 6 and East Nile from rank 7 to rank 3 (Fig.3). This situation differs than that concerned with number of basic schools and their corresponding number of students. There appears to be no association between distribution of private secondary schools and distribution of their students by locality.

3- Gender in General Private Education

From the total number of basic private students which amounts to 140,179 there are 75,224 male (53.7%) and 64,955 female (46.3%) students which gives an excess by 7.4% for males. Distribution of basic private schools male students (Fig.3 and table 2) ranks Khartoum locality first then Bahri; Omdurman; East Nile; Umm Bedda; Jebel Awlia and Karary. On the other side, distribution of basic private female students, ranks Khartoum locality also first then Bahri; Jebel Awlia; Omdurman; Umm Bedda; Karary and East Nile localities. In private male secondary schools students, Bahri comes first then Khartoum; Omdurman; East Nile; Karary and Jebel Awlia. In distribution of private secondary female students, Khartoum locality comes first then East Nile, Omdurman, Karary, Bahri and Jebel Awlia localities.

The range value male students in private basic schools by locality is (7.3%) while for female it is (10.6%). This indicates to more dispersion among females by 3.3%. Using the same measure for private secondary education students, the range value for males is (46.5%) and for females it is (24.9%). This similarly depicts wide geographic dispersion among private secondary male students and big range difference by 21.6% between both sexes (table 2). There is much geographic concentration of private secondary male students in Bahri locality.

Table (2): Distribution of students of private education by percent, locality and by sex

locality	male basic	female basic	total basic	male secondary	female secondary	total secondary
Khartoum	13853 (18.4%)	13083 (20.1%)	16936 (12.1%)	6368 (18.3%)	6452 (29.0%)	12820 (22.5%)
Jebel Awlia	8907 (11.8%)	10135 (15.6%)	19042 (13.6%)	600 (1.7%)	905 (4.1%)	1505 (2.6%)
Omdurman	12035 (15.9%)	9895 (15.2%)	21930 (15.6%)	4788 (13.8%)	4011 (18.1%)	8799 (15.5%)
Karary	8397 (11.1%)	6966 (10.7%)	15363 (10.9%)	2149 (6.2%)	2996 (13.5%)	5145 (9.1%)
Umm Bedda	9224 (12.2%)	7735 (11.9%)	16959 (12.0%)	0	0	0
Bahri	13446 (17.9%)	10939 (16.8%)	24385 (17.4%)	16707 (48.2%)	2858 (12.9%)	19565 (34.5%)
East Nile	9362 (12.4%)	6202 (9.5%)	15564 (11.1%)	4037 (11.6%)	4961 (22.3%)	8998 (15.8%)
Total	75224 (100.0%)	64955 (100.0%)	140179 (100.0%)	34,649 (100.0%)	22,183 (100.0%)	56,832 (100.0)

Testing the difference between number of male and females in private basic and secondary education by locality is run in table (3). The t-test value depicts significant statistical difference between numbers of males and females in private basic education while there is no statistical significant difference between both sex in private secondary education (Table 3).

Figure (4) depicts distribution of students of private basic schools by sex by class by locality. In all localities, the majority of students are concentrated in first year. In all localities, except Khartoum locality, males exceed females. Males exceed females in 1st and 2nd school year in all localities, except Jebel Awlia locality. In 3rd year the same situation is found but Karary locality is similar to Jebel Awlia. In 4th year Jebel Awlia keeps on the same position. In 5th year schooling, Jebel Awlia is similar to others while in Karary females exceed males. In 6th year Jebel Awlia comes again as females exceeding males. In 7th year, only Umm Bedda has excess females over males. In 8th year, only Jebel Awlia has excess females over males. There is always one locality found to have excess females over males and is characterized by being one of the dense populated parts in Khartoum state.

Table (3): T- test for comparison of means of male and females in private basic and private secondary education

Locality	male basic (x)	female basic (y)	(x ²)	(y ²)	male secondary (x)	female secondary (y)	(x ²)	(y ²)
Khartoum	13853	13083	191,905,60	171,164,88	6368	6452	40,551,424	41,628,30
Jebel Awlia	8907	10135	79,334,649	102,718,22	600	905	360,000	819,025
Omdurman	12035	9895	144,841,22	97,911,025	4788	4011	22,924,944	16,088,12
Karary	8397	6966	70,509,609	48,525,156	2149	2996	4,618,201	8,976,016
Umm Bedda	9224	7735	85,082,176	600,625	0	0	0	0
Bahri	13446	10939	180,794,91	119,661,72	16707	2858	279,123,84	8,168,164
East Nile	9362	6202	87,647,044	38,464,804	4037	4961	16,297,369	24,611,52
total	75224	64955	840,115,22	579,046,44	34,649	22,183	363,875,78	100,291,15
	x̄= 10,746 N =7	ȳ=9,276 N =7	N _x =7	N _y =7	x̄= 5,774 N =6	ȳ=3,697 N =6	N _x = 6	N _y = 6
$T = 10,746 - 9,276 / \text{sq} (840,115,228/7) - 115,476,516/ 7 - 1 + (579,046,445/7) - 86,044,176/ 7 - 1 = 1470 / \text{sq}.180,227,473 = \mathbf{2.85}$ DF= 12 , critical value = two tailed (0.05) = 2.18					$T = 5,774 - 3,697 / \text{sq}.(363,875,787/6) - 33,339,076/6 - 1 + (100,291,151/6) - 13,667,908 / 6 - 1 = \mathbf{0.61}$ DF= 10 critical value= two tailed (0.05) = 2.23			

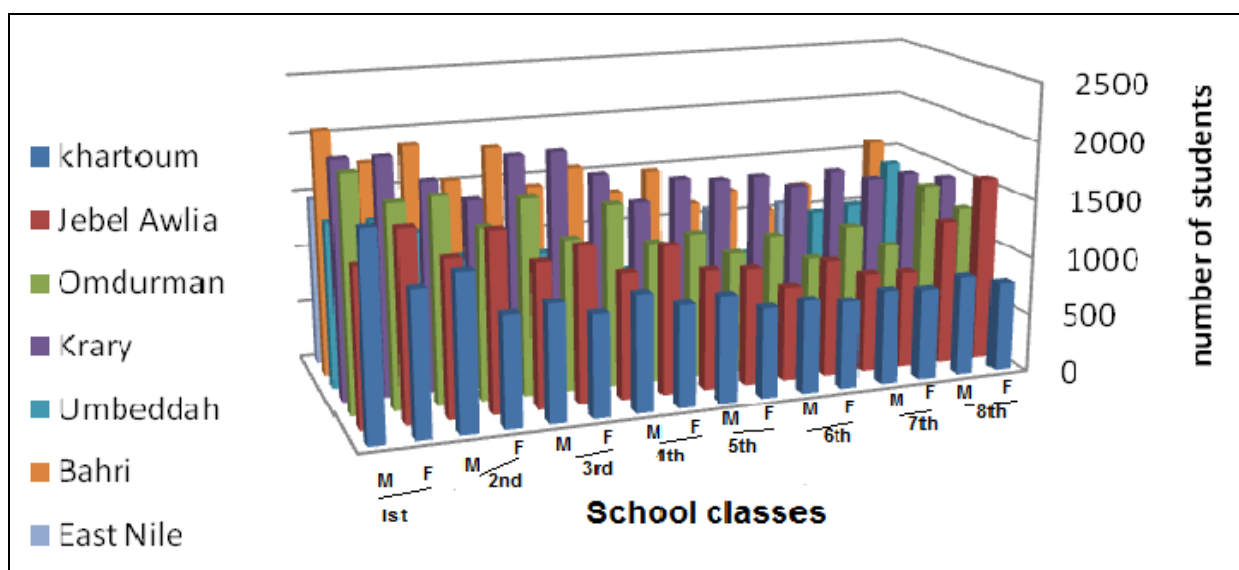


Fig. 4: Distribution of private basic students by sex by locality
5- Money Profits, Expenditure and Net Income

General basic and secondary education employ 44,611 teacher in Khartoum state. Basic education alone employs 30,644 (68.7%) teacher and secondary education 13,967 (31.3%) teacher. Private basic and secondary education employ 14,730 teacher which equals 33% of total employed teachers in general education in Khartoum state. They are distributed as 8516 (57.8 %) teacher in basic private schools and 6214 (42.2%) teacher in private secondary education. Female teachers represent 51% in basic private education and 18.3% in private secondary education. Male teachers represent 49% in private basic and 81.7% in private secondary schools. There is very minor difference between male and female teachers in basic private education while male teachers remarkably exceed females in private secondary education. Bahri locality rank first into employing female teachers in basic and secondary private education while Khartoum locality rank first into employing male teachers in both basic and secondary private education.

Few of private schools own the school's building, except old established well known private schools which are usually multistoried. Teachers are paid only during school year and according to the periods they teach while some other private schools pay monthly salary to a teacher. The private schools provide relevant services such as water, electricity and supporting labor doing cleaning and security duties. The estimated mean of school tuition paid by a student to a private school, including basic and secondary schools, is 1000 Sudanese Guinea which equals 400 USD. The old established well known private schools charge students up to 3000 Sudanese Guinea which is triple those newly established private ones. Such highly charged tuitions private schools are mostly found in first class residential areas and serve economically well off people and politicians. The low charging tuitions schools are mostly found on peripheral residential areas, old squatter areas and old downtown residential areas (Fig. 1) where the urban poor concentrate. So, the estimated mean tuitions value holds very big standard deviation value due to area and income differences within Khartoum state. Calculation of total annual income, expenditures and net annual income are illustrated by figure (5). Total annual income by private education sector equals 197,011,000 Sudanese Guinea which equals 78,804,400 USD. Expenditure into teaching cuts 47% of total income. Government annual tax cut 2.5%. . Expenditure on renting buildings cut 5% and similarly maintenance and supporting services. The net total income equals 39.4% of the total annual income which amounts to 87,954,053 Sudanese Guinea or 35,181,621 USD. Net annual income per a private schools is estimated as 59,599,046 Sudanese Guinea. But, since there are differences between schools into number of students, expenditure into teaching, renting buildings, students' tuitions there will be expected income differences. Additional income sources by private education, that were not included here, include selling breakfast and snacks to students, students transportation and registration fees.

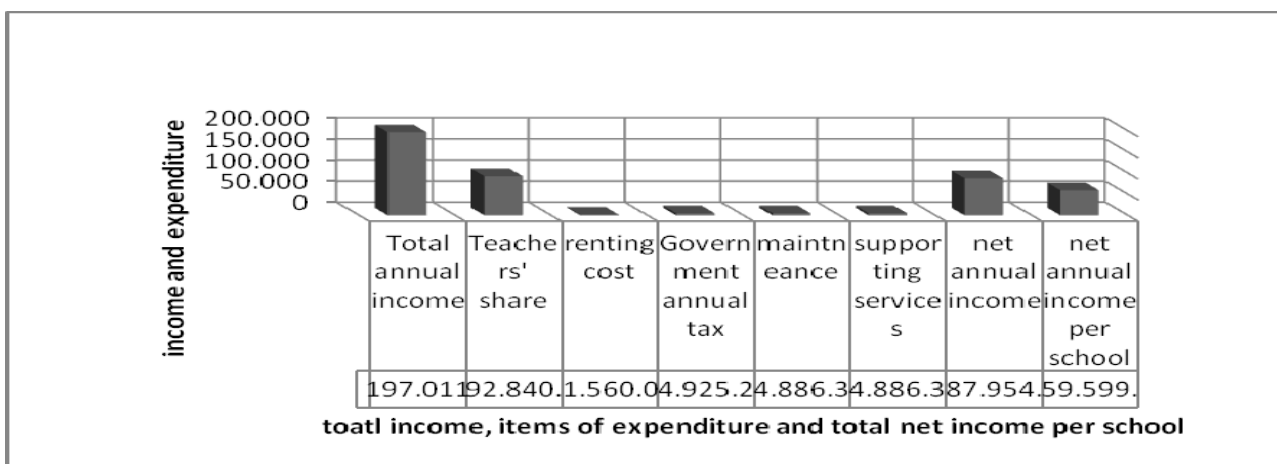


Fig. 5. Total income , expenditures and net income of private education in Khartoum state in 2011

Discussion

Private sector substantially contribute into general education in Khartoum state. Although it was restricted to intermediate and secondary levels in the past and enrolls students who fail to compete into enrolment to government schools, it became acceptable among people to send their children to private education. Low quality of government school teaching environment such as classroom overcrowding is one of the main reasons. This is confirmed by the fact that although private schools represent 41.7% of the total number of schools in the state, they enroll 12.7% of the total number of students in basic education and 26% in secondary schooling. This also means that one in two nation's schools in Khartoum state is a private school compared with one private school in four of the nation's schools in USA (Council for American Private Education.2010). This situation also contrasts the Singapore's experience where the private sector plays the complementary role of running continuing/supplementary education classes in commercial/business studies, computers, languages, fine arts and tuition (Ministry of Education, Singapore.2011).

The government policy of privatization and lift of complete subsidy to education sector are essential into spread of private schools. National Economic Salvation Program of the 1990th was basically built on open market economy and has lifted complete subsidy for education. However, decline into public expenditure for education started since World War II when the demand for education had exceeded Sudan's education resources. (U.S.Library.2011). From 1975 expenditure on education declined by percent from 49.52 to 41.78 in 1981m then to 27.76 in 1985 to 8.51 in 1990 and then increased slightly to 12.15 in 1996 (UNESCO, 2010). Consequently, governmental education was no longer equipped to meet increasing population and aspiration for better education. The market economy as based on taxes found a promising income source into private schooling. The appearance of economically well-off Sudanese who spent part of their life outside Sudan were enthusiastic for better schooling environs supported by excellent academic records into Sudanese Secondary Certificate, private education found good ground among Sudanese.

Population factor is also important into expansion, demand and supply of private education in Khartoum state where population growth rate was 4.92 % in 1956, increasing to 7.76 % in 1973 and to 8.75 % in 1983, reaching 13.7 % in 1993 (MFEP 1955–93). Mean population density (number of persons per square kilometer) was 55.6 in 1973, 85.5 in 1983, and 169 in 1993. Khartoum state received 39 % of internal migration in 1983 and 45 % in 1993 (MFEP 1955–93). Greater Khartoum's degree of urban primacy has changed: whereas in 1955 Khartoum had 4.7 times the population of Sudan's second-largest urban centre, by 1993 this had increased to 8.9 times (Davies 2001). This rapid urban population growth in Greater Khartoum is similar to other third world countries. Over the next three decades, Asia's urban population will rise from 1.36 billion to 2.64 billion, Africa's urban population will double from 294 million to 742 million, while Latin America and the Caribbean will face a slower rise from about 400 millions to 600 million (UNFPA, 2008).

Spatial expansion of private education have incorporated urban poor who generally occupy unplanned residential areas and squatter settlements where Greater Khartoum received between 50-70% of the total displaced population in Sudan in 1990, who occupied 50 locations in 1991 with a total number of 1570000 displaced persons (Banaga 2001). Gradually these concentrations began to be transferred into the old urban mass and old squatter settlements. However, their number reached to more than 2,500,000 persons in 2001 (Banaga 2001). Axes of squatter developments were westward, a south - westward & northward axes from the fringes of Omdurman central to the margins of Kordofan state & Nahr el Nil state (Alredaisy & Davies 2003) where Umm Bedda locality incorporate the majority of the squatter settlements . Another axis grew southward & south eastward from the fringes of Khartoum central to the border of the White Nile state & the Gezira state, dominating Jebel Awlia locality. A similar one directed northward from Khartoum north central to the margins of Nahr el Nil state and north eastwards to the direction of central Butana plain of eastern Sudan dominating East Nile locality. Occupants poor of these areas have to pay to educate their children as

opinions and policies on the development of private education in Sub-Saharan Africa are changing (Kitaev, 1999) and poor African children benefit from private schools than government ones for a fraction of the cost and the poor parents know that private schools are the way forward (Sunday Times June 2006). This is in situations that 77.5% of the households surveyed in north Sudan were on or below the poverty line (MOL/ILO, 1997) and further the United Nations Development Program (2005) reported that 75% of north Sudan population as poor and the majority (80%) is concentrating in rural areas where 30% of them suffered from extreme poverty.

Female students and teachers are prominent in private education in Khartoum state. Area differences by localities hold demographic indicators such as sex – age structure among population. Dominance of female education is the result of historical efforts to educate Sudanese females. Females have stepping from religious school "Khalwa" which did not prepare girls for the secular learning mainstream, from which they were virtually excluded to the world of competing with males. Due to the efforts of [Sheikh Babikr Badri](#), the government had provided five elementary schools for girls by 1920 and by 1940 the first intermediate school for girls was opened and by 1955, ten intermediate schools for girls were in existence. In 1956 the first Secondary School for Girls, with about 265 students, was the only girls' secondary school operated by the government. By 1960, 245 elementary schools for girls had been established, but only 25 junior secondary or general schools and 2 upper-secondary schools. During the 1960s and 1970s, girls' education made considerable gains under the education reforms that provided 1,086 primary schools, 268 intermediate schools for girls by 1970, when girls' education claimed approximately one-third of the total school resources available. By the early 1990s the numbers had increased and the ratio had remained approximately the same. Modernization of Sudanese society have positively changed social attitudes towards girl's education which was viewed in the past as source of corrupting the morals of their daughters and no more preference was given to sons, who by education could advance themselves in society to the pride and profit of the family. Now, girls have excellently achieved academic success in Sudanese Secondary Certificate and constitute the majority of students in higher education institutions in Sudan. This situation contrasts many African countries where gender disparities against girls are highest in Benin, Ivory Coast, Ethiopia, Guinea, Mali, and [Togo](#), with fewer than 60 girls per 100 boys entering secondary education (Sutherland-Addy 2008). For example, girls' access to school remains a big issue in Nigeria, where 69% of girls not in school are unlikely to enroll, compared with 31% for boys. Similar if somewhat smaller gender differences are found in Burundi and Guinea (OECD.2011). Educated women earn more, have smaller, healthier families, and are more likely to educate their girls (ESSA.2011).

Although private education in Khartoum state have contributed into enrolment of considerable number of students, employed many teachers who were mainly University graduate in situation of very few available job opportunities, in addition to providing job opportunities for the supporting cadres of labors, it also gave businessmen and some teachers the chance to invade education sector by investment into public education.

Although, they have invested huge capital, their money revenue was higher enough to enable them move through social classes own houses or reside first class residential areas, owning fancy cars and spending school vacations in Europe and Turkey.

Conclusions and Recommendations

The general findings of this study are as follows:-

- 1- private education substantially contributes into general education in Khartoum state.
- 2- private education have geographic and gender differences.
- 3- urban poor have been incorporated to pay to educate their children.
- 4- government privatization policy, modernization and accelerating population growth have increased demand for private education.
- 5- female education ranks almost equal to male's.

6- net annual income by private education exceeds one third of total income giving opportunity to new businessmen to step rapidly the social ladder.

The majority of Khartoum state population are poor. Private education is a financial burden on majority of the families. Poor people pay to educate their children on the expense of life basic needs. Therefore, efforts should be exerted to enhance government education. Government policy of economy privatization should exclude education sector. Private education should be offered as a complementary, not as an alternative to government education. Working towards education quality in government schools will encourage many families to send their children there. Government schools can ask for some financial support from these families. Strategy of expansion of government education to meet with population increase will actually reduce private education mainstream. Government can also support non-profit private education through provision of teachers, school books and necessary amenities. However, measures of intervention to charge reasonable students tuition will save part to families and obstruct the formation of a new social class of private schools landlords who tend to reside first class residential areas and spend school vacation abroad.

The experience of private education in Khartoum state is applicable in Sudanese and African urban settings. Most of African countries have their own experiences into private education. Working towards exchanging such experiences will definitely help improvement of this sector. However, African ruling authorities should understand that private education is not an alternative to government education when the majority of African are poor seeking to secure minimum basic life needs.

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Diversification of Educational Funds for Quality Assurance in Open and Distance Education in Nigeria

Chris C. Chukwurah

*Department of Vocational and Special Education,
University of Calabar, Nigeria*

Abstract *The recent world economic meltdown may result to a serious decline in the quality of open and distance education in Nigeria. Huge amount of money is required to finance an effective and quality open and distance education. This paper ascertained the different ways of diversification of educational funds to enhance the attainment of quality open and distance education in Nigeria. Three research questions were used to guide the study and two hypotheses were formulated. Questionnaire was administered to a population of 120 staff of open and distance education in Enugu state of Nigeria. Mean statistics was used to answer the research questions, and t-test analysis was to test the hypotheses. The result of the study revealed that public and private sectors as well as local income generation were the main sources of financing open and distance education in Nigeria to offset the likely risks of its decline quality.*

Keywords: *Diversification; Educational Funds; Quality Assurance; Open and Distance Education and Economic Meltdown.*

Introduction

The important position occupied by education in national development cannot be over-emphasized because it promotes knowledge, explores and generates solutions to country's socio-economic, cultural and technological problems. The ever-increasing growth in Nigeria's population, the attendant escalating demand for education, the difficulty of resourcing education through the traditional face-to-face classroom self mode and the need to provide education for all had meant that Nigeria must of necessity find an appropriate and cost-effective means to meet the demand for education. This led to the establishment of open and distance education by Nigerian Federal Government to meet the educational needs of Nigerians.

According to Ojo, Ogidan and Olakulehim (2006), open and distance education is an educational approach designed to reach the learners in their homes, offices or any place of residence where learning resources are provided for them to qualify without attending formal classes in person, or create opportunities for life-long learning, no matter where or when they want to study. It focuses on opening access to education and training provision, freeing learners from constraints of time and place and offering flexible learning opportunities to individuals and groups of learners (UNESCO, 2002).

Open and distance education, also known as distance learning, has existed for some time now in Nigeria, it involves acquiring education outside the traditional or conventional classrooms. It makes use of technical media, especially for the purposes of reproducing high quality of teaching materials to instruct great number of students at the same the time wherever they live. Open and distance education was actually established in Nigeria to compliment the conventional face-to-face educational system to enhance the needed quality education in the country.

The Federal Government of Nigeria in the National Policy on Education (2004:45), emphasized the importance of open and distance education and national expectation when it enumerated the goals of open and distance education viz:

- a) To provide access to quality education and equity in educational opportunities for those who otherwise would have been denied.
- b) To meet special needs of employers by mounting special certificate courses for their employees at their work place.
- c) To encourage internationalization especially of tertiary education curricular; and

d) To ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing Nigeria experts as teachers regardless of their locations or places of work.

To achieve the above objective it is obvious that a lot of efforts would be required of both public and private sectors especially in funding. This is the only way the envisaged quality open and distance education can be feasible. Quality in an education can be seen as a multi-dimensional concept pervading every action that goes into making the process of education possible (Egbo, 2007). According to Obanya (2002), quality pervades every element of the activities undertaken in the process of educating and the wide array of beneficial results of educational activities on both individual learners and the wider society. The importance of open and distance education as a public good must be matched by adequate public and private investment to enable the achievement of its goals. However, reverse is the case of this truism in Nigeria as the Federal Government has failed to fulfill its financial responsibilities to open and distance education as it has consistently fallen short of the United Nation's requirement (Okafor and Nwankwor, 2008). Funding of education in Nigeria is problematic as a result of oil glut and poor internal management of local currency, the naira.

Ali (2006) revealed that over the last two decades or so, the overall statutory allocations to Nigerian universities have shown progressive decline. Ndili (2004), advocated that including statutory grants to most universities that operate distance education by the state government where the university operates should be mandatory whether the university was set up by the state government or not. However, Nigeria government has responded to the demand of the governing councils to double its allocation to universities by increasing the recurrent allocation to the sub-sector (Okafor and Okonkwo, 2008). For diversification of sources of educational funds for financing education, especially open and distance education should be shared responsibility among the government as well as the rest of the members of the society. Supporting this, Saint in Okafor and Okonkwo (2008), stated that creative and adequate strategies are needed for financing Nigerian higher education to offset the likely risks of declining educational quality. This paper examined the extent of contributions of government, public and private sectors as well as local income generations in financing Nigeria open and distance education to enhance its quality.

Research Questions

The following research questions guided the study:

- 1) To what extent does government finance open and distance education in Enugu State?
- 2) What are the extent of private sector's contribution in financing open and distance education in Enugu State?
- 3) To what extent do local income generations contribute to distance education funding in Enugu State?

Null Hypotheses

- 1) There is no significant difference in the mean responses of male and female staff of open and distance education on the contribution of public sector in funding distance education in Cross River State.
- 2) There is no significant difference in the mean responses of male and female staff of open and distance education on the extent of contribution of private sectors in funding distance education in Cross River State of Nigeria.

Methods

The survey research design was adopted for this study to elicit the opinions and responses of staff of Open and Distance Education in Enugu State of Nigeria. The entire population of 120, members of staff of open and distance education was used for the study. The study was carried out in Enugu State of Nigeria. A

structured questionnaire was used for data collection. The questionnaire was subjected to face validation by two research specialists. Their observations were used to refine the questionnaire items. The internal consistency of the instrument was determined by using Cronbach Alpha reliability test. Reliability coefficient of 0.72 was obtained which was high enough to confirm its internal consistency. Copies of the questionnaire were administered and all retrieved personally by the researcher.

The three research questions were analyzed using mean statistics. The acceptable level of mean score was 2.50 and above.

Results

Table 1: Mean rating of the respondents on the extent of government contribution in funding open and distance education.

S/N	Types of funding	N	X	Decision
1	Allocation of funds by government	120	2.68	Agree
2	Grants-in-aids by government	120	2.56	Agree
3	Provision of infrastructures	120	2.41	Disagree
4	Renovations	120	2.38	Disagree
5	Giving loans	120	2.52	Agree
6	Educational Tax Fund (ETF)	120	3.03	Agree

Table 1 show that all items except items 3 and 4 have each, a mean have 2.50. This indicated that government contributes to the funding of open and distance education in Nigeria by allocation of funds, grants-in-aids, loans and Educational Tax Fund. Public sector rarely provides infrastructures and renovations for open and distance education in Nigeria.

Table 2: Mean score of the respondents on the extent of private sectors contributions to the funding of open and distance education

S/N	Extent of funding	N	X	Decision
1	Donations/gift	120	3.25	Agree
2	Programme sponsorship	120	3.14	Agree
3	Technological assistance	120	3.02	Agree
4	Building of infrastructures	120	3.28	Agree
5	Giving loans	120	2.54	Agree

Table 2 show that all the items have mean score above 2.50, which means that private sectors are involved in funding open and distance education in Nigeria by way of donations/gift, programme sponsorship, technical assistance, provision of infrastructures and giving loans respectively.

Table 3: Mean rating of the respondents on the extent of private sectors contributions to the funding of open and distance education

S/N	Description of funding	N	X	Decision
1	Fees paid by students	120	2.79	Agree
2	Consultancy services	120	3.42	Agree
3	Farm products	120	2.60	Agree
4	Investment ventures	120	2.57	Agree
5	Car park fee charges	120	2.20	Disagree

6	Mounting of educational programmes	120	3.06	Agree
7	Launching/Appeal funds	120	2.72	Agree
8	Income from researches	120	2.15	Disagree

Table 3 indicates that all items except item 5 and 8 have mean ratings above 2.50. This showed that open and distance education in Nigeria is also funded through income generated locally. These include; fees by students, consultancy services, farm produce, investments, mounting of educational programmes, and appeal funds. Open and distance education in Nigeria has little or no funding through car park fee charges, and researches as the items had mean scores of 2.20 and 2.15 respectively.

Table 4: t-test analysis of the mean ratings of male and female staff of open and distance education on the funding of open and distance education by public sectors

Types of respondents	N	X	SD	Df	t-cal	Remarks
Male	68	2.02	1.56	264	0.42	Accepted
Female	52	2.1	1.45			

$p > .05$, $t\text{-cal} = 0.42$, $t\text{-crit} = 1.96$

Table 4 reveal that t-calculated of -0.42 is less than t-critical of 1.96 at .05 level of significance and 264 degree of freedom. That means that the null hypothesis of no significant difference in the mean ratings of male and female staff of open and distance education on the funding of open and distance education by public sector is accepted.

Table 5: t-test analysis of the mean responses of male and female staff of open and distance education on the funding of open and distance education by private sectors.

Types of respondents	N	X	SD	Df	t-cal	Remarks
Male	68	2.87	1.70	264	0.82	Accepted
Female	52	3.05	1.73			

$p > .05$, $t\text{-cal} = 0.82$, $t\text{-crit} = 1.96$

Table 5 also revealed that there is no significant difference in the mean responses of male and female staff of open and distance education on the contribution of private sectors in funding open and distance education in Nigeria. This is because the t-calculated of -0.82 is less than t-critical of 1.96 at .05 level of significance and 264 degree of freedom. Hence the null hypothesis is accepted.

Discussion

The finding of the study revealed that Nigerian government (public sectors) contributes in funding open and distance education in Nigeria. Nigeria governments do this by fund allocations, grants-in-aids, loans and through the established Educational Tax Fund (ETF). This is in consonance with Okafor and Okonkwo (2008), who revealed that Nigeria government has responded to the demand of the governing councils to double its allocation to the universities that operate open and distance education by increasing the recurrent allocation to the sub-sector. Also Ndili (2004) advocated that statutory grants to most universities that operate open and distance education should be mandatory to state governments whether the university was set up by the state or not.

However, the finding revealed that Nigerian government does not favourably contribute to the provision of infrastructures and renovations for open and distance education in Nigeria. This does not agree with

government's emphasis on the importance of open and distance education and national expectations when it enumerated the goals of open and distance education in the National Policy on Education (2004). It is necessary that the importance of open and distance education as a public good must be matched by adequate public and private investments to enable the achievement of its goals.

Furthermore, the study revealed that private sectors contribute to the funding of open and distance education in Nigeria. Both male and female staff of open and distance education showed no difference in their mean responses on the funding of open and distance education by private sectors in Nigeria. This finding is in line with (Amadi, 2007), who stated that apart from Federal, State and Local Governments funding education, there are other sources of funds such as multinational companies, education tax fund, private companies, and international development agencies, etc. Amadi (2007) also stated that private sectors as well as external resources through development agencies such as World Bank, UNICEF, USAID and Ford Foundation should be mobilized to contribute to the funding of education like open and distance education.

The study also showed that open and distance education is being funded through locally generated income. These include: students school fees/charges, consultancy services, farm products, investments, mounting educational programmes, and appeal funds. The finding is in consonance with Ogbodo and Nwaoku (2007) who discovered that some viable sources of funds to universities include: consultancy services, catering services, business ventures and fees which are funds generated internally. Fees and levies known as "institutional sources" are means through which higher institutions generate additional funds to sustain educational programmes.

Conclusion and Implications for Quality Open and Distance Education

The major purpose of diversification of educational funds is to ensure that the set educational objectives are met through availability and provision of adequate financial resources. The involvement of government and private sectors in funding educational programmes cannot be over estimated. However, this study revealed that both government and private sectors contribute to the funding of open and distance education in Nigeria. Open and distance education is an expensive venture and requires adequate financial provision from all tiers of government and private sectors for a successful implementation (NPE, 2004). Open and distance education in Nigeria is also funded through internally generated incomes, endowment fund, grants-in-aids, etc. These creative and adequate strategies for financing open and distance education would enhance to offset the likely risks of declining quality of open and distance education in Nigeria and in turn, help in the development of the needed high level manpower. A country that wants to develop technologically, economically and socially must make good of her education system.

Recommendations

Based on the finding of this study, it is recommended that funding of open and distance education should be a priority for both public and private sectors in Nigeria, so as to attend to the escalating demand for education as well as minimizing the difficulty in resourcing education through the traditional face-to-face classroom self mode in Nigeria.

To achieve this therefore, there is need for appropriate diversification of educational funds in Nigeria to help in the attainment of quality open and distance education.

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Mathematics for Daily Living: Implication for the Society

Richard U. Utubaku
Aniah-Betieng, Elizabeth I.

*Department of Mathematics,
Federal College of Education, Obudu, Cross River State, Nigeria*

Abstract *With the use of Mathematics and especially now with the support of the mathematical processing and control machine called the computer, significant advancement are realized in science, technology and arts. This paper therefore, identifies seven educational values of mathematics, paying particular attention to its aesthetic value in man's physical environment. In x-raying the usefulness of mathematics in the different areas of life, the paper holds that mathematics is universal not only to science and science related areas, engineering and technology, but also in a way it makes itself relevant to the development of the social science and the liberal arts. Hence, one could almost say that without mathematics, the world could not have been what it is today.*

Introduction

The word "Mathematics comes from the Greek $\mu\alpha\theta\eta\mu\alpha$ (Mathema) meaning 'science, knowledge, or learning' and $\mu\alpha\theta\eta\mu\alpha\tau\iota\kappa\acute{o}\varsigma$ (Mathematiko's) meaning 'fond of learning' (Simonson and Gouvea, 2007). Explained this Agwagah (2008) noted that mathematics is often defined as the study of topics such as quantity, structure, space and change. These topics provide the major subdivisions of mathematics into: Arithmetic, Algebra, Geometry, and Analysis. These major disciplines within mathematics arose out of the need to do calculations in commerce among others. According to Thomaskutty and George (2007), mathematics cannot be considered as a classroom discipline only. Reflecting on this, James (2005) stated that not only an Academician, a Scientist, an Engineer, but a shopkeeper, a grocer, a housewife, a sportsman, an employee need mathematics, and who does not need it? A common man can get on sometimes very well without learning how to count and calculate (Agwuagah, 2008). She further highlighted that apart from an Engineer, a Businessman, an Industrialist, A banker, even a labourer has to calculate his wages make purchases from the market, and adjust the expenditure to his income. But is mathematics all about calculations?

People believe mathematics is a divine discipline. For instance, Galileo, in Obodo (2004), stated that mathematics is the language with which God wrote the universe. Some people love mathematics while some fear it; some are attracted to and study mathematics, while some worship it. For instance, ancient Indian mathematicians like Aryabatta and bhaskara worshipped Mathematics, and lived for it. Also, the legend Srinivasa Ramanujan of India adored mathematics. These could be material and non-material reasons why people adore, worship and are attracted to mathematics. For some like Aryabatta and Bhaskara, it was not for any material benefit, but out of their devotion or adoration (Thomaskutty and George, 2007). What are other reasons for people adoring, worshipping, and being attracted to mathematics? Why should everybody learn mathematics? How does mathematics contribute to overall development of the members of the society? What is the significance of mathematics in the society? What should be the advantages of devoting so much effort, time and money of the society to learn mathematics? According to Kulshrestha (2005), these questions indicate the way to explore the values of mathematics.

Thomaskutty and George in Agwagah (2008) identified seven educational values of mathematics to include, Practical or Utilitarian values, Disciplinary values, Cultural values, Social values, Moral values, Aesthetic values and Recreational values. The practical or utilitarian values of mathematics seem to have been given greater emphasis in our society and the school mathematics curriculum than other value.

This work therefore will be presented in the following ways:

- Aesthetic values of mathematics
- Usefulness of mathematics in human daily activities
- The role of mathematics in Science and Medicine
- The role of mathematics in Law and Social Sciences
- The language of mathematics
- The role of mathematics in Engineering and Technology

Aesthetic Values of Mathematics Education

Aesthetic is concerned with beauty and art, and the understanding of beautiful things, (Hornsby, 2001). God as well as man appreciates beauty. Hence, after creation, God saw that everything he created was beautiful, man being created in the image and likeness of God saw himself existing in the world full of beautiful things, either as a result of creation or through some fundamental processes of man's innovative nature. Birkhoff in Agwagah (2008) defines aesthetic as the qualities that make a painting, sculpture, musical composition, or poem pleasing to the eye, ear or mind. He noted a mathematical measure of aesthetic value using the formula: $M = O/c$, where M is aesthetic measure or value, O is aesthetic order and C is complexity. This implies that a high aesthetic value is placed on orderliness and a low one on complexity. In other words, beauty increases as complexity decreases. This definition indicates that aesthetic relates with appreciation of beauty and beautiful things, using the senses of eye, ear and mind.

Aesthetic qualities include: variety, integrity, diversity and harmony. According to Brady (2005), harmony and integrity are key to definitions of beauty in classical and medieval philosophy. They are connected to qualities such as order, symmetry etc. Variety and diversity are commonly contrasted with monotony, dullness and lack of interest. Aesthetic value in mathematics refers to the beauty of mathematics or beauty in mathematics. One may ask, is mathematics beautiful? What mathematics is beautiful? What problems are associated with the study of the beauty of mathematics? Can the beautiful image of mathematics be integrated in the context of pedagogy?

According to Hardy (1992), there is no permanent place in the world for ugly mathematics. Hardy is simply saying that mathematics is beautiful. Russell in Agwagah (2008) expressed his sense of mathematics beauty in these words.

Mathematics rightly viewed possesses not only truth, but supreme beauty – a beauty cold and austere, like that of sculpture, without appeal to any part of our weaker nature, without the gorgeous trapping of paintings or music, yet sublimely pure and capable of a stern perfection such as only the greatest art can show. The true spirit of delight, the exaltation, the sense of being more than man, which is the touchstone of the highest excellence, is to be found in mathematics as surely as poetry.

This implies that mathematics do not study pure mathematics because it is useful, but because he delights in it and because it is beautiful. This points to the fact that mathematics is beautiful.

According to Thomaskutty and George in Agwagah (2008), when we go through the biographies of great mathematicians, we see that almost all of them were attracted to this 'divine' discipline, by realizing its beauty. The fineness, the harmony, the symmetry, all adds to the beauty of mathematics. Mathematics system and structure that if inconsistencies were found in axiomatic foundations of mathematics, most mathematicians would probably prefer to change the axiomatic foundations than to give up the beauty of the body of mathematics. Mathematics is beautiful in terms of its simplicity, power, utility, multi-connections and other adjectives often used to describe a painting, poem or song (Bett, 2007). Simplicity is one of the highest values in mathematics. Mathematics try to identify the smallest set of rules from which many other

propositions can be logically derived. The simplicity of mathematics is expressed in a mathematics article, the beauty is in the elegant efficient way it concisely describes ideas of great complexity. Mathematics ideas are by nature, precise and well defined, so that a precise description is possible in a very short space. Modern notation, for instance makes mathematics much easier. It is extremely compressed; a few symbols contain a great deal of information.

There are topics in mathematics, which can be used to illustrate its aesthetic element of power. Example is the number notational system (Bett, 2007). Using 10 symbols – 1,2,3,4,5,6,7,8,9,0, it is possible to create an infinite number of distinct numbers. The reason is because of the amazing power of place value notation. The practical utility of mathematics can be shown in many ways. For instance, the universe is made of galaxies, mountains, creatures, vehicles, and all manner of other things each seemingly unique. The way in which those things intrude on one another is a chaotic affair, often violently, but sometimes with great subtlety. But thanks to mathematics, people are able to think about the world of objects and happenings and to communicate those thoughts in ways that reveal unity and order. The numbers, lines, angles, shapes, dimensions, averages, probabilities, ratios operations, cycle, correlations, regressions, etc that make up the world of mathematics enable people to make sense of a universe that otherwise might seem to be hopelessly complicated. (Agwagah, 2008). Circles, squares, triangles and other shapes can be found in things in nature and in things that people build. Numbers and shapes can describe many things in the world. Just as letters and words make up a language in reading and writing, numbers and shapes make up a language in mathematics. Numbers and shapes and operations on them, help to describe and predict things about the world around us.

Usefulness of Mathematics in Human Daily Activities

According to Odili (2006), the utilitarian aspect of mathematics in preparing students for useful living include counting, notations, addition, subtraction, multiplication, division, weighing, measuring, selling and buying. Every student on finishing secondary education, should have clear idea of numbers and a comprehension of both the very large and the very small numbers. Students should understand the way number is applied to measure lengths, volume, weight, area, density, temperature, speed, acceleration and pressure. Estimation and approximation helps them to check economic waste in every day life. Odili further highlighted that economy of modern living and the technology of modern selling requires a housewife to be able to estimate quickly which of two different prices offers, sizes or measures is the better buy and to be able to see through many of the tricks of the trade. This presentation shows daily usage of mathematics.

The study of mathematics will form in the students the habit of clarity, brevity, accuracy, precision and certainty in expression and this will go a long way in giving us much-needed unity in this nation. In homes, offices, market places and playgrounds get involved in one argument or the other. The success in any argument depends on persuading and there is nothing more persuasive than a logical argument. The idea of logical, where the validity of conclusions rests upon the validity and consistency of the assumptions and definitions upon which the conclusion are base, will help to eliminate frequency conflicts in our society.

According to Osofechinti in Odili (2006), the importance of mathematics to individuals in their daily undertaking is so enormous that the knowledge of mathematics is an indispensable tool for a successful and balanced human existence on earth. Mathematics helps man to sharpen his understanding and definition of religious concepts. Such concepts as eternity, heaven, spirit life, power, salvation, wisdom, strength, light, hope, faith, righteousness, glory, blessing, truth, grace, peace, neighbour, sun and death can each be defined with mathematical rigor and precision (Osah-Ogulu and Odili, 2000).

In mathematics, Fakuade in Odili (2006) asserts:

In government offices, a modest amount of mathematical knowledge is required for executing business, policies and decisions. In commercial sector, the daily running of businesses, modern development and advances in commercial matters and business connections depends very heavily on experts use of

mathematical knowledge and processes.

That is, in preparing individuals for life, we may consider the power of mathematics in character building through active involvement, personal success work with and opportunities for stimulating curiosity, self-expression and self-criticism.

Role of Mathematics in Science and Medicine

Mathematics apart from being an intellectually stimulating discipline, is continuously being developed to meet the changing requirement of Physics, Chemistry, Biology, Social Sciences, Psychology, Engineering and even law to mention a few. Odili maintained that achievement in sciences is often contingent upon mathematics knowledge and the ability to perform mathematical operations. Although, physics and mathematics form different disciplines in institutions, the separation is not any more clear-cut than that between certain fields of mathematics (Ihejeto in Odili, 2006). At the early school stage, physics students are involved in measurement of length, area, volume and masses. To do these with dexterity, calculations, for which a good knowledge of mathematics is essential, are needed.

The physical phenomena in mechanics require a good knowledge of elementary differential equations and vector analysis. Complex numbers are used in treating oscillating quantities and on the principle of superposition. Fourier series constitute an essential tool. To describe the motions in a plane or space, the physicist must have a good knowledge of vector algebra. Linear transformation in vector space is needed in the study of the general theory of coupled oscillations. The fundamental concepts and mathematical methods used in treating the mechanics of continuous media are applied in the study of vibrating strings and of the motion of fluids. Lagrange's equations and the fundamentals of advanced dynamics. Hamilton's equations is prerequisite to courses in quantum mechanics. In all sections of physics, mathematics form the basis of understanding it and also of its application. Ingle and Turner in Odili (2006) in their study on mathematics and chemistry at the o'level argued that the pattern of thought used in expressing some scientific concepts is identical to that used in some particular mathematical concepts. They added that students' difficulties with ration and proportion and computational skills in mathematics might affect their ability in learning some chemistry concepts and further suggest the following:

- a. In chemistry computation, mathematics activities involved are addition, subtraction, multiplication, division, fraction, and decimals, positive and negative numbers, reciprocals, index notations and standard forms, use of logarithms, slide rule calculations.
- b. Rate and proportion: Direct and inverse proportion, ration and percentages.

Also, Fakuade and Kalejaiye in Odili (2006) writing on mathematics topics related to chemistry suggest that fractions and decimals, axes and scales, line graph, addition and subtraction, logarithm numbers – use of four figure tables, indices, ratio and proportions, direct and inverse variation, substitution of values in an algebraic expression, and change of subject in a formula should be studied by chemistry students in the SSS level.

Adetula (2002) maintained that in medicine, problem that can be tackled using mathematics include: the conduction of electronic signals by nerves, flow of blood, calculations of radiation, treatment of patients and diffusion of radio active tracer and other chemicals in the body. In the health care delivery system, both the doctor and the patient will be in problem without mathematics. For example in the words of Akesode (2000) from diagnosis of diabetes through paternity testing using DNA to test HIV status, the language is mathematics. From a minor surgery of suturing an ulcer to a major brain surgery or organ transplant, mathematics has a place especially with regard to precision of measurement.

Role of Mathematics in Law and Social Sciences

Odili (2006) affirms that Mathematics is universal not only in the way it influences the basic sciences, the

applied sciences, engineering and technology, but also in the way it makes itself relevant to the development of courses in the social sciences and the liberal arts. That is, the dependence of courses in the social sciences such as mathematics is such that a basic knowledge of mathematics beyond further mathematics is required. He further emphasized that successes of mathematics in the study of inanimate nature have inspired the mathematical study of human nature in recent times. Such mathematical topics involved are:

- In finance – constraints in linear programming techniques and probability.
- In insurance business – constructing life tables premium rates, equity linked contracts, ruin theory, discounted cash flow and time series
- In geography – measurement of distance, areas on maps using amp projectors, the study of the solar system, the determination of the shape and the size of the earth, the distance of the horizon, the indivisibility of objects, the relationship between longitude and time, nautical miles, the use of national grid in ordinance survey maps and the interpretation of contour maps, have all been made possible through expert application and knowledge of geometry and trigonometry.
- In education, mathematics is used in educational planning and evaluation, test and measurement, information system, design and implementation.

Mathematical trend analysis, financial/cost analysis, school mapping, operation research, parameter estimation, time series analysis, cohort analysis, descriptive/financial statistical analysis.

The application of mathematics in law is not used in direct forms as in other disciplines. The principles of mathematics reasoning forms the basis for its understanding. Prospective law students with mathematics background perform better. Such areas as ownership right, power, justice, crime, guilt, trial, conviction, evidence, suspect, constitution, charge, offence count, liability, civility etc are now defined with mathematical precision (Gemignani, 1979). Therefore, the impact of mathematics in law shows up in the high performance and great repute enjoyed by the mathematically literate law firm.

Language of Mathematics

The universal language of mathematical acts across cultures and uses carefully defined terms and concise symbolic representation to add precision to communication. Hence, the mathematical statement $5 + 3 = 8$ means the same to a Tiv, an Igala, an Igbo, a Yoruba or a Hausa, no matter what native tongue is used. The grammar of the language, its proper usage is determined by the rule of logic. The study of mathematics form in students the habit of clarity, brevity, accuracy, precision and certainty in expression and this go a long way to unite us in this country. The success in any argument depends on one persuading his opponent and there is more persuasive than logical argument. Therefore, the idea of logic rest valid conclusion upon the validity and consistency of assumptions and definitions to eliminate frequent conflicts in homes.

The vocabulary of mathematics language consists of symbols such as $+$ - addition, $-$ - subtraction, \div - division, Σ - summation, $\sqrt{\quad}$ - Square root, \int - integration etc.

Role of Mathematics in Engineering and Technology

Fakuade in Odili (2006) claims that the better mathematician an engineer is the better engineer he becomes and the more likely he is to make effective use of mathematics. In engineering field, the search for the problem, the study in physical situation and making of a mathematical model, the solution of the problem, generalization of the solution and interpretation of results, all have recourse to the use of mathematics. Mathematics have dominated scene in the aircraft technological development especially by way of research aeronautics and in the structure of aircraft itself. The branch of mathematics closely associated with aeronautics fluid dynamics. Fluid dynamics is the study of motion of gases and liquids, which involves the use of Eulerian equations of motion of fluids, together with the continuity equation, which expresses the conservation of mass, and the equation of state of the fluid. All the mathematical results obtained from the

solution of these equations lead to decisions on viscosity of the air, the steadiness of the motion of the aeroplane, external forces acting on the body of the aeroplane, the condition to the air traffic have largely relied on the use of electronic digital computer, which is a major branch of mathematics.

In the recent years, there have been major developments in Information and Communication Technology, the highly synergistic combination and collaboration of computer science or technology with communication technology in the service of humanity. Its effectiveness as an instrument of information dissemination is not inherent in its transmitted form, its power is derived from the mathematical machine that converts inputs into outputs. Excellence in modern warfare together with highly sophisticated contraction space vehicles is an essential determinant of the supremacy and superiority of a nation. All these ideas depends so much on the knowledge and application of mathematics that one could almost say that without mathematics, the world could not have been what it is today.

Conclusion

With the use of mathematics and especially now with the support of the mathematical processing and control machine called the computer, significant advancement are realized in science, technology and arts. The application of mathematics within the context of the socio-cultural environment of man produces harmony, order and peace. It provides serene beauty in man's physical environment (aesthetic values). It is difficult to imagine how such fields as accountancy, engineering, natural and applied sciences, land surveying, quantity surveying, modern corporate management, education, medicine, banking, finance, actual science, architecture, fine and industrial arts, etc could get along in their services to humanity without mathematics. It becomes necessary that school administrators, teachers, parents/guardians and students should now view mathematics as an all-important subject for making sustenance and development of our society in the 21st century and beyond. What is needed now is more mathematics and not less for our industrial growth, since mathematics as a science numbers, quantities and measurements will continue to provide us with empirical statistical data upon which we can base sound decisions in our developmental efforts. While teachers should expose students to various representations of a mathematical idea, he should provide opportunities in class for students' initiative, independence and creativity in the mathematics classroom.

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Age and Gender as Predictors of Academic Achievement of College Mathematics and Science Students

R. Bada Abubakar
O. Dokubo Oguguo

*Department of Mathematics,
Federal College of Education (Technical), Omoku, Rivers State, Nigeria.*

Abstract This study examined the correlates between age and gender on academic achievement (CGPA) of Mathematics and Science students. The study used three hundred and thirty-two (332) students; two hundred and twenty-three (223) females and one hundred and nine (109) males. Scatter-plot, mean and Standard deviation were used for the descriptive statistics while univariate analysis of variance (ANOVA) and multiple regression were used for the inferential statistics. Z-test was used to test the null hypothesis formulated ($P < 0.05$). Result revealed a linear relationship between, age-CGPA and gender-CGPA. A low positive correlation coefficients was obtained for ages and gender ($r=0.030$ and 0.111) which significant. The predictor variables jointly accounted for 1.3% of the variance, gender was the better predictor. The null hypothesis tested was accepted implying no significant gender difference in academic achievement of the students. It was suggested that some more variables be included so as to determine significant contributory effect of students academic achievement of Mathematics students.

Keywords: Academic achievement, Age and Gender, Cumulative grade point average (CGPA), Academic Persistence.

Introduction

The quintessential achievement oriented domain education, particularly for college students', includes high performance on tests, passing courses and completing degrees (Habibollah, Margery, Shupe and Yager, 2009). Over the years, researches have revealed that academic achievement has numerous determinant factors ranging from socio-economic status (Ajayi and Muraina, 2011), students employment status (Wantabe, 2005), learning disabilities (Shupe and Yager, 2011), Students Interest (Udegbe, 2009), attitude (acceladjo, 2001), Guidance and counseling (Odubanjo and Adeniji, 2010), teaching methods (Eniayeju, 2010), School entry modalities (Cameson and Wilson, 2011; Olayemi, 2009), Gender continuous assessment (Owolabi and Etuk-Iren, 2009). Due to the quest for better academic performance of students at all levels of education. Researches have continued to be improved upon by studying joint effect of predictor variables which this study is one of such. Age has played a considerable part as regards to education, like entry age of students to a school, hence age could be a predictor of success. Gender is the properties that distinguish organism on the basis of their reproductive roles as female or male (Abubakar and Uboh, 2010). Studies is fast disrupting many past erroneous belief that males perform better than female (abubakar, 2010; Eniayeju, 2010). The world is fast changing due to Science and technology hence the emphasis on Science Technology and Mathematics.

This study sought to find out the contributory effect of age and gender on students academic performance of Mathematics and Science students of Federal College of Education (Technical), Omoku, Rivers State, Nigeria

Purpose of the Study

The purpose of this study was to determine if there were significant relationship and contributory effect of gender and age on the academic achievement of Mathematics students. Also, the effect of gender on academic achievement in Mathematics was ascertained.

Research Questions

1. Are there any relationship between gender, age and academic achievement of Mathematics and Science students?
2. What is the individual contribution of each of the two predictor variables: age and gender to students' performance?
3. What is the joint contribution of the two predictor variable to students' academic achievement in Mathematics and Science?

Research Hypothesis

H_{01} : There is no significant difference in the academic performance of female and male mathematics and science students of F.C.E.(Tech.), Omoku in 2007/08 session.

Methods

Research Design

The study is a non-experimental type hence used expo-factor design.

Population and Sample

The population of this study comprised all the students of Federal College of Education (Technical), Omoku, Rivers state, Nigeria. The college is a technical college that has five (5) Schools: Technical Education, Vocational Education, Science Education, Business Education and School of Education. School of Science Education students was purposively sampled out due to the nature of the study. The academic session of 2007/2008 was selected for the study. School of Science has five (5) departments: Integrated Science ISC, Mathematics MAT, Chemistry CHM, Physics PHY and Computer COMP. Computer department serves as the technical department to all the remaining four department, so, each science student has prefixes: ISC/COMP, MATHS/COMP, CHM/COMP AND PHY/COMP. In 2007/2008 academic session, ISC recorded One hundred and forty-five students; Mathematics recorded seventy-eight (78) students, Chemistry department had seventy-six (76) students while Physics recorded thirty-three (33) students. So, all the three hundred and thirty-two (332) Mathematics and Science students constituted the sample for the study.

Data Collection

The study employed secondary data for the study. Data was obtained from School of science Education data records and the admissions unit of the College. The college approved result that reflects each students session cumulative grade point average CGPA were obtained from School of Science record data base. For the records, CGPA of students is the cumulative Grade point average divided by the cumulative credit unit of all the courses registered and taken by each student for first and second semester. Age and gender of the students were obtained from the admissions unit of the college.

Data Analysis

The age, gender and CGPA of each student were entered into a data base. The statistical package SPSS was used for the comparative analysis. Mean, standard deviation and scatter plot were utilized for the descriptive statistics. Inferential statistics was established using bivariate correlation, univariate analysis of

Variance ANOVA, T-test, Z-test and multiple regression analysis. The scatter plot of the variables revealed a linear relationship, hence Pearson's correlation was used to determine the significance of the relationship between the predictors age, and gender and the dependent variable CGPA.

Results are as presented below

Table 1: Percentage gender composition of mathematics and science students

Department	Female	%	Male	%	Total
ISC/COMP (06)		79	30	21	145
MAT/COMP(07)	38	49	40	51	78
CHM/COMP(08)	55	72	21	28	76
PHY/COMP(09)	15	45	18	55	33
TOTAL	223	67	109	33	332

Research Question 1

Are there any relationship between gender, age and academic achievement of Mathematics and Science students?

Table 2: Correlation matrix of age, gender and CGPA

Variables	CGPA	Age	Gender
CGPA	1		
Age	0.030	1	
Gender	0.111*	-0.006	1

*Correlation significant ($P < 0.05$)

Research Question 2

What is the individual contribution of each of the two predictor variables: gender and age to students' performance?

Table 3: Percentage contribution of age, gender on CGPA

	Age	Gender
Multiple R	0.030	0.111
R square (R^2)	0.001	0.012
% Contribution	0.1	1.2

Table 3 revealed that Age contributed only 0.1% to the variance observed in CGPA while Gender contributed 1.2%.

Table 4: Relative contribution of each of the variables and their significance

Variables	Standard Error	Beta values	T	Significance
Age	0.014	0.031	0.559	0.577
Gender	0.104	0.111	2.036	0.043

Research Question 3

What is the combined contribution of the two predictor variable to students' academic achievement in Mathematics?

Table 5: Summary of the Multiple Regression Analysis

ANOVA ^b					
Multiple R=0.115 ^a					
R square =0.013					
Adjusted R square= 0.007					
Standard Error= 0.89134					
ANOVA ^b					
	Sum of squares	Df	Mean square	F	Significance
Regression	3.529	2	1.764	2.221	0.110 ^a
Residual	261.384	329	0.794		
Total	264.913	331			

a. Predictor (constants), Age, Gender

b. Dependent Variable: CGPA

Results in Table 5 revealed that the combination of the two independent variables age and gender yielded a multiple regression (R) of 0.115 with the dependent variable CGPA.

Research Hypothesis

H₀₁: There is no significant difference in the academic performance of female and male Mathematics and Science students of F.C.E.(Tech.), Omoku in 2007/08 session.

Table 6: Mean, standard deviation and z-analysis of Mathematics and Science students

Gender	N	min	max	Mean	std	Z _{cal}	Z _{crit}	Decision
Female	242	0.27	4.58	2.18	0.87	-1.76	1.96	Accepted
male	123	0.67	4.59	2.36	0.98			

Result from Abubakar and Uboh (2010)

Discussion of Findings

Table 1 revealed the gender composition of Mathematics and Science students. ISC department recorded the highest enrolment with one hundred and fifteen female at 79% composition and 21% male followed by Chemistry department that recorded 72% female out of its seventy-six (76) total enrolment. Mathematics department recorded 51% males and 49% female while Physics recorded the lowest enrolment and gender composition of 15:18 female to male percentage ratio. Overall, school of Science had 67% female enrolment and 33% male enrolment.

Table 2 revealed that predictor variable of age had lower positive correlation than gender with their dependent variable CGPA. However, gender revealed a significant correlation with student CGPA. Gender had a negative correlation with age which was not significant. This implied that both age and gender were positively related to CGPA of the students. Abubakar (2010) earlier also recorded a positive but insignificant correlation between age gender and CGPA of Mathematics students of F.C.E (Technical) in the 2007/2008 academic session. Owolabi and Etuk-Iren (2009) however, found out that the best correlates of students performance in Pre-NCE Mathematics in F.C.E.(Tech.), Akoka, Lagos was the Continuous assessment score. From Table 3, it was evidently revealed that age is insignificant as it relates to CGPA, it was responsible for

0.1% of variance in performance of Mathematics and Science students while gender was responsible for 1.2 % of the variance. Owolabi and Etuk-Iren (2009) recorded a similar result where gender was responsible for 1.3% of the variance in the performance of two hundred and thirty-three (231) Pre-NCE Mathematics students of F.C. E (Technical), Akoka, Lagos state. Abubakar (2010) however recorded a 0% variance contribution in the CGPA of Mathematics students of F.C.E.(T), Omoku, Rivers state, Nigeria.

From Table 5, neither age nor gender contributed significantly to the variance of CGPA of the students. The combined influence and contributions of the variables can be presented thus:

$$Y = 0.031x_1 + 0.111x_2$$

Where x_1 = age, x_2 = gender and y = CGPA

Olayemi (2010) in his study recorded a statistically significant contribution of only average score in Mathematics AVM as a predictor of academic performance in Physical Chemistry using Year II and III chemistry NCE students of F.C.E.(Technical), Lagos, Nigeria during the 2006/2007 session among nine other predictor variables of chemistry score, attitude to Mathematics, Course combination, gender, Senior secondary examination SSE Mathematics, NCE grade in Mathematics, SSCE grade in Chemistry, National examination council NECO grade in Chemistry and mode of entry.

From Table 5, the predictor variables jointly accounted for 1.3% of the variance observed in students CGPA, result however was not significant. Olosunde and Olaleye (2009) found that combined effect of nine independent variables yielded a multiple regression explaining 63.4% of the variance in female students achievement in Mathematics. However, Owolabi and Etuk-Iren (2009) in their study using predictor variables of : Mathematics Performance Test, Mathematics continuous Assessment score and course of study jointly accounted for 24% of the Pre-NCE Mathematics performance Test. Wilson and Cameson (2011) found a statistically significant but relatively small achievement differences between oldest and youngest children when cognitive ability scores were controlled using three hundred and thirteen students. Ajayi and Muraina (2011) reported that social economics status predictor variable of Parents education, occupation and real mothers age jointly produced 0.3% variance but was significant on academic performance of students in Ogun state in Nigeria. Similarly, Habibollah et al(2009) discovered that creativity, age and gender jointly accounted for 0.143 of the variance in GPA of Iranian undergraduate students in Malaysian Universities.

Table 6 showed that male student had the highest CGPA of 4.59 while a female had the lowest CGPA of 0.27. Student with CGPA less than one repeats the level, hence, from ISC, eleven students repeated, Mathematics had five repeaters. Chemistry and Physics recorded one repeaters each. The age range for both male and female was between 15 -37 years. Hypothesis formulated was accepted, hence, no significant difference in the academic performance of female and male Mathematics and Science students of F.C.E.(T.), Omoku. Abubakar(2010) recorded a similar gender result with only Mathematics students in the same session. Habibollah et al (2009) also recorded no significant gender difference in CGPA in their study.

Conclusion and Recommendation

Evidently from the study is the fact that during the 2007/2008 academic session of F.C.E (Technical), Omoku, Rivers state, Nigeria, age gender was a predictor of the academic performance (CGPA) of Mathematics and Science students. However, gender was a better predictor. Both age and gender jointly accounted for 1.3% of the variance in the students CGPA. The session also recorded no significant gender difference in CGPA of the students. In the general academic performance of the student, eighteen students out of the three hundred and thirty-two students used for the study had to repeat their level implying a 95% success rate in the academic performance of the students. This present study can be carried out in sister colleges to establish an affirmative or refutive result. Also, more variables can be included to detect what most significantly and

effectively contribute to mathematics and science students academic performance.

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Experiences of Government Politicization in Participating Over Policies and Programmes of Primary Education in Nigeria

Anero Nnamdi

*Department of Primary Education Studies,
Rivers State University of Education, Port Harcourt, Nigeria*

Abstract *The paper observes that policies and programmes directed towards the improvement of primary education in Nigeria have been suffering from government politicization. It rationalized this, by tracing the origin of the sector since 1842 and the inconsistency of all forms of government in fulfilling their promises as regards development. It pointed out that the front forwarding and back forwarding exhibited by government in being fully responsible to carry out programmes and policies targeted at improving primary education in Nigeria may be described as politicization. It also contends that the on-going UBE programme as a case in point may not escape the government political Maradona. It infact concludes that the political administrative position of the government may mean neglect of treaties, commercialization of the child education, poor quality education and neglect to societal development. Recommending on the ways forward, it suggests that NGO's and other groups should encourage government to religiously implement the content of treaties and programmes and urged the legislative arm to make enabling laws that could guarantee effective check and balance on implementing government policies and programmes targeted at improving primary education in Nigeria.*

Introduction

Primary education is one aspect of our national life that is yet to gain sufficient government participation. The numerous programmes and policies do not accredit government support but may show-case the level of government unwillingness to demonstrate commitment to the development of the first stage of education. Indeed, government may be guilty of politization with matters related to primary education. Prior and after its official commencement in 1842 with the establishment of the first primary school at Badagry by the Methodist, the position of government over its matters has not changed. Yet the Nigerian society seems to have experienced several changes in terms of government policies and programmes. To exhaustively examine this issue, the discussion shall hold within the following circumference:

1. Conceptual view of government politics, policies and participation in primary education
2. The participation, politics and policies of government on primary education in Nigeria
3. Implications of government politics and policies on primary education
4. Conclusion

Conceptual View of Government Politics, Policies and Participation in Primary Education

1. Government Politics and Primary Education

Ordinarily speaking, politics may be understood as the means of gaining the control of state administrative apparatus. This means that it can be conceived as an act or process that involves every action, reaction, correspondence, rule, regulation, effort and any instrument put in place by constituted body of persons to achieve the polity objectives of the state (Nweke 2009). Defining politics, Lasswell (1958) says that it is:

- i. who gets what, how and when?
- ii. an authoritative allocation of values in society.

In as much as Nweke's view may not be wrong, Lasswell's definition seems to provide a good ground for this study. This is so because the synthesis of his synopsis seems to reflect the true Nigerian situation. The clarion call by Nigerians that education and primary education in particular need to be accorded the right

place in the scheme of things attest to Lasswell's definition of politics that says 'allocation of values in society'. No prophet or teacher is needed to explain the fact that primary education is yet to be given the desired attention by government. If the above assumption is right, it means that those who manage it or politicize with it have only met one of Lasswell's view hence he asserts that politics with any thing is targeted at determining who gets what, how and when; and thereby placing a wrong value to its worth.

2. Government Policy and Primary Education

Policy may generally be understood as a position statement that guides the activities of a person or group of persons to attain given objectives. In Nigeria, the intention of government towards primary education is as shown in the National Policy of Education. An assessment of the intention as contained in the policy show that the good wishes of government towards primary education are yet to be realized. This simply means that the government has exhibited luke-warm attitudes in participating over making the content of the policy a reality to the people. It may not be enough to state this without citing given instances. No doubt, the government of Nigeria has in several quarters declared that education at the primary school level is free. Free? Some of those who attend public primary schools make their desks, buy their books and other writing materials as well as indirectly pay for certain services. On the other hand, those who attend private primary schools pay for virtually all services.

3. Government Participation and Primary Education

The concept of participation simply means 'taking part in'. The part or role played by government in the management of primary education provides room for all the blames pushed to the side of government. An account of its roles suggests why she is understood as being political, only a policy maker, a powerless supervisor and squander of meaningful programmes. An antecedent of educational policies and programmes targeted at improving the primary education sub sector shows that the government is not far from the description rendered in the preceding sentence. Several instances can guarantee the above courageous claim. For instance, the non fulfillment of grants in aids to primary schools by the colonial government is a reference point. The disagreement on which tier of government funds primary education through the National Primary Education Commission (NPEC) is another case in point. The failures of both the national and regional UPE as well as the epileptic implementation of the policies and programmes synonymous with the on-going UBE programmes are eloquent testimonies as well. Going by these, the government participation in primary education cannot be described on a positive note.

The Participation, Politics and Polices of Government of Primary Education in Nigeria

A trace of the origin of primary education in Nigeria shows that its commencement has several characteristics. The features are:

1. It was carried out by investors such as churches, individuals and voluntary agencies.
2. Its initiation by the white men was done to enable Nigerians to know how to read and write; thereby ease the problem of communication in course of carrying out their nefarious businesses.
3. The British government showed no interest in its affairs.
4. Poor curriculum. Fafunwa (1974:88) observes that "there was no common curriculum among the missionsindeed each school within a mission followed its devices".

Following the manner and way it started, one may say that its initial problems are still haunting it. Therefore lack of government participation in implementing good policies may be traced to its origin. Government

lackadaisical attitude towards primary education is show-cased in many ways. Some of them are:

1. Poor and Epileptic Financial Attention: Right from the days of the colonial era till now government cannot be credited for funding primary education adequately; commenting on this Ogbondah (2008:12) laments that:

It was not until 1872 that the colonial government made superficial attempts at making financial contributions to the development of formal education in Nigeria with a paltry £30 (thirty pounds) now N60 (sixty naira) given to the three major missions of the Church Missionary Society, Roman Catholic Mission and the Wesleyan Methodist Church.

Poor enthusiasm to participate in funding primary education by government was further demonstrated among the three tiers of government during the era of National Primary Education Commission (NPEC). Following the lingering problems associated to primary education, the NPEC was set up to rescue primary education from imminent collapse arising from inadequate funding, poor management and neglects of yester years. By the establishment of the commission through the enactment of decree No. 31 of 1988; major changes were ushered to the primary school system. Some of the changes were:

- a. Separation of primary education from secondary education under the management of a board.
- b. The funding of primary education nationwide wide under the auspices of the federal government.
- c. It also established Local Government Education Authority (LEA)

Two years after, the federal government backslided from its earlier stand by abrogating the 1988 decree and promulgated decree No. 2 of 1991 that transferred the funding and management of primary education to the local government. By this arrangement, the primary school system had the following features:

- a. The Local Governments became autonomous and responsible for the funding and management of primary schools within their jurisdiction.
- b. The council chairmen automatically became the head of the local government education authority.
- c. The federal government allocation to local government increased from 10% to 15% in 1991 and 15% to 20% in 1992 yet local governments were uncomfortable with the imposed responsibility and fronted several reasons why they could not meet up with their new tasks.
- d. Zero allocation syndrome characterized the local governments due to deduction of primary education/health care funds from the local government pause.

By 1993, federal government sought the means to resuscitate the defunct NPEC by promulgating decree No. 96 of 1993. The decree charged the commission with the responsibility of disbursing funds to LEA through the State Primary Education Board. This decree wrought certain changes to the commission. Some of them were:

- a. The local government education authority could only perform delegated functions, but may initiate their own primary education policy.
- b. Under decree 96 of 1993, the secretary of the local government education authority became the chief executive and principal accounting officer.

Considering the political disposition of government in managing the affairs of primary education in Nigeria as show-cased above, no one may exonerate her from the stagnant state of things in the system. Consequent on its preponderance effect on the system, one expects her to come up with policies and programmes that would free the system from its state of pity. Perhaps it is on this note that the government shows a level of willingness to participate in proper funding and management of primary education through the formulation of ideal policies and programmes. An x-ray of such programmes may not be very necessary. Therefore this study intends to use the on-going UBE programme as a case in point. However two other programmes worthy of mention in this context are the National and Regional Universal Primary Education Programmes (UPE) during the 1950's and early 1960 and 1976 to early 1980's respectively. Within the 1950's and part of 1960's the three regions in Nigeria namely South, West and North made conscious efforts to offer primary education free to the people. The 1950 – 1960 UPE regional programmes were generally described as a

failure with the greatest success recorded in the West. The different premium attached to the programme by the various regions determined the level of success recorded in the different regions. It is pertinent to point out that the diversity in the success or failure of the programme among the regions may be responsible for the phenomenon common to education in Nigeria known as advantaged and disadvantaged educational states.

Following the imbalance created by the 1950's to 1960's regional UPE programme, the government has shown the desire with little commitment to make basic education Available to the people. This, we can all see that the 1963 constitution was amended such that education other than higher education came under the concurrent responsibility of both the federal and state governments. This declaration was further justified in (1977) when the government through her national policy on education states that:

Education in Nigeria is no more a private enterprise but a huge government venture that has witnessed a progressive evolution of government's complete and dynamic intervention and active participation. The federal government of Nigeria has adopted education as an instrument for effecting national development (Federal Republic of Nigeria, 1977:3)

Before the roll out of the National Policy in 1977 the federal government under General Olusegun Obasanjo the then military head of state formally flagged off the UPE programme on Monday 6th September 1976 during a ceremony held at Oke Suna Municipality Primary School, Lagos (Okorosaye – Orubite: 2008). Besides the government policies and public pronouncements, primary education in Nigeria is still characterized with poor teacher pupil ratio, poor funding, poor infrastructural and instructional facilities, poor enrolment and drop-out rates etc. Perhaps in attempt to bridge the observed gap and the willingness to match action with words, the government under President Olusegun Obasanjo on 30th September, 1999 at Sokoto made a public show of her good intention to universally and compulsorily offer basic education to all Nigerians by introducing the on-going UBE programme. This can be understood as a strategy to overcome the problems that have short-circuited the proper flow of events in the primary education sub-sector. Some quarters believe that apart from the above reason the government may rationalize the introduction of UBE programme on several grounds. Chief among their philosophy are as follows:

1. Fulfillment of the content of International treaties signed by Nigeria: Nigeria has been a signatory to major international covenants on basic education. Some of such treaties are:

- a. Jomtien Declaration and framework for Africa on Education for all (1990);
- b. New Delhi (1991) Declaration on E – 9 countries;
- c. Ouagadougou (1992) Declaration on the Education of Women and Girls;
- d. Amman (1996) Affirmation on the pursuit of the Goals of Jomtien;
- e. Durban (1998) statement of commitment on inter-African collaboration for the Development of Education;
- f. OAU Decade of Education in Africa (1997 – 2006);
- g. The Dakar (2000) Education for all (EFA) forum.

Source: *Adapted from FRN (2000)*

The consent given to the above treaties, mostly the Education For All (EFA) may be held responsible by some people for government's magnanimous declaration of the UBE programme. Not to be left out among the treaties is the United Nations Declaration on Human Rights (1948) which stipulates that every child has a right to education. Nigeria was not a member as at 1948 but adopted the UN's declaration as soon as she gained independence in 1960.

2. Attainment of Millennium Development Goals (MDGs): A scan of the philosophy behind the millennium development goals shows that the child which does not exclude the Nigerian child is a major beneficiary in the actualization of the goals. Briggs and Nte (2008) explains that:

As a means of domiciling issues of Child Development in its proper perspective, we wish to observe the serious concerns of the global community on the matter. The Millennium Development Goals (MDGs), which were ractified by 189 Heads of state and governments in 2000, probably constitute the most audacious plan ever made by mankind to improve the quality of life and to assure the well-being of all. The goals refer frequently, albeit in a tangential manner, to the issue of proper Child Development as a precursor to subsequent healthy living in a number of the 8 development goals. 21 quantifiable targets, and 60 indicators by the target date 2015. Specifically, MDG 2 requests that by that target date, children everywhere, boys and girls, should be able to complete a course of primary school education.

Going by the emphasis laid by the MDG's as explained by Nimi and Nte one may deduce that the attainment of a sound primary education is not only a Nigerian issue rather a global concern. Therefore the policies and programmes of government directed towards the child primary education may be conceived as a right step in the right direction if genuine efforts are made to actualize them.

1. **The Right of the Child:** Just as stated in 1948 by United Nations 'every child has a right to education. In Nigeria, the Nigerian's child rights act of 2003 states among other things that "every child has a right to survival and development (FRN; 2003). It defines free compulsory basic education as the right of every child and charged government with the responsibility of providing it. In the bid to fulfill this obligation, the government on May 26, 2004 approved a bill known as Compulsory, Free, Universal Basic Education; bill No. 66, volume 91. The bill among others stipulates that:
 1. Without prejudice to the provisions of item 30 of Part 11 of the second schedule and item 2 (a) of the Fourth Schedule to the 1999 Constitution dealing with primary school education, the Federal Government's intervention under this Act shall only be an assistance to the States and Local Governments in Nigeria for the purposes of uniform and qualitative basic education throughout Nigeria.
 2. (1) Every Government in Nigeria shall provide free, compulsory and universal basic education for every child of primary and junior secondary school age.
(2) Every parent shall ensure that his child or ward attends and completes his
 - (a) Primary school education; and
 - (b) junior secondary school education, by endeavouring to send the child to primary and junior secondary schools.
 3. The stake-holders in education in a Local Government Area, shall ensure that every parent or person who has the care and custody of a child performs the duty imposed on him under section 2(2) of this Act.
 4. A parent who contravenes section 2(2) of this Act commits an offence and is liable-
 - a. on first conviction, to be reprimanded;
 - b. on second conviction, to a fine of N2,000:00 or imprisonment for a term of 1 month or to both; and
 - c. Consequent conviction, to a fine of N5,000:00 or imprisonment for a term of 2 months or to both.
- 3... (1) The services provided in public primary and junior secondary schools shall be free of charge
(2) A person who receives or obtains any fee contrary to the provisions of subsection (1) of this section commits an offence and is liable on conviction to a fine not exceeding N10,000:00 or imprisonment for a term of 3 months or to both
- 4... (1) Every parent shall ensure that his child receives full-time education suitable to his age, ability and aptitude by regular attendance at school.
(2) The provisions of sections 2(2) and 4(1) of this Act shall not apply to any parent who, for the time being, is resident outside Nigeria

5. The provisions of section 2 and 3 of this Act shall not apply to any child who is resident outside Nigeria and who has not received such education.

6. The Magistrate Court or any other state court of competent jurisdiction shall have jurisdiction to hear and determine cases arising under section 2 of this Act and to impose the punishment specified.

Source: *Federal Government Gazette on Compulsory, Free, Universal, Basic Education. No. 66, Volume 91*

An interpretation of government's proposal implies the guarantee of the child to be educated. Unfortunately, the activities of government may not warrant any one to declare that she backs her words with action.

4. National Committee Reports and Policies: Following the obvious failure of the regional UPE programme in the 1950's due to politicization and the desire of political office holders to conserve funds for either personal use or political aggrandizement; committees were set up at both the regional and federal tiers of government. The reports of those committees led to the 1969 curriculum conference that gave birth to 1976 UPE programme; national policy on education in 1977 and the 6 – 3 – 3 – 4 system of education. Going further to discuss this, without sparing time to throw light on the issue of politicization, good meaning may not be gotten from the position of this writer who may have claimed that politicization of educational policies and programmes has remained the highest problem of education in Nigeria. A good instance of this assumption is traceable to the dramatic change of both the political leaders and the head of the Eastern UPE programme in 1953/1954. The sudden change of professor Eyo Ita as the head of political power in Eastern Nigeria and Mr. R. I. Uzoma as the region's minister of education resulted to the abandon of the systematic regional UPE programme of the East as was programmed by professor Eyo Ita led administration. The quash and compulsory take over of Dr. Nnamdi Azikiwe and Akpabio as head of government and educational business respectively from their predecessors was not a good omen to primary education in Nigeria and the East in particular.. Accounting on this, Okorosaye – Orubike (2008) explains that

Having lost out in the struggle for a majority of his party members to control the Western House of Assembly in 1952, Dr. Nnamdi Azikiwe found himself as the only national leader of a major political party in Nigeria that was not in control of a government. Sir Ahmadu Bello and Chief Obafemi Awolowo were leaders of Government business in the North and West respectively. Thus embittered Nnamdi Azikiwe moved base from Lagos/Ibadan to Enugu in 1953 and amidst political and ethnic disaffection wrestled power from Prof. Eyo Ita (an Efik) and assumed power as premier in 1954.

This power reshuffle did not only affect the political administration alone because the greatest casualty was the primary education hence R. I. Uzoma gave way to I. U. Akpabio (the former principal of Ibibio State College, Ikot Ekpene) as minister of Education and so did Eyo Ita/Uzoma UPE policy give way to Azikiwe/Akpabio fire brigade UPE programme that manifested its failures in almost all dimensions. Perhaps in the bid to correct the anomalies several policies and programmes of government directed at re-positioning primary education have been propounded, implemented and failed. However the government do not seem to be tired on matters concerning education in Nigeria. This is so because during the Ibrahim Badamosi Babangida's led administrations as head of state in 1980's; the federal government set up a committee headed by Dr. Samuel J. Cooley to work out modalities on how to make the first nine years of education in Nigeria free, compulsory and universal. The committee made up of eminent Nigerians from all works of life asserts that:

Nigeria has a literacy rate of only about 20 percent for people who are above 15 years old. This shows urgency for a scheme or mass education if the population is to be socially mobilized. In order to have a literate Nigerian society there is need to have the education of our Youths free for the FIRST NINE YEARS (FRN: 1987)

Observations show that the reports of the Cooley headed bureau did not attract any significant response until the declaration of the UBE programme by the government in 1999. Following the above account one may be tempted to observe that government is only good in setting committees and propounding politics

without equivalent commitment to implement the content of those reports and policies. A sum of such disposition may be understood as POLITICIZATION.

Implications Of Government Politics And Policies On Primary Education In Nigeria

The way and manner government handles issues related to primary education may not have left the system without effects. The lessons or experiences acquired over the years may warrant the activities of government towards primary education to be described in the following ways:

1. Neglect of Treaties: The government is known for participating in several treaties related to primary education. In spite of her consent to such agreement of nations, no one can confidently say that she has been religious in implementing the resolution of such treaties.

2. Commercialization of the Child's Education: The proliferation of private nursery primary schools is traceable to the disposition of government in both its funding and management. Government attitude towards childhood education may have warranted some people to describe the government as a licensing officer; hence she is responsible for authorizing the private school operators. In this vein, Yahaya in Yaloye (1993: 50) asserts that "this level gets very little mention perse, in the laws of the country because it is optional and with very rare exceptions, a wholly private system".

3. Quality of Education: Correlating the fact that the government policies and intentions in signing treaties targets at ensuring quality education for all and the fact that they are yet to match actions with their words, it means that they are not interested in letting all acquire good education. The fact that education at the primary school level is a basic one, such that none acquisition of the skills imparted at that stage among Nigerians may lead to the production of citizens who may not distinguish wrong from right. The government needs to demonstrate the minimum sagacity in rendering it as a need and not as a want. Anero (2008) observes that "a man without a functional academic background and has no special vocational skill is a curse to humanity. He further explains this by stating that such a person is characterized as follows:

- a. He cannot care for himself;
- b. He depends on nothing for survival and passes a hopeless life;
- c. Members of his immediate family fend for him, else he will die premature and serve as a source of reproach to them; and
- d. He does not possess the capability to meaningfully contribute towards the growth and development of the society.

Infact he is known as Mr. NOBODY!

4. Neglect to Societal Development: The reasons are abundant to support the fact that education is a major instrument for societal development. Yet, it may not have accorded the required recognition by government who is known as the chief manager. This accusation stem from the fact that sometimes, panels set up to look into educational issues do not diligently carry out their functions much more implementing the recommendation of committees, panels and educational boards. The editorial of Argus newspaper (2003) holds that:

The urgent need for the panel to carry out its task independently is anchored in the premise that education is too serious a business to toy with We therefore appeal to the respectable members of the panel to remain immune to whatever pressures they may be brought to bear on them and remain focused to transparency.

The lesson from this account implies that if the government deserves the development of the society, it must of necessity carry out the content of all treaties that she signed as well as fully implement the recommendations of committees, panels, boards, councils and so on.

Conclusion

The major business of this paper was the examination of government participation in matters related to primary education. It explained that the extent of participation can best be described as politicization. The above conclusion was buttressed by examining the promise and fail syndrome synonymous with government decisions over the funding and management of primary education programmes. It stressed that government inability to fulfill her declaration is traceable to the days of British colonial rule in Nigeria. The study emphasized that all forms of government has not exempted itself from the wreckless abandon of primary educational programmes. It inferred that the poor disposition of government towards matters related to primary education should be held accountable for poor quality of education in Nigeria.

Recommendations

In as much as no one may argue that government politicization over policies and programmes directed at improving primary education is an evil wind that pays no one no good; the following recommendations are made:

1. NGO's, agencies and other groups should encourage government to implement the content of treaties, policies and programmes targeted at improving primary education;
2. The legislative arm of the government at all tiers of government should make laws that could be pragmatic in effecting checks and balances to guarantee policies and programmes in favour of primary education

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National Philosophies of Education and Impact on National Development

Bassey Ubong

*Federal College of Education (Technical),
Omoku, Rivers State, Nigeria.*

Abstract *Way back in Greece of the 3rd century BC, the role of definitive national philosophy of education as a basis for teaching of young people was recognized and effectively applied. Nations in the contemporary world that have recognized the need for a definitive national philosophy of education as the springboard for national development appear to be at the forefront of development and those with vague national philosophies of education appear to experience developmental problems. This paper attempts a comparative study of some national philosophies of education and how they have impacted on development effort. It submits that developing countries should make effort to adopt focused national philosophies of education and suggests self-reliance with entrepreneurship at the core as one of such.*

Keywords: *Philosophy, education, national, development, entrepreneurship*

Introduction

Greek city states in antiquity were distinguished polities basically because of their education systems. Athens was particularly important, having hosted such popular institutions as the Academy of Plato and the Lyceum of Aristotle. Each city state had a defined philosophy of education that guided teaching and by extension, learning. Aristotle, in his *Politics* as quoted by Howie (1968) stated, "Thus in Sparta and Crete the educational system and most of the laws are directed towards the establishment of military power for the purposes of war" (p. 95). Sparta in particular was known for war and thus body building and gymnastics which in today's world constitute health and physical education) were the focus of the education system. In Athens, the focus was on the humanities and logic and democracy were of prime interest.

Why is it necessary to have a focus particularly in education? Peters (1980) notes, "To ask questions about the aims of education is therefore a way of getting people to get clear about and focus their attention on what is worth while achieving" (p. 28).

One of the achievements of a system could be the development of the national economy. Peters (1980) presents a metaphor when he saw education thus: "Just as gardens may be cultivated in order to aid the economy of the household, so children must be educated in order to provide them with jobs and to increase the productivity of the community as a whole" (p.28). There is a positive relationship between level of education in a country and the level of socio-economic development. This is why Campbell (1964) in Maduewesi (1998) holds that "the leading nations are the reading nations." In the specific area of entrepreneurship, research by the Global Economic Monitor (2003) has shown that there is a positive correlation between entrepreneurship and economic development as well as positive correlation between entrepreneurship education and total entrepreneurship activity in a nation.

One approach to national development is to develop the citizens by way of making them self-reliant. Self-reliance implies independence that can be achieved through private effort in entrepreneurship. This is the situation in capitalist economies where private entrepreneurship has been allowed to flower. Socialist economies such as China and Russia have subtly and slowly but surely embracing private entrepreneurship which, in China in particular, has had a salutary effect on economic growth. Developing countries should consider having definite national philosophies of education with self-reliance at the core. Some national philosophies of education and the impact on national development are discussed here.

Singapore

Discussing education under comparative studies with respect to the East Asian country of Singapore (one of the four 'Asian Tigers' or economic miracles of the world) should fittingly start with its modern history, reason being that colonized countries in Africa and less progressive, formerly colonized countries in Asia need to drop the excuse of colonialism as the cause of their sustained underdevelopment. Singapore became a British colony in 1819 and remained colonized for nearly one and half centuries. In 1963, the country, as part of Malaysia, became independent. It became a Republic in 1965 after separating from Malaysia.

Although the population is small (about 4.6 million in 2006), the country should be expected to be underdeveloped not only because of her colonial past but because it has no crude oil, imports all her energy needs, and only 0.9% of the country's land mass is available for agricultural production. Yet, as at 2006, Gross Domestic Product was \$132 billion, per capita national income was \$29, 474, life expectancy stood at 81.9 years and literacy rate was 93.9%. In terms of human development index, Singapore is put in the High Human Index group as it was at the 27th position (UNDP, 2010). Nigeria, a republic two years before Singapore, colonized for a little over half a century, the world's 6th largest exporter of crude oil with a land mass that is 55% cultivable and a resourceful population of 140 million by 2006 (FGN, 2006) could by 2006 boast of GDP of \$115 billion, per capita national income of a paltry \$797, life expectancy of 47.8 years, and literacy rate of 70.7%. Nigeria's Human Development Index position was 142nd (out of 169 countries) in 2010 (UNDP, 2010). Could the education systems have played a part in these divergent indices?

While education spending in Singapore usually makes up about 20 per cent of the annual national budget such that public education is subsidized and there is government assistance for private education for Singaporean citizens, the Nigerian Federal government has over the years made an average budgetary provision of 0.9% for education. The national philosophy of primary education of Singapore places "a good grasp of English Language" as number one item, followed by mother tongue and mathematics. That of Nigeria (FRN, 2004) requires teachers and pupils to wait till Primary 4 before using English Language for teaching and learning. The 'language of the environment' (with or without orthography) is expected to be used for teaching from Primary 1 to 3 even when such languages do not have words that can accommodate science and most other fields of study (Ubong, 2009).

Another philosophy that is central to the Singaporean education system is that of Confucianism. The central concept is *ren (jen)* which to Confucius meant that "the good life is an endless aspiration for ethical perfection." Morality is thus a crucial part of Singaporean education system just as it is in Japan. In Nigeria, moral instruction is still subject to debate and is mentioned in passing in the National Policy on Education (FRN, 2004). Probably the emphasis on moral education in the national education policy accounts for the reason Singapore. The main language of instruction in Singapore is English, officially designated the first language within the local education system in 1987 (The Strait Times, 2009). English is the first language learned by half of the children by the time they reach preschool age; it becomes the primary medium of instruction by the time they reach primary school. The foundation stage is the first stage of formal schooling and includes four years from Primary 1 to 4 during which a foundation is established in English, mother tongue (Chinese, Malay, Tamil or a Non-Tamil Indian Language) and Mathematics. Other subjects taught from Primary 1-6 include civics and moral education, arts and crafts, music, health education, social studies, and physical education. Science is taught from Primary 3 onwards (Inca, 2006). Singapore has consistently held the first position in international education scores in mathematics and science for several years. Singapore Primary Mathematics series and other national textbooks have been adopted and used in the United States of America (USA) and other countries.

Japan

Way back in 1951 when a whole lot of countries in the world were yet to taste independence and take on the myriad tasks of development including the education of the citizenry, F. N. Kerlinger wrote of Japanese education. He saw the Asian nation's educational system as being based on the philosophy of *shūshin*. The principles that *shūshin* embodied in the opinion of Kerlinger (1951) "were the centre of the Japanese curriculum. They were the centre of Japanese life itself." What was *shūshin*? Kerlinger (1951) summarizes it as "morals, ethics, moral science, moral training, morality." In essence, morality was, and is still the central philosophy of Japanese education.

One way of establishing whether this has impacted the society is among others, looking at the way the world sees Japan with respect to morality. Of 178 countries, Japanese stood at number 17 on the Transparency International scale of nations with respect to corruption in 2010. Denmark, New Zealand, and Singapore took the first position as the least corrupt nations of the world in 2010. Nigeria was at the 134th position while Somalia took the last position of 178th.

Shūshin is said to have started during the Meiji era in Japan. The Meiji period (1862-1912) appeared to have been the most eventful period in Japanese history. Emperor Meiji engineered changes in all aspects of Japanese life including education. In 1872, a new educational system was set up known as the Gakusei with emphasis on mathematics, science, and culture as well as Japanese language and morality. Although examination was top priority, examination malpractice was unheard of as well as other acts of immorality in the education system. This has largely been sustained to the present. Apparently because Japanese philosophy of education has morality as the central issue, a number of other things follow including discipline which has led to high levels of achievement.

In summary, Japanese education has had a focus since the Meiji era and that focus – morality - has reflected in diverse ways that have had positive and enduring impact on the entire Japanese society. Morality means a high sense of discipline which is reflected in the life of the youths who see education as a path to the good life and put in so much that drop out rate is low and graduation rate very high. It follows that a disciplined youth population grow up to be a disciplined adult population. This is the famed *multiplier effect* theory in economics which holds that one action that has linkages touches several aspects of life in a positive manner generating cumulative effects that are greater than the individual acts (also described as social action in sociology).

United States of America (USA)

Early education in the USA followed the European (British) tradition. Major changes were however effected, the most important fall out being the public school system. Education was, and is still being seen as the basis of a free society based on the principles of democracy. Given its crucial nature, education, in the opinion of Thomas Jefferson (1743-1826), should be the responsibility of government.

Horace Mann (1796-1859) was the first American to introduce reforms into the educational system principally, by advocating public education. He is also credited with establishment of the first school for teacher education in the USA. He extended the position of Jefferson, positing four ideas:

1. Universal popular education if the Republic is to endure;
2. Education should be free from sectarian religious influence although morality must still be emphasized;
3. Education is the primary responsibility of the state;
4. The state has a right to raise taxes to finance public education.

John Dewey also had an enduring impact on American education through his writings and the philosophy of pragmatism cum instrumentalism. Two other American philosophers, Charles Sanders Pierce and William James were also pragmatists.

The philosophy of pragmatism has been the backbone of American education and life generally. It is what has seen the landing on men on the moon and what has informed the superlative developments in science and technology, and the basis of the American Dream.

Russia

Russian history has a lot of twists and turns but the country shot more into the world stage when it became the de facto laboratory for a new experiment in governance known as communism with the economic philosophy of dialectical materialism developed by Karl Marx (1818-1883) and Friedrich Engels (1820-1885) as the basis. Before the Marxists shot onto the stage however, there was the Czars or emperors, who saw education as dangerous for the masses. The Bolsheviks followed after the 1817 revolution; they saw education as the power base of the nation although how that was to be done was not articulated. The Bolsheviks also aimed at rooting out inequalities and religion. These were the basic educational aims of the revolutionaries in Moscow. Shulman (2001) however notes that "Beyond this, they had no developed educational philosophy, only a collection of vague and often conflicting ideals and objectives" (p. 415). In evaluating the Soviet educational system during the days of communism, Shulman (2001) submitted: The educational system adequately served Stalin's purpose by quickly turning out cadres with basic literacy and skills. Now it is struggling to provide young people with the higher and more comprehensive knowledge needed to meet the goals of today's Soviet leaders ... The educational system faces problems that mostly relate to the question of how to take full advantage of advances in science and technology (p. 418).

It is necessary to recall that the Soviet Union successfully launched the first manned mission into space with Astronaut Yuri Gagarin making history. Yet it was the USA that made the greatest foray by landing men on the moon. To date, Russia, what is left of the former Union of Soviet Socialist Republics (USSR), is yet to make any big move beyond Gagarin. This, aside from slow development of the economy (HDI position is 65, life expectancy 67.2 years, and per capita national income at \$15, 258.00 – nearly half of that of Singapore - all in 2010) slow development of democracy among other things, show that the lack of a definitive national philosophy of education has been a disadvantage to national development.

Nigeria

Section 1 of the 4th edition of the Nigerian National Policy on Education (NPE) (FRN, 2004) treats the "Philosophy and Goals of Education in Nigeria." The introduction outlines the basis of Nigeria's national policy on education, stating that it is derived from the nation's five main national goals as listed in the 4th National Development Plan (1970-75).

The document (FRN, 2004) then goes on to provide a further backdrop to Nigeria's national policy on education by making an attempt to provide a foundation by way of a national philosophy of education. The document therefore states in Section 1 sub-section 4: "In Nigeria's *philosophy of education* (italics in the document), we believe that:

- a) education is an instrument for national development; in this end, the formulation of ideas, their integration for national development, and the interaction of persons and ideas are all aspects of education;
- b) education fosters the worth and development of the individual, for each individual's sake, and for the general development of the society;
- c) every Nigerian child shall have the right to equal educational opportunities irrespective of any real or imagined disabilities, each according to his or her ability;
- d) there is need for functional education for the promotion of a progressive, united Nigeria; to this end, school programmes need to be relevant, practical, and comprehensive, while interest and ability should determine the individual's direction in education.

Above are omnibus provisions on what should be the country's philosophy of education. Within these provisions are philosophical concepts such as Dewey's multiple approaches to education delivery in a); humanism in b); egalitarianism in c); progressivism, pragmatism, and individualism cum humanism in d). It is pertinent to note that this sub-section is a *believe* and believe, although regarded as one of the conditions of knowledge, is not a confirmed position in philosophy. Okoh (2003) has contrasted belief and knowledge or truth, noting that among other things, believe is but a state of mind (in spite of the commitment to it) and is not performative, justifiable, and is not a product of a scientific-rational process. Thus although the government may be committed to the principles outlined in the philosophy of education, they need not justify or actuate them.

The document continues, in Section 1 sub-section 5, again on the same issue of Nigeria's national philosophy of education, stating that it is based on:

- a) the development of the individual into a sound and effective citizen;
- b) the full integration of the individual into the community, and
- c) the provision of equal access to educational opportunities for all citizens of the country at the primary, secondary, and tertiary levels both inside and outside the formal school system.

These are no more than a rehash of what was said in earlier sections, with provisions that can hardly be reduced to actionable parameters. The plethora of provisions continue till sub-section 8 (f) where self-reliance is specifically mentioned: "acquisition of competencies necessary for self-reliance" (p. 8).

The need for definitive statements is important particularly with respect to mission statements. General statements are hardly actionable and difficult for operators and other stakeholders to understand. As an example, the first goal of primary education of the State of Singapore is to give children a "good grasp of English Language" (Ministry of Education, 2005) while mother tongue and mathematics take the second and third positions respectively. Nigeria's NPE would rather that Nigerian children start school using the mother tongue till Primary 3! Section 4, sub-sections e) and f) state:

- d) The medium of instruction in the primary school shall be the language of the environment for the first three years. During this period, English shall be taught as a subject.
- e) From the fourth year, English shall progressively be used as a medium of instruction and the language of the immediate environment shall be taught as subjects.

It is evident that those who designed the policy forgot the impact of the mother tongue and vernacular English in the academic work of children. In some communities, particularly semi-urban and poor neighbourhoods in large cities, the major language of the environment is vernacular English or 'broken' or 'pidgin' English. One wonders what would be the product if pidgin is used as the medium of instruction in line with the expectation of the NPE, after all, majority of Nigerian local languages have no orthography.

The language provision in the NPE is of course the classic case of conflict theory (social reproduction theory) in which the education system ensures that low class children grow up to be low class adults since the NPE with respect to language of instruction is applicable – in practice – to community and public schools. No private school would dare to wait till Primary 3 before using English as the general language of instruction.

In essence, Nigeria does not really have a definitive national philosophy of education. This is evidently why Okoh (2005) warned of "The risk of an educational system without a philosophical base." A national philosophy of education should, among other things, "identify and clarify the justification for education" (Okoh, 2005) based on certain questions. Thus in the decade of the sixties, following the declaration of President John F. Kennedy that America must land a man on the moon in the 1970s, the education system was re-oriented towards science and technology, based on the long held philosophy of pragmatism that American philosophers William James, C. S. Pierce, and John Dewey canvassed. And America did land man on the moon ahead of the Soviet Union that challenged President Kennedy; Soviet Union was the first to send man into space in April 1961. President Kennedy had declared in 1961 that America's prime objective was that, "before this decade is out, of landing a man on the moon and returning him safely to the earth." Apollo 11

landed men on the moon in 1969 and brought the three astronauts back to earth successfully. Interestingly, Soviet Union, represented by Russia, is yet to land man on the moon but is rather cooperating with America to set up and maintain laboratories in space.

Agenda for Action

Decades back, Mwalimu Julius Nyerere proposed an economic system based on the philosophy of self-reliance for Tanzania (Nyerere, 1967, 1978; Major & Mulvihill, 2009). There were problems in executing the proposals presented by this sage as detailed by Kassam (1995) yet the basics of his proposal remain valid till date: that one problem of underdevelopment is an education system that produces white collar workers chasing after non-existent jobs. Africans, nay developing countries, should have a philosophy of education that produces persons that can stand on their own after school. Practicum, in the spirit of pragmatism should be central to education particularly in the school system. There is an urgent need for a reorientation towards education for self-reliance rather than education for job-seeking. All schools should have their curricula to reflect a reasonable dose of entrepreneurship, after all, every discipline has the potential for business development and entrepreneurship education would enhance the actuation of the business potentials in every graduate of schools at all levels.

Conclusion

The structure of a nation's national philosophy on education can positively or negatively affect virtually all aspects of life and all sectors of the nation. Developing nations need to review their national philosophies to make them more focused and few and then design goals to actuate them. One focus should be entrepreneurship which can encourage self-reliance.

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Gender Equity in Science Teacher Education for Sustainable Development: An Emerging Perspective

**Ejifugha, Anthonia U.
Ogueri, Emmanuel**

*Department of Physical and Health Education,
Alvan Ikoku Federal College of Education, Owerri, Nigeria*

Abstract *The problem with gender equity has been a male-dominated science and technology education in the nation's educational development. The reverse is the case in emerging trend of enrolment statistics in science teacher education in the college used as the case study: Alvan Ikoku Federal College of Education, Owerri. Data revealed that the emerging enrolment statistics in science teacher education is female dominance, leaving the males trailing behind. This may be attributed to the inertia of males towards the teaching profession particularly at the primary and secondary school level. This emerging development presents a future whereby science laboratories are manned mainly by female sciences teachers. The teaching profession produces middle level manpower that may not adequately provide a male flair to science teaching. This tendency may reproduce itself in the future, hence denying the teacher educational environment the world acclaimed emphasis on sustainable development.*

Introduction

Cultural in Nigeria, virtually every father prefers a male child to female. This is usually the hallmark of achievement this assets as inheritance to his biological sons. Hence being a father of many responsible sons is a thing of joy. On the contrary, being a father of many a female child is a thing of agony and anxiety. Females should have no right to inheritance of their father's assets and riches because they are another man's property" this is not peculiar to Nigeria; many African cultures encourage the male child syndrome (Sokoya 2002).

Male children are a source of pride to every family because the society belongs to them. This syndrome originated from the Nigerian culture and has not only penetrated into but perpetuated itself into the educational system of the country. The post independence Nigeria society had the male-female ratio in her educational system predominantly focused on males in public schools. Enrolment statistics in the tertiary level for three consecutive years typifies this.

Table 1. Nigeria Polytechnic Enrolment 1990-1993

Year	Male	Female	Total	Female%
1990/91	62,584	20,801	83,445	24.9991
1991/92	63,846	23,433	86,279	26.000083
1992/93	71,141	21,250	92,391	23.00008

Table 2. Nigeria University enrolment 1990-1993

Year	Male	Female	Total	Female%
1990/91	163,890	07,219	234,129	30.0003
1991/92	173,492	93,419	266,911	36, 00006
1992/93	201,852	99,420	301,273	32, 99997

Source; *Federal Ministry of Education, 1994*

Table 1 demonstrates male dominance in Polytechnic enrolment. The enrolment statistics portrays 25%, 20% and 23% for female in 1990/91, 1991/92 academic sessions respectively. These data might not only be as a result of youth population who desired to be enrolled into polytechnic admission and matriculation for the three consecutive years. It might also be attributed to the aversive culture which was deterrent to female education in the acquisition of masculine skills; obviously entrenched in polytechnic education in Nigeria. Enrolment statistics into tertiary education in Nigeria portray gender biases. Courses at the tertiary level are erroneously and inadvertently categorized by gender. By natural inclinations, female find themselves enrolling for course that are gender compliant.

Table 2 portrays the university enrolment statistics for the three years. Female enrolments were 30%, 36% and 33%. This obviously reveals the universality of courses at this level, where females have opportunities to be where they can be without bias; though bias is nor completely eliminated for strongly male-dominated courses such as: mechanical, electrical, chemical, and petroleum engineering. Obviously, gender influence on course enrolment is very highly manifested in universities of technology, where the number of females in each course can easily be counted. Male dominance in the education system is gradually changing in the Nigeria society. Sokoya (2002) confirmed this. The enrolment statistics in education which obviously is moving towards gender equity may be attributed as a product of the revised Federal Ministry of Education (1981) which state that:

“it is governments wish that any existing contradictions ambiguities and lack of uniformity in education practices in the different parts of the federation should be removed to ensure even and orderly development of the country.

Section 3, paragraph 11, emphases that:

With regard to woman’s education, special effort will be made by Ministry of Education and Local Government Authorities in conjunction with ministries of community Development and Social Welfare and of Information to encourage parents to send their daughters to school. *Federal Ministry of Education*

In pursuance of this declaration, years later in September 1986, the woman education Branch of the Ministry of Education was created with these objectives.

- i. Provision of more educational opportunities for girls from primary to tertiary.
- ii. Creating awareness to all citizens to the fact that equal opportunities exists irrespective of gender, age, locality, creed or special states and should be more available to all.
- iii. Reorienting the attitudes of all females irrespective of age toward education
- iv. Provision of functional education for girls and women through skills such as sewing, cooking, banking, etc.
- v. Promoting the education of girls and women in the fields of sciences and technology education (Mbah, 2002).

The creation of the Women Education Branch of the Ministry of education was a necessity to meet the need for gender equity in the educational sector of the economy. It actually came to attain equilibrium between masculine courses and feminine courses by diffusing the sex-role segregation in educational opportunities in the country.

Concept of Gender

Gender has attracted varieties of definitions from researches and scholars. It emerged as a social issue with scholars adopting it to distinguish the social and biological aspects of the differences between male and female. Conceptually, it is defined as those aspects of male and female shaped by social forces. It can as well be described as the meaning the society gives to biological differences in humanity. According to Ejifugha and Nosike (2005) sex is natural, gender is nurtured. Being nurtured gender is subject to cultural influences and interpretation as well as limitations. Each community shapes and determines the cultural tenets that define the male gender versus the female gender.

With a meticulous encroachment the gender issues, social scientists have developed a broader approach to the social phenomenon. It is to be considered as the way societies are organized functionally, rather than mere attribute of the individual male or female, or their collective attribute as males or females. This concept is rather comprehensively focused on the way societies are organized around male or female responsibilities.

Like race and social class, gender orders and directs social relationship and prejudices. Gender determines and affects 'power to' and 'power over' (Riley, 1997). 'power to' implies the ability to act and obtain access to social resources such as education and political opportunities/positions 'power over' implies ability to assert ones wishes and goals even in the face of challenging situation. The female gender was handicapped by society to demonstrate 'power over' circumstances around them. Consequently, gender is a social phenomenon which is subject to reconstruction, for the attainment of social equilibrium.

Substantiating Riley's declaration of female' incapacitation of 'power over' resources, Rogers in Ejifugha (1999) asserted that males have power over knowledge and resources and that increases their oppressive tendency and practical power over women. Culture is a major determinate factor that constructs and reconstructs gender; hence, gender biases differ from community to community. The clamour for gender equity in our educational system particularly in science teacher education may be a contextual case in Nigeria.

Gender equity is not synonymous with sex equity. Sex equity deals with biological male or female, while gender equity deals with socially constructed and reconstructed roles of male female. Gender has social, cultural and psychological connotation. Its definition is focused on masculinity and femininity. The proper term for defining sex is male and female while gender is masculine or feminine. Although femininity may be independent of biological sex, masculinity is concerned with attitude that describes males in the social and cultural context. Hence the normal male has a preponderance of masculinity while a normal female has preponderance of femininity while normal female has a preponderance of femininity. According to Stroller in UNESCO (1997) gender is the amount of masculinity and femininity found in a person. Furthermore, gender refers to ones subjective feeling of maleness and femaleness irrespective of ones sex. This is described as gender identity. It is possible to be genetically of ones sex without socially and emotionally desiring to belong to that sex. It is possible to be genetically male or female but with gender identity of the opposite sex. This is described as trans-sexual identity.

Gender is mostly determined by behavioral attributes given by the society eg submission; humility and quaintness are considered to be feminine. Attributes like dominance, aggressiveness, talkativeness are masculine (UNWSCO 1997).

Gender Influence in Science Teacher Education

Alvan Ikoku Federal College of Education, Owerri is a case study for this paper. As one of the foremost colleges of education in the country, it was established to produce middle level manpower for teaching and learning in primary and secondary schools. Enrolment statistics in the college for the three recent academic years present a picture of a changing trend in gender equity in tertiary education especially from the perspective of science teacher education.

Table 3. Enrolment Statistics in Science Education-Degree Programmes

Year	Male	Female	Total	%
2006/07	231 (24.1%)	727 (75.%)	958	52.13
2007/08	146 (30.5%)	330 (69.0%)	478	26.03
2008/09	108 (27%)	292 (73%)	400	21.37

Table 4 Annual Enrolments in Science Education

Year	Female	%
2006/07	978	52.12
2007/08	478	26.03
2008/09	400	21.77

Table 3 shows that male enrolment in science was 24% in 2006/2007, which increased to 30.5% in 2007/08, and dropped to 27% the following academic session. Female enrolment in 2006/07 was 75.86%; it dropped to 69.03% in 2007/08 and escalated to 73% the next academic session.

Table 4 portrays that enrolment in science education was on the decrease in the college in the last three years, from 52.12% to 26.03% to 21.77% in 2006/07, 2007/08 and 2008/09 respectively. These data reflect the picture of a science education programme in a typical college of education in the country. On analysis, data presented in the polytechnic and Universities. This may be attributed to the time frame of the enrolment on both instances in universities, polytechnics and college of education. Time frame and the incongruity of the samples notwithstanding, the thrust of the paper is the influence of gender in the choice of course of study.

The female gender dominant in the College of Education is probably because teaching at the primary and secondary level is considered mainly to be feminine. Family income accruing from this middle level manpower production could be considered to be primarily subsistent. This is the reason for male a version to teaching at this level is obvious.

On the other hand, increase in female enrolment statistics in science education is considered by the authors to be very highly impressive. This may be attributed to be a consequence of the revised national policy on education which promoted female education in Nigeria. Additionally and very importantly is the laudable achievement of the women education branch of the Ministry of Education. One of the objectives is to promote the education of girls and women in science and technology. Enrolment statistics of females being higher than males in a Federal College of Education is obviously a result of emphasis on promoting science and technology education of the feminine gender.

The adverse effect of this development is the fewness of male teacher in science education at the basic level of education in this country. If unattended to, it will certainly create gender inequity on promoting science and technology at the foundational stage of education. This imbalance is very apparent in our public primary and secondary schools. This will not only reinforce the erroneous impression that teaching at that level is a female occupation but also creates an educational environment where mainly female teachers conduct experiments in science laboratories. This development is inimical to sustainable development.

Gender Equity and Sustainable Development

Gender inequity is an obvious indicator of disequilibrium in the specific field where it occurs. The field of education requires gender equilibrium in the teaching of science. This is to enable it to be able to foster procreation of manpower in it. Gender equity in the field of education erases the erroneous impression that the study of science in teacher education is feminine. If this trend is ignored, it may develop to be the way it is done.

Sociologically, mores develop to become norms and norms develop to become custom and custom, with years, turn out to become culture. This explains how behaviours like submissiveness, quietness and humility are considered to be feminine source. This development in education may not promote science education for sustainable development. Science teacher education is not feminize. The Ministry of Education should correct this development before it becomes the pattern and eventually described as such.

The World Commission on Environment and Development (The Brundtland Commission) brought the term 'Sustainable Development' into popular use in 1987 (Nosike, 1996). Sustainable development focuses on improving the quality of life without compromising the need of the future generation. The term encourages humanity to focus on sustaining the natural endowment of the physical environment in the pursuit of his daily needs. The concept demands the exercise of precautionary measures that will continue to sustain the natural environment while humanity is in pursuit of economic development. Man must continue to live within the limitations of the physical environment as both a provider of input and a "sink for wastes" Humanity must realize that even if environmental degradation does not reach a life-threatening level, it can result to a perceivable decline in the quality of life of mankind.

Furthermore, sustainability means survival, keeping the community alive. This implies food production and the means to this end is Agriculture-which is science-based. Sustainability also means economically acceptable production whereby everything removed is being replaced so as not to harm the ecology. This is also primarily science-based.

In a social sense, sustainability is viewed as a growing economic and social order with production structures and relationship. This obviously ensures fair distribution of income, power and opportunities, thus providing the basis for social peace (Serageldin 1993).

Against this background, gender inequity in science teacher education may not promote fair distribution of income, power and educational opportunities, and as well may not yield an acceptable production structure in manpower development. Additionally since sustainability advocates the replacement of whatever is removed from the environment, gender inequity if not balanced will not promote social peace and order.

Conclusion

Gender equity in science teacher education is a contemporary necessity in a world where the World Bank has engaged in promoting quality science and technology education (STEP-B, 2009) in developing countries with Nigeria as a beneficiary. This is channeled through the science and Technology Education for post-basic (STEP-B) institution in the country. With this World Bank assisted project, the promotion of science and technology education in the country is the focus. Federal universities, polytechnics; college of education and unity schools are the beneficiaries of this project currently nationwide. Science teacher education should not be allowed to be gender dominated in order to give the colleges of education equal share in taking advantage of the opportunities for promoting science and technology teacher education. This inference is drawn from the conclusion that economic development is positively correlated with areas of male dominance.

The author recommended that the national education policy of science/art student ratio should be implemented in, college of education. Though social sciences are inclusive, natural science teachers should be given priority attention in enrolment with bias toward gender equity.

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Analysis of the Awareness and Safeguarding Against Social Engineering: A Case Study of Federal Polytechnic Ilaro

**Fagoyinbo, I. S.
Akinbo, R. Y.
Ajibode, I. A.**

*Department of Mathematics and Statistics,
Federal Polytechnic, Ilaro, Ogun State, Nigeria*

Dosunmu, A. O.

*Department of Computer Science,
All-Over Central Polytechnic, Sango, Ogun State, Nigeria*

Abstract *This paper attempts to discuss the concept, forms and safeguarding against social engineering attacks as a means of security measures to individuals, organisation and governmental functions. Illustrations were made on how social engineering attacks can be lunched prevented and also reduced to the barest minimum. The paper also exposes various ways of perpetrating the evil and how such menace could be detected, security measures to be put in place and educating people through seminars and workshop on the existence of social engineering attacks, the menace in careless handling of vital information as well as procedures for avoiding information leakages. It also summarizes the relevance of security in day to activities and how to improve on security lapses as a means of safeguarding against social engineering attacks so that it can benefit the society at large. Data was collected on social awareness by the top, middle and lower management staff of Federal Polytechnic Ilaro. From the analysis it was observed that social engineering attacks was still in the awareness stage, the preparation involved the management staff only and the commitment varies and increases from the staff union to officer, to management staff and finally the senior staff.*

Introduction

Security is as old as the creation of the world itself, in the olden days, it was not as important as it is today due to the development of modern technologies and the ability to beat security by the technology so developed. Social engineering is a strategy for obtaining information people wouldn't normally divulge, or prompting an action people normally wouldn't perform, by preying on their natural curiosity and/or willingness to trust. Perpetrators of scams and other malicious individuals combine social engineering with email in a number of ways. Many advanced countries pay more attention to their securities; in spite of these, social engineers still operate and succeed in such environments; a typical example is the world trade centre attack carried out on the September, 2001, in the United State of American. New policies are in place for online business transactions and focusing their attention on security, it was also extended to the health care system so that they could be held accountable for patients protected health information. This was backed up with an Act HIPAA (Health Insurance and Portability and Accountability Act). Also in United States' schools must be adhere to FERPA (Family Educational Rights and Privacy Act) this Act protects the privacy of students education records. It is paramount to every organisation and individual to have adequate security measures for all vital records and transactions.

According to the Federal Trade Commission (FTC) reported in 2005 that "more than one million consumer fraud and identify theft complains that have been fitted with Federal, State and Local law enforcement agencies and private organisations. The survey released on April 2, 2006 by the United States Department of Justice about 3.1 percent of American household became victims of identity theft in 2004. The survey revealed that now, more than before, individuals are at a high risk of having personal information

stolen and used by criminals for their self aggrandisements. The land mark are debt, bad credit, higher interest rates and charges that are criminal in nature, the victims are not free until they are prove innocent. Recovering from this menace could take years or even a life time. Sufferers of this theft are left with a permanent stain to wipe off.

Moreover, in order to protect confidential information, all possible security measures shall be put in place, for an individual, organisation or governmental Agents/Agencies the security measures to be adopted emanates from the use of passwords to access electronic data equipment; also unauthorised personnel should not be allowed entrance to a work place where clasified information or equipment is located. Packet sniffing – the act of encrypting data to prevent malicious intruders should also be put into place. Privatising records are essential to prevent spying or break – in from the outside, this can be done by using intrusion preventing systems, access control lists, anti – spyware software and the use of firewalls. It is evident that for individuals, organisations and agencies there should be protection of personal electronic information by using passwords for access and having security tools in place, at home or workplace sensitive electronic data can be used through the process of authentication, authorization and accounting methods.

Finally, no matter the type of security measure put in place, an individual, organisation or agencies are still at risk of having their information stolen. Grander (2006) pointed out that “by merely trying to prevent infiltration on a technical level and ignoring the physical – social level, we are leaving ourselves wide open to attack”. Although many security systems have been developed to prevent intruders from accessing high value systems, an organisation cannot be totally free of social engineering.

Social engineering is the name given to a category of security attacks in which someone manipulates others into revealing information that can be used to steal data, access to systems, access to cellular phones, money or even your own identity. Such attacks can be very simple or very complex. Gaining access to information over the phone or through websites that you visit has added a new dimension to the role of the social engineer. Basically social engineering is the acquisition of sensitive information or in appropriate access privilege by outsider, based upon the building of an appropriate trust relationship with insiders. The goal of social engineering is to trick someone into providing valuable information or access to that information. It is the act of manipulating people into speaking or acting contrary to their normal manner. The goal of a social engineer is to fool someone into providing valuable information or access to that information. They prey on human behaviour, such as:

- The desire to be helpful
- The tendency to trust people
- The fear of getting into trouble

The sign of a truly successful social engineer is that they receive information without raising any suspicious as to what they are doing. People are usually the weakest link in the security chain. They employed different methods to persuade and influence others in other to achieve their objectives of obtaining unauthorized information so as to perpetrate fraud, network intrusion, industrial espionage, identity theft, or simple to disrupt the system or network (Granger, 2001). A few examples of tactics used include impersonation, phishing and dumpster diving.

Social engineering can be broken into two viz: Human based and computer based. Human- based refers to person-to-person interactions to retrieve the desired information, whereas the computer based refers to having computer software that attempts to retrieve the desired information. Huber et al (2009) noted that Automated Social Engineering uses artificial conversations where the human victims talk to a computer program that mimics human behaviour. Automated Social Engineering (ASE) is the process of automatically executing social engineering attacks. Social engineering targets human weaknesses of the user instead of vulnerably of a technical system. As an example of ASE, Robert Epstein reports in the Scientific American Mind (2007) how he was fooled for a considerable amount of time by a computer program that pretended to be a Russian woman. The human based includes:

Impersonation

This is the greatest techniques used by social engineers to deceive people e.g. pretending to be an employee of an organisation tricks are often used by pretending to be in the information technology (IT) department so as to obtain information. A simple phone call requesting an employee's password is usually an easy way to get access to information; by assuming that the phone call comes from the IT department, employee disclose the password willingly without question, especially after that employee has been told, what seems to be a legitimate reason for the request.

The human tendency to be helpful, trusting others and having tendency to protect themselves as well as fear of getting into trouble makes the use of impersonation very well for social engineers. The ability to be highly responsive to assertions of authority, even in the absence of the person in the position of authority (Rush, 1999). For instance, a low cadre, help desk employee may be intimidated by a phone call from someone claiming to be the secretary of marketing demanding a rest or adjustment in his passwords so that he may log in to the system immediately. Due to fear the help desk might not ask for proper credentials of the caller before abiding to the request.

Phone is a universal device used to conduct social engineering attack, it is a device used to obtain information from people at home. People can receive phone calls at home from banks requesting for information about their credit card and their accounts details. This makes people to divulge information concerning their accounts to someone over the phone that claims to represent the bank. Such phone calls could lead to releasing the following vital information; credit card number, social security number, bank account number. This vital information is released to the social engineer by either offering something of value to the card holder or the fear of some problems in the account of the victim.

Phishing

Wikipedia (2005) defines phishing as, the act of sending an e-mail to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft. It is the most common online social engineering; it includes e-mail spoofs (Granger, 2006). The e-mail directs the user to visit a website where they are asked to update personal information. The website is set up only to steal the user's information. Phishing is similar to impersonation but instead of face to face contact; the contact is through e-mail or other online mechanism.

Dumpster Diving

This occurs when people are not aware of the value of information they possess and are careless about protecting it. It involves careless throwing away of vital documents such as policy manuals of a company as well as company's phone book. Although the information obtained through these documents could be used for foot printing. Granger (2006) defines foot printing as "the art of gathering information (or pre-hacking)... it's commonly done to research a predetermined target and determines the best opportunities for exploitation".

The individuals at home are just a vulnerable to dumpster driving as an organisation. Many people throw away vital information such as credit card statements, bank statements, and other mails containing personal information without hesitation. Such information might not be used immediately to suit the required purpose but can be used for foot printing; impersonating a representative of a credit card company is a lot easier for a social engineer when he or she posses the cardholder's account information.

Protection Against Social Engineering

Social engineering attacks are almost an incurable disease since it involves the human element. Grander (2001) defines security as “security is all about trust, trust in protection and authenticity. Generally agree upon as the weakest link in the security chain, the natural human willingness to accept someone at his or her word leaves many of us vulnerable to attack”. There are common defences that may be put in place such as:

- Everyone that enters the building (contractors, business partners, vendors, employees) must show identification.
- Passwords are never spoken over the phone.
- Passwords are not to be left lying around.
- The use of ID technology.
- Invest in shredders.

An organisation should also provide training programs for all categories of workers including security guards, receptionists, help desk employees and management on various forms of social engineering attacks their preventive measures and actions to be taken so as not to release vital and confidential information to an unknown visitor. There should be sound policies and procedure in place to cover the following areas:

Account set up, password change policy; help desk procedures, access privileges, violations, unique user identification, confidential information handling, modem usage and acquisition, secure sensitive areas, privacy policy, centralized security, focus point etc.

People in top management posts should be guided by rules and regulations not to give orders that are sensitive in nature to their subordinates e.g. commanding a help desk employee on phone to reset password by the vice president of marketing. The help desk employee could insist on receiving proper credentials before obeying such instructions i.e. there should be documented procedures.

On the other hand, seminars and workshops to employers will serve as a guide to social engineering attacks and this will enable them to use their best judgement as a defence mechanism. Somebody who is aware of social engineering attack receiving an email from a company requesting that an individual must update his or her account information will definitely know it is phishing attack and would not consent to a possible bogus company's website through a link on that email. That person would either go directly to the company's website through a separate browser window, or call the company to verify that the email was in fact legitimate. Awareness through seminar and workshops would also allow people to be more careful of what they throw away in the trash. When people recognise the value of information they possess, they will handle it with care. Appropriate cautions will also be put in place against all forms of attack such as “dumpster dive” for valuable information, recognition should be given to the use of shredder to do away with confidential information and give proper monitoring to those who dispose of trash.

Finally, if you feel you have thwarted or perhaps been victimised by an attempt at social engineering, report the incident to your manager and to the security personnel immediately.

Summary of Findings

From the field survey we conducted in Federal Polytechnic, Ilaro with forty staff of the institution who responded to our questionnaire and interviews we find out that the implementation of safeguarding against social engineering in Federal Polytechnic, Ilaro, is still in the AWARENESS STAGE, with strength value of 3.50. On the other hand the actual implementation was found to be significantly less than advanced with value of 1.85 sharing that the implementation stage is still very low especially in the educational institution like ours, some institutions are yet to be aware. The level of thoroughness of preparation stood at 3.70 which was a little above average level.

Moreover, the finding also shows that the C.E.O., management staff and senior staff are very committed to the ideas of safeguarding against social engineering particularly its application in Educational institutions.

However, the staff unions are comparatively less committed.

A reward and Recognition system in place tends to reward individual more than team achievement. This trend if sustained could weaken team spirit and threaten the success of safeguarding against social engineering attack training for awareness at all levels.

- Training for awareness at all levels.
- Top Management commitment.
- Incorporating safeguarding into corporate strategy.
- Choice of safeguarding coordinator.
- Setting up of a safeguarding steering committee.
- The corporate culture.
- Sustenance of the programme for continuity.

We found that the identified factors to be in line with the prescriptions of the literature on the subject. We are not surprise at this trend as Nigerians are known to be avid readers and knowledge seekers.

Recommendations

It is recommended that: the continuous social engineering education should be undertaken at all levels, even for those sectors that have already acquired a high degree of awareness. Educational institutions should integrate safeguarding against social engineering attack resulting into their reward systems. Appraisal systems should be similarly treated.

Safeguarding against social engineering should form part of the induction training for new staff so as to give them an early orientation; since attitudes once formed, are difficult to influence.

Finally, Management should be patient with problem staff of long tenure, who have developed resistance to change. Training on 'Management of Change' should be done *pari pasu* with social engineering education.

Conclusion

In this study, we carried out a survey of extent of implementation of safeguarding against social engineering by questionnaire and interviewing 40 staff of Federal Polytechnic, Ilaro.

Based on our findings it is still very much at the awareness stage and more effort and commitment is required to get it beyond that stage.

From the findings reported in this paper more attention should be paid to creating awareness of safeguarding against social engineering so that we can attain a higher level of curbing the menace before the next millennium.

Organisations must protect vast information so as to prevent consumer fraud and identity theft. The discoveries of modern and advanced technologies increases security risks and this led to attacking more importance to security for individuals, companies and even government. Social engineering is a technique used by hackers and other criminals to persuade people to divulge confidential information, or allow unauthorised access, for their personal gain or for malicious purposes. Various techniques exist for social engineering attack this includes impersonation, phishing and dumpster diving and are used to achieve their goals. These attacks are difficult to control but can only be reduced or minimized because it involves human effort, training through seminars and workshops against the menace of social engineering attacks is a better means of minimizing the menace by various organisations.

Moreover, individual and organisations can try to protect their confidential information by storing their data on a system that requires password-only access, putting the system in a secure room that allows only authorised admission, and spending much money as possible on security tools to protect the data through that does not mean that the data is not vulnerable to social engineering attack.

Finally, training people which includes formal education against the menace of social engineering attack and organising seminars and workshops will prevent social engineering attacks from thriving in any organisation. Other ways of preventing this attack includes the generation of overall awareness, once people are aware of the critical data they possess; the need to protect it for possibility of exploitation this will lead to building a strong defence against social engineering attack thereby leading to its decline.

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Mechanisms of Resource Mobilization for Support of Universal Free Primary Education by Women of Mbale District, Uganda

Kagoda A. M

School of Education
Makerere University P.O. Box 7062, Kampala, Uganda

Abstract Education is a process by which society perpetually recreates the conditions of its very existence (Tomasevsky 2004; Phillips 1975). By this very process, the gap between generations is bridged as old and new values are passed on to the young by the process of teaching/learning. In formal education, there are social aims and objectives that constitute guidelines toward this progressive growth which develops an individual's capacity and basic means for preservation of a society. The quality of learning is influenced by a number of factors including school attendance, distance walked to school, feeding, socio-economic status of the family, attitudes of parents towards education, peer influence, the school learning environment, quality of teachers and many other factors. Uganda Introduced universal free education in 1997 as a policy that grants every citizen opportunities to access all forms literacy. The purpose of this study was to assess the achievements, constraints and future prospects of women's continued support for their children's education among the urban and rural poor in Mbale district. Focus group discussions for parents, face to face interviews for pupils, teachers, district education officers and political leaders' were also conducted. This research established the mechanisms such as participating in formal and informal markets, casual work, borrowing from microfinance banks and many others are used by parents to mobilize resources. The study recommends provision of adult education to all illiterate women in the poor communities of Mbale district. School administrators and teachers should organize meetings regularly with parents to share with them goals of the school. School administrators should listen to their pupils in order to understand them and their needs.

Keywords: Resources mobilization, women, primary children

Introduction

The Millennium Development Goals set a target of universal primary school completion to be achieved by 2015. Primary education was made free and compulsory and this is affirmed by all of the key international treaties, including the Universal Declaration of Human rights and the Convention on the rights of the child (Tomasevsky 2004). The underpinning principal, it is assumed, is that there is a close correlation between low levels of education and poverty, both at individual and society level. Governments have the obligation to improve the quality of education by ensuring that the entire education system conforms to all human rights. It is the responsibility of governments because it is a vital investment in a country's economic future (Tomasevsky 2004). Tomasevsky adds on that education transmits core values from one generation to the next and helps in eliminating poverty, racism, religious intolerance, and other reasons for social disharmony.

By universalizing primary education it is hoped that graduates will display a greater willingness and ability to participate, more actively in the political decision making process and in community development efforts (Schuller 2005 Education also increases the people's willingness and ability to try out new ideas and practices such as improved health practices, family planning and introduction of new techniques in agriculture (Bacchus, 1981; EFA Global monitoring report 2005). Children are the citizens of tomorrow's world, their survival, protection, development and participation is the prerequisite for the future development of humanity. UPE it is implied is both a human right concern and an important part of development strategy for human resource development using a mass oriented approach (Bacchus, 1981).

Quality education however, implies that certain conditions must be fulfilled like, a relevant curriculum, rules and regulations, quality behaviour of students, availability of furniture and textbooks, good school management, responsible attitudes of teachers and the support of the community where it is located (Munoz 2007). Phillips 1995; Munoz 2007)) on the other hand argues that quality of learning is influenced by the

conditions of school attendance, distances walked to school, midday meals, living levels of the student families, health, nutrition, attitudes of their parents whether positive towards education, cultural and religious views prevailing in the local community and the state, influence of peers and by the economic and social environment. UNESCO (2002) refers to quality education as an improvement of all aspects of learning and ensuring excellence so that recognizable and measurable learning outcomes are achieved by all learners especially in literacy, numeric and essential life skills like appreciating and being able to accommodate others, necessary for responsible living.

Parents have a responsibility to contribute to the learning of their children (Monoz 2007). A few responsibilities taken from Monoz's list are listed below:

- To ensure a child's preparedness to start school
- Supporting and recognizing the right to education and the value of education for their children.
- Ensuring that children are not overburdened with domestic work to the detriment of their schooling. Parents need to create space and time in children's lives to enable them to attend school and other homework.
- Ensure that children are prepared for school and able to arrive, ready and on time, when school is in session.
- Getting involved in the school and support its work- through participation in meetings with teachers, committees, consultation, etc
- Showing encouragement and support for their children's work and where possible helping with homework.
- Ensuring that their children are health and well nourished so that they able to learn..
- Ensuring that local traditions and customs, such as child marriage do not prevent their children from going to school.

Where parents, especially mothers are illiterate the likelihood of their children realising their rights to education is slightly diminished. This implies mobilisation of resources for their children's education is a real huddle. The concept mobilization according to Rahman (1980) means the urge that arises from one's own consciousness, the satisfaction of which gives one direct emotional fulfilment. On the other hand the concept resource means the physical wealth like assets, stock family property including land available that can be drawn on when necessary. Mental resources are one's inner strength, ingenuity and skills utilized by people and can simply mean the confidence in one's ability to solve problems of life, the courage, creativity, knowledge, the stamina to make sustained effort, interpersonal strategies, powers of decision making etc (Gatlung, 1980). People normally draw on both the physical and mental resources in pursuing their objectives and find emotional fulfilment in achieving the objectives set.

Purewed (2001) confirms with Monoz (2007) pointing out that the education of the mothers affects both the work at home and at work consequently, affecting the standard of living of the community. They goes on to say that illiteracy dis-empowers people from giving the right information with regard to nutrition, health, childcare, production of goods etc. It reduces their awareness of choices available and chances of ensuring the best quality of life for their family. The fact that many mothers in developing countries are uneducated is one of the forces inhibiting school attendance and better performance of the children who attend school. Participation of women in the informal sector to grow crops as well as selling in markets to supplement family income has put pressure upon women's capacities to maintain the family units, although that supplementary income supports their children in schools.

The high fertility among the poor is another constraint to parents in poor families especially in a situation where there is no social security for parents in old age. In Uganda fertility is 7 (UG.GOV/UNFPA2010) and children are long term security because they look after their parents in old age. They are a source of happiness and hope, a source of income in case of dowry at marriage. However with large numbers of

children parents find it difficult to sustain their children in school. In order to develop their personality, children should grow up in an atmosphere of happiness, love and understanding. Children cannot perform well without these basic needs, for example poor feeding interferes with their physical and mental growth. The rapid expansion of access in primary schools and output has eventually exerted high pressure on limited human, material and physical facilities in schools. These circumstances are thought to be affecting the educational quality Monoz (2004).

Context of the Study Area

Social Economic status of the urban poor is described by the Mbale Municipal authorities below; According to Mbale Municipal Development plan 2005/2006 – 2007/2008 *'there are many problems facing the people' High levels of overcrowding in the residential housing and difficulties in residential land development... High levels of poverty and the importance of the informal sector for household survival. Problems associated with economic strategies ... 80% of Mbale residents live in health problems..... low levels of education especially among the female population. The number of female headed house holds is on the rise due to a number of factors including HIV/AIDS.* There is a general lack of access to family planning and unequal gender relations. Birth rates remain high, the fertility rate being 7, (UG Government, UNFP 2010) imply women bear 7 children on average. Mooni and Namatala slums in Mbale municipality were used in the study. Bukyernde and Bungokho sub-counties are the rural areas in the district used in the study. The areas can be described as plains below Mount Elgon on its western side.

People in rural areas are agriculturalists growing cotton, millet, sweet potatoes, beans and a variety of green vegetables. They keep animals such as cattle, goats, pigs, birds on a small scale. Women in both the rural and urban areas brew local beer using millet for sale. Transport and communication facilities are not easily available in these rural communities. School going children walk long distances to school (up to 4kms). There is a severe land shortage, the population density is high (over 300 people per Square kilometre. There is over cultivation, deforestation leading to land degradation and low crop productivity. Source of fuel in both communities is charcoal or firewood. Electricity or kerosene are too expensive for the poor in these societies. This is a male dominated society where family property including land belongs to the male in a family (Government of Uganda/UN IFPA 2010).

In an effort to fulfil the Universal Millennium Development Goals the government of Uganda introduced free primary education in 1997 for at least 4 children per family. The government took into consideration marginalized groups of the disabled and female children to be included in this figure. Enrolment in primary schools swelled from 2.9 million to 5.6 million and today it is 7.2 million. The parents were expected to provide a balanced diet, a warm bed to sleep in, medical care and opportunities to play and access to school. According to the Millennium Development Goals (MDG) report for Uganda 2010, the total number of school going age enrolled by 2009 was 93%, the boys being 96% and girls 90%. Uganda has made great strides in expanding access to primary education; consequently towards the global goal of ensuring that by 2015 all boys and girls will be able to complete primary schooling. The Net Enrolment Ratio (NER), which is a key MDG indicator and measures the share of children of children in school going age who are actually in school. This ratio hovers above 90% in recent years close to 100% needed to meet MDG. However there is a problem of non-completion of school. Businge and Kiwawulo (2011) reveal that the director of the Population secretariat reported that 1.5 million pupils never make it to secondary school every year. The government of Uganda has adopted numerous quality initiatives, policies and curricula reform; introduction of thematic curriculum in 2007 which focuses on literacy, numeracy and life skills. Using local languages, revised upper primary curriculum, setting management standards and the introduction of basic child-friendly standards for schools through revised basic requirements.(MDG report 2010).

The Government of Uganda has succeeded in increasing enrolment of children especially in urban areas compared to the rural areas (MDG report 2010). However a significant number of children do not attend

school. The quality of education in the public (UPE) schools is still low and a number of children cannot read and write by the time they finish primary five. The school infrastructures and educational teaching materials are still inadequate and poor despite government investment in these schools. Some schools still have untrained teachers while the qualified teachers are not motivated enough to successfully implement the curriculum. However the communities, parents and women in particular have played their part within their means to supplement the government efforts to provide free education to primary age children. This paper identifies and explains the successes of women, constraints they face and their hopes for the future of their children's education.

The Problem

It is observed the world over by gender studies researchers that women's work and contributions to national/society development is not visible, measurable consequently not recognized by the society and by many development planners (Moser 1989; Momsen 1987). Poncini (2009) argues "because women have been in unpaid work mostly and this is invisible, they have also accepted it. Women accept really any kind of conditions, because before they were not paid and even if they are paid less now, they take it. I think they shouldn't. That's why I think they should be helped by government policies and legislation." While women contribute a lot to their children's welfare at the domestic level, support them morally financially and psychologically, it is normally their spouses (men) who are praised for their children's success while women are blamed for their children's failure (Kandiyoti 1975). However, since education is a vital factor in the development of a nation it is important to identify the key areas where women contribute. By listening and recording their voices, it is hoped that their constraints and challenges, hopes and aspirations for their children will be packaged and forwarded to appropriate stakeholders and popularized in the district. Plans and strategies can be made to support women by their families, society, local and national governments. This paper identifies and explains the successes of women in mobilising resources, constraints they face and their hopes for the future of their children's education.

Purpose

The main purpose of this paper was to examine methods used by parents especially women to mobilize resources, constraints they face and their hopes for the future of their children's education in primary schools of Mbale district in Uganda.

Objectives of the Study

1. To identify the motivating factors for parents to send their children to school.
2. To identify parents' source of resources to support their children in school
3. To establish the constraints and challenges faced by women in the process of mobilizing resources

Methodology

The method used to collect data was qualitative where an interview guide was used for the focus groups to collect data from school managers, teachers, pupils and parents. Face to face interviews were used for the head teachers, and one district Education official. Most of the children were not fluent in English therefore vernacular language-Lugishu-was used. The researcher used four research assistants; three men and one female who were themselves Bagishu and familiar with the culture and other characteristics of the area social cultural context. The research assistants talked to the children individually, since they were too shy to talk in a group situation. The data was translated to English by the research assistants immediately.

The School management committees and parents were not fluent in English there I used the research assistants as translators. The school head teachers and teachers were interviewed directly by the researcher since we could converse easily in English.

Sample

The study was carried out in Mooni and Namatala slums in Mbale municipality and in Bukyembe Bungokho sub counties in the rural areas of Mbale district. These areas are representative of the urban and rural poor of Mbale district. These four areas are representative of the urban and rural poor of Mbale district. The two slums out of eight were selected because they were the most populous with 6000 people each. They both had settlers from different parts of Uganda especially from the neighbouring tribes of Teso, Bagwere, Kenyans, Basoga, Samia, Japadhola to mention a few. The children from these other tribes could speak Lugishu fluently like their peers. Another factor was that there were many children who had dropped out of school in these two slums. Namatala has two government aided schools while Mooni had one UPE primary school.

The two rural sub-counties were selected because they are near Mbale municipal centre making it easy to access them. Bungokho has 11 primary schools and Bukyende has sixteen schools.

Three urban poorly resourced schools located in two slums and four rural schools were selected randomly. Seventy two (72) pupils were randomly selected from the schools used in the study; 42 of whom were female and 30 male. Fifty six (56) parents, 37 female, 19 men and 24 teachers participated in the study.

NOTE. The school management committee members are included among the parents.

Findings and Discussions

Background of Participants

Location of pupils homes in relation to School

Table 1: Location of pupils' homes in relation to their respective schools

Distance from School	Number
Those pupils who live within 5-25 minutes of the school were mostly in Mbale town.	30
The pupils who take 30 minutes -2 hours to get to schools are found in the rural areas of Mbale district.	42

Family Household Head

It was necessary to find out the household heads since they tend to be the source of income for their families. Forty five (45) pupils said their families are headed by males while ten (10) said theirs were headed by female. The rest didn't indicate. The number of people in the family varied from two to twenty one (21) where the family was polygamous, four (4) in some families the district average is six (6).

Response to Objective One

Motivating Factors;

1. First and foremost motivating factor is the government taking the responsibility of paying tuition fees. (Affirmed by all parents/guardians)

2. The second important factor is the children's aspiration and attitudes towards education. (80%).
3. The role models in the area who inspire their parents/mothers to educate their children so that they lead a better life than themselves (90)

Seventy two pupils from primary one to seven were interviewed to ascertain their aspirations, attitudes and expectations.

Table 2: Pupils' aspirations, attitudes and expectations

Item	Expression of Aspirations, Attitudes and Expectations	No of Responses	%
1	If we get well educated, we will get a job and salary, care for my family and educate my children.	22	4.54
2	We wish, we had lunch at school, we are hungry	40	8.25
3	We enjoy studying and staying in school	69	14.23
4	We want government to help us with school dues and text books	11	2.27
5.	we want government to provide a school truck, balls for games and sports	28	5.77
6.	We want more classrooms	20	4.12
7.	We want music instruments	11	2.27
8.	We want a library	17	3.51
9.	we want to learn to read and write (P.2)	14	2.89
10.	Studying is good, I have been able to get friends	44	9.07
11.	We want typed examinations at the end of the term instead of writing it on the chalk board	11	2.27
12.	We want piped water	12	2.47
13.	We want teachers to improve on their teaching, we have "poor education standard"	40	8.25
14.	We want more teachers	37	7.63
15.	We want to be taught well	41	8.45
16.	We want teachers who do not know Lugishu; we want more English language Teachers.	30	6.19
17.	We want all our teachers to be transferred and we get new ones.	14	2.89
18.	Some one should slash and clean the compound instead of us doing that.	03	0.62
19.	We want our classes to be cemented, they are dusty	10	2.06
20.	We want a play ground of our own	11	2.27

Responses related to schooling (response 1) indicate that children have a clear idea of what they want to be when they grow up and how to get the best out of life in UPE schools. They also show a sense of responsibility for their families and the community as a whole. Regarding their teachers, the children are crying out that it is wrong not to have good teachers like in responses 13,14,15,16,17, if we are to get much of our expectations. The education system in Uganda uses English as medium of teaching explaining why the children say it will be useful if we get teachers who will speak English to us instead of Lugishu. (16). Mothers are aware of the plight of their children in UPE schools which offer inadequate education "We would like to take our children to better schools but because of poverty we cannot". Children know how to think strategically in order to enjoy school and get the best out of it, (responses 5,6,7 and 8). Socializing is also another aspect children pointed out in responses 10.

The children also know what the schools are supposed to provide according to responses, 5, 8, 11, 12, 18, 19, 20. According to the New Vision editorial (7July 2006), by primary four (4) some children in some

UPE schools cannot read and write, echoed by response 9. Most of them walk long distances to school which open at 9.00am and close by 3.00pm. There are few teachers who have few skills to handle large classes of 50 -100 per class. Head teachers are rare at school, teachers' morale is very low and there is under teaching in most schools (Vision reporter, 2006). This confirms the children's anxiety regarding teachers. It is clear that children need to be listened too in order to understand their aspirations and needs so as to address them. This can be affectively done by teachers and parents through career guidance and counselling. Feeding children is still a big problem according to response (2). 57 children said they do not get lunch at school and this is corroborated by all the teachers interviewed. Only 15 children said they get lunch at school and this is corroborated by all the teachers interviewed. Only 15 children said they get lunch cooked from school which is food provided by NGO for orphaned children. The children living within 15 minutes walk from school go home for lunch, (32) mothers or female relatives provide money to their children. 9 said they carry sugarcane, cooked cassava and potatoes from home.

To respond to the second objective;-Source of resources to support their children in school- the following data was obtained from pupils;

Table 3: Occupation of household heads of the families of the pupils

Occupation	Number
Regularly paid	29*
Self employed	24
Business	08
Peasant Farmer	30
Others	05

* (10 of these are teachers on the Government payroll)

NOTE: Most of the household heads have dual occupations: e.g. farming and trading, farmers and casual labourers, e.t.c. Women and pupils were asked to name the person responsible for their education.

Person Responsible for Education

The pupil's (72) and teachers (24) were asked to identify the people responsible for the education of the children in the schools which participated in the study.

Table 4: Person responsible for pupil's education

Item	Frequency of pupil responses	Frequency of Teachers responses
Father	38	08
Mother	26	03
Guardian (Male)	05	04
Guardian (Female)	08	03
NGO	03	02
Don't know all above	02	04

NOTE. Some pupils named two people as being responsible for their education. It is very difficult for children to know whether it is the father or mother who made the money in cases where the father confiscated all produce from farms cultivated by women or money from vending by their mothers. Women, in some

instances, run homes because their husbands are away in urban areas. In this instance, children cannot tell who provides money for their upkeep and education, since they have absentee fathers.

Women's Contribution to Education

The pupils were asked to list female relatives who contribute to their education.

Table 5: Women's contribution to pupils' education

Female Contributor	Number
Helped by female relatives (grand mother)	11
Mother	61
Other female relatives	11

Some pupils are orphans living with aunts whether on father's side or maternal side.

Pupils were asked to list what they feel their mothers and female relatives contribute to their education. Here the pupils gave tangible and intangible contributions made by their mothers or guardians. The teachers were also asked what they observe as being the most important contribution by women to their children's education.

Table 6: Forms of contribution to pupils' education made by women

ACTIVITIES	RESPONSE BY PUPILS	TEACHERS RESPONSES
Buying uniforms & shoes	48	
Washing my clothes	46	
Buying scholastic materials	60	2
Cooking and feeding us	60	3
Gives me pocket money	30	
Helps me to do my homework	30	11
Pays school dues (Stationary)	30	2
Monitor the UPE funds		3
Buys other clothes and toys	11	01
Cares for me when I'm sick	42	10
She takes me to school	12	1
She takes me to the village for holidays	22	

School dues include coaching fees, registration fees, reports, school badge, tests, etc. Without coaching fees, the child will not gain much from UPE schools.

In some few cases, the fathers of these children give money to their mothers to buy school provisions. In addition to this financial support, women showed love, care, comfort and encouragement to their children. Children's sense of self worth, security, confidence is boosted if there is some one at home to provide what they listed above consequently their performance at school is boosted. Some women are members of "school management committees". That explains the teachers' response that they monitor UPE funds. Teachers added that a big number of female teachers who are committed and motherly also contribute to the success of UPE schools. It is believed that women are endowed with nurturing, interpersonal and intuitive skills by nature (UNESCO, 1993).

Sources of Income of the Mother and Other Female Guardians

All participants (including mothers) in the study were asked to list sources of income of women who support their children at school (152 people). This is where women use their mental resources to make ends meet by outsourcing from different areas/points/sources.

Table 7: Women's source of income in Mbale District

Item	Frequency	(%)
Market Vendor	40	24.69
Business women	20	12.35
Peasant farmer	29	17.90
Housewife + casual work	50	30.86
Regular income	23	14.20

In this study market vendors are women selling goods on streets in the evening, selling on market days or have stalls in the formal markets. They sell vegetables, charcoal, potatoes, bananas, second hand clothes, local beer and many other goods. Business women have small scale retail shops in the slums of Namatala in Mbale Municipality. Casual workers usually cultivate crops for the richer families as well as their own farms. Some women farm their gardens in the morning and sell various goods on streets in the evening. Some women borrow money from microfinance institutions such as Pride Microfinance, Finca, etc and use it to pay/buy school requirements. Some women have formed self help groups to help each other in cultivation, harvesting, look after children in case of problems and lend each other money (cash rounds), etc. As a result of the prevailing levels of education of the women, they cannot get well paying jobs in the formal sector. Those in the regular income category include policewomen, office attendants, teachers etc.

Other Mechanisms Used by Women to Raise Funds for Keeping their Children in School Include;

Using their children to do domestic work as they look for money is another mechanism

Example; Women in both rural and urban areas brew local beer (malwa) from millet and sorghum, sometimes from maize flour which they sell in the evening while their children take over the evening domestic chores. "While the big girls are cooking and fetching water, the boys help me to sell beer" Another mother added; "when children come home the big girl(13yrs) looks after the two youngest (aged 1 and 3yrs). The big boy (10years) and the girl (8yrs) help me sell cooked food in the evening by the road side" The women with stalls in the market on the other hand said that they utilize their children a lot over the weekends to sell the goods. The mothers meanwhile attend to other domestic chores at home or go to purchase other goods to restock their business.

Some mothers interviewed in rural areas said "we grow maize, millet and other food crops for domestic consumption and sell the surplus. We also raise chicken and goats which we sell when a need for money rises. However, some of the income from sale of these crops is taken by our husbands. In order to raise extra income, women in this category cultivate for richer families as casual laborers. I normally dig for my neighbor, plant crops, weed and harvest the millet and she gives me money in return"

An Elderly woman said "I look after five children while their mothers go to work. The money they give me, I use it to pay school needs for my grand children"

There was a group of eight women who formed a self-help club, "We are able to get loans as a group and we use it to boost our business (Namatala Slum). This group was getting funds through an organization in the Catholic Church in Mbale.

A young mother of about 28 years said *"During the harvesting period of Maize, oranges mangoes and other crops, I go in the rural areas and buy these foods from farmers. I bring them to town and sell them at profit. When the season is off, I sell second hand clothes, therefore I have an income throughout the year.*

It is women in urban areas who borrow money from microfinance institution, because they have daily income from their retail shops or market stalls.

These are the various ways in which women use their mental resources to keep their children in school- to teach their children skills of various kinds, while facilitating them (women) to do their commercial activities in the informal sector in the evenings or weekend. Parents' ignorance of the effect of overworking the children and biting poverty (Muloni, 2000) compels them to subject their children to house hold chores instead of doing homework.

The researcher went ahead to establish the type of work children do at home. Both students and parents responded to this question.

Table 8: Household activities done by both girls and boys after school

Item	Frequency	
	Pupils	Parents
Grazing animals after school	15	10
Fetching water and firewood	17	08
Digging	13	10
Cooking	07	10
Cleaning house utensils	21	08
Selling / vending food / goods	10	10
Baby sitting	20	10

Note: Children do multiple activities like grazing animals and fetching water, cooking, cleaning house and vending food/goods.

There are low levels of technology in Uganda and most of the domestic chores like processing food are done manually. Lack of rural electricity perpetuates use of firewood. Piped water is still a dream in both rural and urban poor homes explaining why children have to help out while their mothers look for money to support the family.

The heavy domestic chores have an effect on education of pupils in many ways. Absence from school on market days, weeding during rainy season or vending food in evenings, and harvesting crops for some days. This leads to less attention paid by pupils in class, dozing due to inadequate sleep and tiredness, some do not do homework given at school leading to a general loss of interest in schooling.

The Third Objective;

Challenges and Constraints Faced by Women in Providing for Childrens' Education

The researcher was particularly interested in identifying constraints faced by women as they mobilize resources for their children's education.

Table 9: Constraints faced by women in resource mobilization

Item	Frequency
Heavy domestic chores	17
Lack of regular source of income	37
Lack of support from their husbands	47
Lack of time	44
The belief that UPE means everything	25
Men's freedom makes women face it all	45

Large families (7) mean heavy domestic work to support the family through provision of food, cooking, washing and cleaning etc. Because of the low literacy levels it is not easy to get employed in the formal sector to escape the back breaking work in farming and competitive vending.

The most highly educated woman among the 50 interviewed is a graduate of senior four the rest dropped out before or after primary seven. With low levels of education, women have no alternative but to depend on cultivation or the informal sector to get money. Because of the rigid gender division of labor, men tend to leave everything to women including education of their children, making life extremely difficult for women. Lack of time explains why some women fail to support and give courage to their children to stay in school. As a result, some children, especially in rural schools, dropout before completing the seven years of primary education.

The Realities of poverty among rural and urban poor are clearly indicated by the teachers who participated in the study. (24 respondents)

Table 10: Indicators of poverty

Item	Frequency
Most households earn less than 3,000= a month	07
Peasant farmers eat what they produce no surplus	05
Lack capital to do business	09
Poor soils, poor traditional methods of farming with no particular cash crop	04
Standard of living is generally very low- poor housing	04

Uganda is one of the 25 poorest countries in the world and one is not surprised by this kind of response from the teachers. In rural areas like Busiu sub-county, there is a very high school dropout rate estimated at 475 per year from UPE schools due to the high levels of poverty. The young girls marry at 15 years and the cycle of poverty begins again for them.

Conclusions

Both the rural and urban poor ability to mobilize both mental and physical resources depends on the education of parents and their social economic status. All people who participated in study didn't go beyond senior two except 1(one) women and (5) five men.

The main motivating factor to send and retain children in school is the hope that they will escape the biting poverty in the slums and rural areas in Mbale district. The second important motivating factor is their children's high interest in staying in school, plus their willingness to help with the households chores while their mothers are busy looking for money. The most important factor is the wish to take advantage of the government offer of non-payment of tuition fee.

Women of Mbale district have devised various methods of mobilizing resources to send their children to school. These include participation in the informal sector of selling a variety of good in the evening like

charcoal, food, clothes. They also do casual labor for the relatively well off families like cultivation, shop attendants, cleaning jobs and low paying jobs in the municipality. Rural housewives who do not have jobs but depend on their husbands use whatever their husbands allow them to sell from farm produce, to give their children. They have also found a way of persuading their husbands to retain their children in school especially the girl child.

The main constraints facing the women of Mbale are the low levels of education which does not allow them to get relatively high paying jobs. Lack of access to and control of family property whose accumulation they actively contribute towards. Lack of support from their husbands and the large families which keep them busy the whole day (18) hours with little productivity contributing to the cycle of poverty. This explains the practices of child-labor, high number of school dropout especially in rural areas, little or no lunch contributing to poor performance of individual children.

Women will and are determined to send their children to school. Areas of where they need support have been identified as: Adult education classes, the existing microfinance organizations, agricultural organizations like NADS, Send a Cow can be encouraged to integrate those women in these development program to take advantage of those privileges available in their community

The above opportunities will be realized if the existing culture of male dominance is worked upon, through sensitization of men, providing immunization, family planning knowledge and services if available to all will reduce the fertility of women in the district. Since some of the above mentioned suggestions are already in place with the existing government affirmative policies in place, there is hope that their implementation, monitoring and experiment will help women send their children to school and complete the first seven years.

Listening to women voices is an important means of understanding them, internalize their challenges, how they survive and how they can be helped appropriately.

Lastly, achieving the millennium Development Goals set for access to primary education for all in 2015 will not be possible at this rate in many parts of Uganda unless the above issues are tackled

Recommendations

- School administrators and teachers should listen to children and engage them as active participants in their own learning.
- Mothers/women should be provided with adult education to build their capacity by governments. If women learn to read and write, they can help children with homework. They will gain greater understanding of their children's needs and more confidence in collaborating with schools.
- Schools should organize regular meetings with parents to share with them goals of the school. Their involvement leads to the contribution of practical skills and energy, increase sense of ownership of the school and commitment to their children's effective education.

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Analysis of Adult Female Clothing Made with Adapted Patterns and Free Hand Cutting: Constraints and Prospects

Efajemue Omofoweuvie Omoavowere
Lilly Gloria

*Department of Home Economics, Federal College of Education (Technical),
Omoku, Rivers State, Nigeria.*

Abstract *The main purpose of this study was to analyse adult female gown made with adapted patterns and free hand cutting. The specific objectives are to determine whether bodice part of a female gown, skirt part of a female gown and a female gown made with adapted patterns fit better than the ones made with free hand cutting. There were three research questions from which three null hypotheses were formulated. The study utilized an experimental design. A sample of 30 students was drawn from the target population of 550 Home Economics students of Federal College of Education (Technical) Omoku and University of Education, Port Harcourt. A systematic sampling technique was used to select the sample. Instrument used for the study was a 4-point likert scale questionnaire of strongly agreed, agreed, disagreed and strongly disagreed. Values were assigned as follows: SA-4, A-3, D-2, and SD-1. The data collected was systematically analysed using mean and t-test. The three hypotheses were tested at 0.05 level of significance. Findings revealed that a female gown made with adapted patterns fits better on the shoulder, sleeve, bust, waist, and hip than a gown made with free hand cutting. Findings also revealed that the gown made with adapted pattern look more outstanding and dressy than the one made with free hand cutting. Based on these findings, some recommendations were made. It was recommended that : Graduates of Home Economics that specialize in Clothing and Textiles should be encouraged to establish industries where they can make patterns according to contemporary fashion in sizes for sale. There should be an awareness programme organized by Home Economists to dressmakers who uses free hand cutting to make use of adapted patterns in sewing. Seminars/workshops should be organized by Home Economists on pattern making regularly for dressmakers.*

Introduction

Clothing includes all types of garments worn by human beings such as shirts, blouses, skirts, trousers and gowns. World Book Encyclopedia (2001), has described clothing as the different garments worn by people throughout the world. According to Ezema (1996), Clothing is a basic human need and it is any article placed on the body in order to protect, beautify, or to adorn it.

Clothing are worn for the simple fact that they protect the body against weather conditions, beautify the body and communicate to others about the wearer. Esiowu and Igbo (2008), are of the opinion that individual clothing also tell others whether the wearer is conservative or daring, out-going or reserved, casual or organized, a leader or a follower, confident or unsure. Ahia (2001), has stated that beyond the use of cloths to protect the bare body, it serves as a means of group identification, gender stereotyping, ritual distinction and status symbolization and these other functions of clothes create serious religious, social and economic pressure which people of the world have to bear.

Shailong and Igbo (2009), have opined that besides protection, clothes act as means of personal communication by expressing the individual unique personalities for modesty and for attraction, easy identification and for social statuses. And that proper Clothing is what differentiate man from other animals.

Clothing for men and women are made from fabrics. These can be achieved through the use of adapted patterns, commercial patterns or the use of free hand cutting. Adapted patterns are made from blocks. Blocks are achieved through the drafting of patterns using the actual measurement of the person concerned without ease. These blocks which are in five pieces are later used to adapted to any style of garment as desired for onward transfer to the fabric, then sewing can commence.

According to Ekumankama and Igbo (2009), a pattern is a piece of paper drafted and cut to size and shape which is used for sewing dresses. They went further to say that a designer uses a foundation pattern (block

pattern) as a basis for making the pattern for a design (style pattern).

Adaptation of pattern is the process of developing a new pattern to any style of your choice using the drafted blocks. These patterns adapted should bear the seam allowance and pattern signs to guide the dress maker on the laying, cutting and sewing. Adapted patterns are usually placed directly on the fabrics for cutting and sewing.

Commercial patterns are patterns that are internationally produced and packaged for use by dressmakers. These are not locally made. Instructions for use are usually indicated on the envelopes and the main pattern. Commercial patterns are produce in varieties of styles excluding styles for Nigerian traditional clothes. Adaptation of commercial pattern can also be done if the dress maker wish to change the style from what he/she has bought to suit him. Commercial patterns are placed directly on the fabric according to the instructions written on them and the envelops. Then sewing can be done. The use of commercial pattern is less stressful as it does not require any drafting.

“Before Nigerian government banned importation of ready-to-wear clothes, second hand clothing (Okirika) and commercial patterns in 1986, parents were not finding it difficult purchasing garments for their pre-school children. The main objectives of this ban is economic self-reliance. This has now led Nigerians to make use of local garment manufacturing companies in the provision of garments. these local manufacturing companies make use of free hand cutting techniques” (Shailong and Igbo 2009).

A lot of garments worn these days apart from ready-to-wear garments are made from free hand cutting. Free hand cutting is a method of cutting a style of a garment directly on the fabric without the use of a pattern. Shailong and Igbo (2009), described free hand cutting as a method of cutting the fabric marked with chalk based on the measurement and cut directly without the use of a paper pattern. However the measurement of the individual is utilized directly on the fabric in free hand cutting. While using the free hand cutting and there is a mistake, the fabric will be wasted.

According to Iloeje (1995), as cited by Shailong and Igbo (2009), free hand method of garment construction may spoil the garment entirely, thereby wasting the fabric. They went further to say that free hand cutting is time consuming and slow, therefore cannot be conveniently used for mass production. From the writer's experience, free hand cutting has resulted to unfitted garments and quarrels among dressmakers and their clients.

A lot of people prefer ready-to-wear clothes due to the unsatisfactory jobs from some tailors that uses free hand cutting for their dress making. This has made the budget for clothing to increase for most individuals thus affecting the output of the tailoring institutes. For the purpose of this research study an analysis will be carried out on clothes made with adapted patterns and free hand cutting.

Constraints of Sewing with Adapted Patterns/Free Hand Cutting

There are a lot of constraints associated with sewing using adapted patterns. The processes of drafting and adaptation of patterns before laying , cutting and sewing is time consuming and may be difficult for an inexperienced person. It can be boring to a dressmaker or frustrating if the individual lacks the needed competence. He/she may not be able to meet up with his/her clients.

“Some women attend a formal program to develop their design abilities. Furthermore many other women have given up sewing because they are disappointed by the result. This mythical women may have a very busy life with little time to go to classes. She has heard about making your own patterns but assumes it is difficult, technical and requires attending a special school. At the library she has seen books on pattern drafting. They only added to her misunderstanding as they did not tell her how to start learning such a new skill”. (Gizeski 2009).

Making clothes with free hand cutting can lead to the destruction of fabric because during direct cutting on the fabric the dress maker can make a mistake and amendment may be difficult or not possible. Free hand cutting may result to garments not fitting well on the shoulder.

Prospects of Sewing with Adapted Patterns/Free Hand Cutting

Gizeski (2009), has explained that the unifying principle of pattern drafting for fit and fashion is that patterns are designed so women will look and feel wonderful in their clothes. It presents a stepwise system for a student to accomplish that goal. And that after the fundamentals are understood, a student can experiment creativity and novices then become professional designers.

Clothes made with adapted patterns are cheaper than ready – to – wear clothes and they can be made to ones choice and exact size. World Book Encyclopedia (2001), has stated that clothing and other items sewn at home may cost less, fit and wear better and have more individuality than ready –to – wear products. Finally free hand cutting consumes less time in the process of sewing.

Statement of Problem

Clothing as one of the primary needs of an individual are worn to protect and beautify the body. Therefore factors have to be considered for the choice of clothing whether they are ready-to-wear or locally tailored. Locally sewn clothes are achieved with the use adapted patterns or free hand cutting. The use of free hand cutting and the use of adapted patterns by most dressmakers have posed a lot of problems.

Firstly it is assumed that there is a high rate of fracas between dressmakers and their clients due to the fact that clients feel they get unsatisfactory services from their dressmakers. On the other some dressmakers are not knowledgeable about the use of block patterns to produce new styles for dress making.

Secondly most people resolved in patronizing ready-to-wear clothes which are sometimes more expensive because they don't get the satisfaction they want from their dressmakers. Thirdly, it is assumed that tailoring institutions are no longer booming as they should have been since most clients are unsatisfied with the poor styles processed by dressmakers. Could this assumption be true?

The use of free hand cutting has given rise to the above problems. The problem of this study therefore is to analyze adult female clothing made with adapted patterns and free hand cutting and also pointing out their constraints and prospects.

Research Questions

This study sought answers to the following research questions.

1. What are the differences between the fitting of female bodice part of a gown made with adapted patterns and free hand cutting?
2. What are the differences between the fitting of female skirt part of a gown made with adapted patterns and free hand cutting?
3. What are the differences between the fitting of female gown made with adapted patterns and free hand cutting?

Research Hypotheses

The following null hypotheses formulated were tested.

1. There will be no significant difference between the fitting of female bodice part of a gown made with adapted patterns and free hand cutting.
2. There will be no significant difference between the fitting of female skirt part of a gown made with adapted patterns and free hand cutting.
3. There will be no significant difference between the fitting of female gown made with adapted patterns and free hand cutting.

Purpose of the Study

The main purpose of the study is to analyse adult female clothing made with adapted patterns and free hand cutting stating their constraints and prospects. Specifically, the study will find out:

1. If female bodice part of a gown will fit better when they are made with adapted patterns or free hand cutting.
2. If female skirt part of a gown will fit better when they are made with adapted patterns or free hand cutting.
3. If female gown will fit better when they are made with adapted patterns or free hand cutting.

Significance of the Study

Clothing and Textiles is an area of Home Economics that can provide opportunities for the acquisition of skills for self-reliance through the construction of garments. Lemchi (2002), observed that as a skill oriented course, Home Economics possess the capability of equipping individuals with salable skills that make for self-employment, hence self-reliance. Generally, it has been observed that most dress makers prefer to use free hand cutting while sewing because it is faster way of sewing not minding if it is an accurate method or not.

The study will provide information on the importance of garments made with adapted patterns. With the information provided in this paper dress makers will see the benefits dresses made with adapted patterns instead of using free hand cutting while sewing.

Dress makers will recognize the importance of the use of adapted patterns which limit wastage of fabrics and reduction of mistakes. Also the information on how to place the pattern on the fabric making sure of using the right grain and placement of design of the fabrics is known. This paper will reveal to the dress makers that garments made with adapted patterns may fit better on the body and look more attractive. Finally, this study will serve as a source of information for future researchers who will research on related topics.

Scope and Delimitation of the Study

The scope of this study covers the two tertiary institutions where Home Economics is studied in Rivers State. They are:-

1. University of Education, Port Harcourt.(NCE Year three students).
2. Federal College of Education (Technical), Omoku, Rivers State. (Year three students)

Limitation of Study

During the course of carrying out this research work, the researcher encountered some limitations. Some of the problems are that it took some time to be able to get students to wear the clothes made for the research and model them to stay as long as 1 hour to enable the respondents give answers to the items in the questionnaire. Time factor was also a problem encountered by the researcher.

Methodology

This chapter dealt with the description of methods used in carrying out the study. Specifically it described the research design, population, sample/sampling technique of the study, development of research instruments and technique for data analysis. It also dealt with the development, validity and reliability of the instrument. The data collection and method of data analysis were described.

Design of the Study

The study utilized the experimental design. It examined and compared the fitting of female clothes made with adapted pattern and free hand cutting.

Population of the Study

The target population consisted of all the Home Economics students in the two tertiary institutions where Home Economics is studied in Rivers state.

Sampling/Sampling Technique

The sample for the study was selected from the final year students of Home Economics in the two colleges. The sample consists of 10 final year Home Economics students of University of Education, Port Harcourt (NCE) and 20 final year Home Economics students of Federal College of Education (Technical), Omoku, Rivers state. They are chosen because of their maturity and adequate exposure to the content of Clothing and Textiles at the institutions. Therefore the sample is made up of 30 students. The study involved only females as no male enrolled in Home Economics in the two institutions. For sample selection, systematic sampling technique was used in selecting 30 students for the study.

Research Instrument

The instrument that was used for the study was a structured questionnaire containing 18 items. The instrument is based on the research questions of the study and also based on the practical work (clothes made) for the study. The questionnaire consists of questions constructed on a 4-point likert scale. The values are: Strongly agreed = 4, Agreed = 3, Disagreed = 2 and Strongly disagreed = 1.

Validity

The validity of the instrument was seen to meet the purpose for which the instrument was designed by four Home Economics lecturers who are familiar with the course content of Clothing and Textiles of the tertiary institutions. Two lecturers of Education department also had opportunity of assessing the instrument. The experts read, made corrections and redirected the content of the instrument. The instrument was therefore considered to possess a content validity.

Reliability

The researcher carried out a pilot study using 8 respondents from College of Education, Warri, Delta state. The level of reliability was determined by applying the split-half reliability coefficient. The responses of the respondents was split into two that is odd and even while the Pearson Product moment correlation formula was used to analyse the data to get 0.70 as calculated coefficient value. To transform the split-half correlation into an appropriate reliability estimate for the entire test, the Spearman Brown prophesy formula was employed and the computed correlation coefficient value was 0.95. Thus, the instrument was considered suitable and reliable for the study.

Method of Data Analysis

The data collected was analysed by calculating the mean of the total responses to each of the questionnaire items. T-test statistics at 0.05 level of significance was used to test the null hypotheses of the study.

Presentation of Results and Discussion

In this chapter, the presentation of data collected for the study were made. The interpretation and discussion of findings were also presented. The presentation was according to the research questions and hypotheses posted.

Research Question 1

What are the differences between the fitting of female bodice part of a gown made with adapted patterns and free hand cutting?

Table 1. Mean and standard deviation values of responses on the fitting of bodice part of a gown made with adapted patterns and free hand cutting.

S/N	ITEMS	N	MEAN	SD	REMARK
1.	The bodice part of gown made with adapted pattern fits better on the shoulder.	30	3.33	0.02	Accepted
2.	The sleeve of a gown made with adapted pattern fits better on the body.	30	3.17	0.08	Accepted
3.	The gown made with adapted pattern fits better on the bust.	30	3.2	0.02	Accepted
4.	The gown made with free hand cutting fits better on the shoulder.	30	1.8	0.87	Rejected
5.	The sleeve of a gown made with free hand cutting fits better on the body.	30	2.1	0.69	Rejected
6.	The gown made with free hand cutting fits better on the bust.	30	2.13	.68	Rejected

Presented in table 1 are mean scores showing Colleges of Education students' responses on the fitting of bodice part of a female gown made with adapted patterns and free hand cutting. Finding showed that out of the 6 items examined items 1, 2, and 3 had the mean scores of (3.33, 3.17, 3.2) respectively which is above the cutoff of 2.5 and therefore accepted. These results shows that a female gown made with adapted patterns fit better on the shoulder, body and bust more than a gown made with free hand cutting. Also items 4, 5, and 6 had the mean scores of (1.8, 2.1 and 2.13) which were below the cutoff mean and therefore rejected.

HO 1. There will be no significant difference between the fitting of the bodice part of a female gown made with adapted patterns and free hand cutting.

Table 2. T-test value of Colleges of Education students' responses on the fitting of the bodice part of a female gown made with adapted patterns and free hand cutting.

Summary

ITEM	N	T-test	df	Overall t-test	Table t-value	Remark
1 / 4	30	9.56	28	22	2.05	Significant
2 / 5	30	8.23	28			Significant
3 / 6	30	8.63	28			Significant

Table 2 shows the summary of t-test of significant difference between two mean scores of Colleges of Education students' responses on the fitting of bodice part of a female gown made with adapted patterns and free hand cutting. The calculated t-value however showed that all the items were significant. ($P < 0.5$: items

1/4 : 9.56, 2/5 : 8.23 and 3/6 : 8.63.) The overall calculated t – value however showed that there was significant difference between the fitting of the bodice part of a female gown made with adapted patterns and free hand cutting. The overall calculated t – value of 22 at df 28 was more than the table t – value of 2.05. Thus, the result shows that the bodice part of a female gown made with adapted patterns fits better than the one made with free hand cutting.

Research Question 2

What are the differences between the fitting of female skirt part of a gown made with adapted patterns and free hand cutting?

Table 3. Mean and standard deviation values of responses on the fitting of skirt part of a gown made with adapted patterns and free hand cutting.

S/N	ITEM	N	MEAN	SD	REMARK
7.	The gown made with adapted patterns fits better on the waist.	30	3.3	0.04	Accepted
8.	The gown made with adapted patterns fits better on the hip.	30	2.8	0.31	Accepted
9.	The gown made with adapted patterns drapes well on the body.	30	3.2	0.02	Accepted
10.	The gown made with free hand cutting fits better on the waist.	30	1.83	0.024	Rejected
11.	The gown made with free hand cutting fits better on the hip.	30	1.63	0.013	Rejected
12.	The gown made with free hand cutting drapes well on the body.	30	1.73	0.005	Rejected

Presented in table 3 are mean scores showing Colleges of Education students' responses on the fitting of skirt part of a female gown made with adapted patterns and free hand cutting. Finding showed that out of the 6 items examined items 7, 8, and 9 had the mean scores of (3.3, 2.8, 3.2) respectively which is above the cutoff of 2.5 and therefore accepted. Also items 10, 11, and 12 had the mean scores of (1.83, 1.63 and 1.73) respectively below 2.5 the cutoff mean and therefore rejected. These results shows that a female gown made with adapted patterns fit better on the waist, hip and drapes well on the body better than a gown made with free hand cutting.

HO 2. There will be no significant difference between the fitting of the female skirt part of a gown made with adapted patterns and free hand cutting.

Table 4. T-test value of Colleges of Education students' responses on the fitting of skirt part of a female gown made with adapted patterns and free hand cutting.

Summary

ITEM	N	T-test	df	Overall t-test	Table t-value	Remark
7 / 10	30	17.3	28	23.3	2.05	Significant
8 / 11	30	19.5	28			Significant
9 / 12	30	36.7	28			Significant

Table 4 shows the summary of t-test of significant difference between two mean scores of Colleges of Education students' responses on the fitting of skirt part of a female gown made with adapted patterns and free hand cutting. The calculated t-value however showed that all the items were significant. ($P < 0.5$: items 7 / 10 : 17.3, 8 / 11 : 19.5 and 9 / 12 : 36.7.) The overall calculated t – value however showed that there was

significant difference between the fitting of the skirt part of a female gown made with adapted patterns and free hand cutting. The overall calculated t – value of 23.3 at df 28 was more than the table t – value of 2.05. Thus, the result shows that the skirt part of a female gown made with adapted patterns fits better than the one made with free hand cutting.

Research Question 3

What are the differences between the fitting of female a gown made with adapted patterns and free hand cutting?

Table 5. Mean and standard deviation values of responses on the fitting of a female gown made with adapted patterns and free hand cutting.

S/N	ITEM	N	MEAN	SD	REMARK
7.	The gown made with adapted patterns look outstanding on the body.	30	2.6	0.07	Accepted
8.	The gown made with adapted patterns look dressy on the body.	30	2.87	0.09	Accepted
9.	The gown made with adapted patterns fits well on the body.	30	2.7	0.011	Accepted
10.	The gown made with free hand cutting look outstanding on the body.	30	2.2	0.30	Rejected
11.	The gown made with free hand cutting look dressy on the body.	30	2.43	0.17	Rejected
12.	The gown made with free hand cutting fits well on the body.	30	2.2	0.30	Rejected

Presented in table 5 are mean scores showing Colleges of Education students' responses on the fitting of a female gown made with adapted patterns and free hand cutting. Finding showed that out of the 6 items examined items 13, 14, and 15 had the mean scores of (2.6, 2.87, 2.7) respectively which is above the cutoff of 2.5 and therefore accepted. Also items 16, 17, and 18 had the mean scores of (2.2, 2.43 and 2.2) respectively which is below 2.5 the cutoff mean and therefore rejected. These results show that a female gown made with adapted patterns look outstanding on the body, look dressy on the body and fits well on the body better than a gown made with free hand cutting.

HO 3. There will be no significant difference between the fitting of a female gown made with adapted patterns and free hand cutting.

Table 6. T-test value of Colleges of Education students' responses on the fitting of a female gown made with adapted patterns and free hand cutting.

Summary

ITEM	N	T-test	df	Overall t-test	Table t-value	Remark
13 / 16	30	7.3	28	28	2.05	Significant
14 / 17	30	4.44	28			Significant
15 / 18	30	0.83	28			N.S.

Table 6 shows the summary of t-test of significant difference between two mean scores of Colleges of Education students' responses on the fitting of a female gown made with adapted patterns and free hand cutting. The calculated t-value however showed 2 out of the 3 items were significant. ($P < 0.5$: items 13 / 16 : 7.3 and 14 / 17 : 4.44.) The overall calculated t – value however showed that there was significant difference between the fitting of a female gown made with adapted patterns and free hand cutting. The overall

calculated t – value of 28 at df 28 was more than the table t – value of 2.05. Thus, the result shows that the female gown made with adapted patterns fits better than the one made with free hand cutting.

Discussion of Findings

The discussion of findings was based on the study which was to analyse adult female gown made with adapted patterns and free hand cutting. To this effect, analysis was made on data received through questionnaire distributed to the students to which responses on the analysis made with adapted pattern and free hand cutting. Findings from the study revealed that the bodice part of a gown made with adapted pattern fits better on the shoulder, bust and sleeve than the one made with free hand cutting. This is in agreement with World Book Encyclopedia (2001) that stated that clothing and other items sewn at home (with adapted patterns) may cost less, fit and wear better and have more individuality than ready – to – wear products.

Secondly, findings from the study revealed that skirt part of a gown made with adapted patterns fits better on the waist, hip and drapes well on the body than the one made with free hand cutting. In support of this Shailong and Igbo (2009), have cited Ileoje (1995) by stating that free hand method of garment construction may spoil the garment entirely, thereby wasting the fabric. Therefore if the garment is spoiled, it will automatically not fit well on the body.

Thirdly, findings from the study also revealed that the entire female gown made with adapted patterns fits better on the body, look more outstanding and look dressy on the body than the one made with free hand cutting. According to Cizeski (2009), the unifying principle of pattern drafting for fit and fashion is that patterns are designed so women will look and feel wonderful in their clothes.

Summary

The study analysed adult female gown made with adapted patterns and free hand cutting. The problem of this study was to examine if clothes made with adapted patterns fit better than clothes made with free hand cutting. The study provided answers to the following research questions.

1. what are the differences between the fitting of female bodice part of a gown made with adapted patterns and free hand cutting?
2. what are the differences between the fitting of female skirt part of a gown made with adapted patterns and free hand cutting?
3. what are the differences between the fitting of a female gown made with adapted patterns and free hand cutting? To meet the objectives of this study three null hypothesis were formulated as follows:
 1. There will be no significant difference between the fitting of female bodice part of a gown made with adapted patterns and free hand cutting.
 2. There will be no significant difference the fitting of a female skirt part of a gown made with adapted patterns and free hand cutting.
 3. There will be no significant difference between the fitting of female gown made with adapted patterns and free hand cutting.

From the study reviewed, there was an indication that a female gown made with adapted patterns fits better on different parts of the body than a female gown made with free hand cutting.

The researcher made two gowns for an adult using adapted patterns and free hand cutting. The questionnaire was based on the objectives of the study and the practical work which was used to collect data for the study. The questionnaire consisted how female gown made with adapted patterns and free cutting fit on different parts of the body. Mean scores and standard deviation was used to answer the research questions while t -test was used to test the hypotheses at 0.05 level of significance. Answers to the research questions are as follows;

1. Female gown made with adapted patterns fits better on the shoulders, bust and sleeve more than female gown made with free hand cutting.
2. Female gown made with adapted patterns fits better on the waist, hip and drapes well better than the one made with free hand cutting.
3. Female gown made with adapted patterns are outstanding, look dressy on the body and fits well generally on the body than the one made with free hand cutting.

The three null hypothesis were rejected. The findings were as follows;

1. There was a significant difference between the fitting of the bodice part of a female gown made with adapted patterns and free hand cutting.
2. There was a significant difference between the fitting of the skirt part of a female gown made with adapted patterns and free hand cutting.
3. There was a significant difference between the fitting of a female gown made adapted patterns and free hand cutting.

Conclusion

This study focused on the analysis of female gown made with adapted patterns and free hand cutting. It was discovered that a female gown made with adapted patterns fits better on the shoulders, sleeve and bust than the one made with free hand cutting. Also the gown made with adapted pattern drapes well on the body, fits better on the waist and hip more than the one made with free hand cutting. Generally the gown made with adapted patterns look outstanding, look dressy and fit the whole body better than the one made with free hand cutting.

Recommendation

Based on the findings of this study the following recommendations aimed at improving our locally made clothes were made.

1. Graduates of Home Economics that specialize on Clothing and Textiles should be encouraged to establish industries where they can make patterns according to contemporary fashion in sizes for sale.
2. There should be an awareness programme organized by Home Economists to dress makers who uses free hand cutting to make use of adapted patterns while sewing.
3. Seminars / workshops should be organized by Home Economists on pattern making regularly for dress makers.

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