



Implementing Vocational and Technical Education Programmes in South-South Nigeria: A Case of Rivers State

Innocent Osamⁱ
Department of Educational Management
Faculty of Education
University of Port Harcourt, Nigeria.

Abstract

This study examines the implementation of vocational and technical education programmes in Rivers State. Five (5) research questions and three (3) null hypotheses were formulated to guide the study. A socio-technical system approach supported by human capital theory provided the framework for the study. A descriptive survey design was used for the study and the population was comprised of the five public technical colleges in Rivers State. A sample of 144 academic staff were selected using a stratified random sampling technique. Respondents completed a 30-item Vocational and Technical Education Programme Implementation Assessment Questionnaire (VATEPIAQ) designed by the researcher based on a Likert-type scale. Observation schedules and document analysis were also used to assess the state of facilities and quality of staff recruited for vocational and technical education programmes. This study finds that the quality of teaching staff in vocational and technical schools is moderately high, but relatively inadequate. Vocational and technical school facilities in Rivers State are also inadequate and in poor condition. Significant differences do not exist in the mean scores of principals and technical teachers on the funding strategies adopted by government. Likewise there were no significant differences in the mean scores of principals and technical teachers on the strategies adopted by government to improve the implementation of vocational and technical education programmes. This study recommends that only professionally qualified technical and science teachers be recruited into the system. Those without professional qualifications already in the system must be encouraged to undergo post-graduate diploma courses in education. Finally, co-operative vocational education programmes should be incorporated into the technical education curriculum for the purpose of providing comprehensive and practical education in our technical schools.

Keywords: Implementation, Vocational education, Technical Education, South-South Nigeria.

Reference to this paper should be made as follows:

Osam, I. (2013). Implementing Vocational and Technical Education Programmes in South-South Nigeria: A Case of Rivers State. *International Journal of Scientific Research in Education*, 6(2), 128-148. Retrieved [DATE] from <http://www.ij sre.com>

INTRODUCTION

With the onset of colonialism and the introduction of Western education in Nigeria, science and technical education have long been treated as relatively insignificant aspects of the country's education system. This has created a situation whereby the majority of Nigerian youth, especially prior to the last decade, were trained for clerical and/or white collar jobs and so failed to develop a number of practical skills. The early pre and post-independence education policies aimed at sustaining the new and independent political structure and administration thus led to high rates of unemployment, and increases in crime rate and juvenile delinquency. In other words, the marginalization of practical education indirectly fed the creation of new social problems that Nigeria continues to contend with (Fafunwa in Nwosu, 2005). It is increasingly important that schools not only develop the mental, moral and physical capabilities of the students, but also enable them to acquire skills in technology, including computer literacy, so that they might participate effectively in contemporary economic activities (Ololube & Egbezor, 2012). In other words, it is the role of the education system to ensure that the population is reproduced culturally and socially, and that the children, in particular imbibe the values and skills they need to function as mature adults.

The political, economic and cultural changes brought about by the country's independence highlighted the need for total reform of the education system in Nigeria. In 1969 a national curriculum conference was held in Lagos in response to this need. Its greatest result was a new philosophy for Nigerian education that later gave birth to the National Policy on Education first published in 1977 and later revised several times (1981, 1989, 2004). The National Policy on Education became the first document to streamline education concepts and goals and to prescribe uniform operation of the country's educational system, thereby giving vocational and technical education programmes in Nigeria a scheme of place.

Vocational and technical education, according to Yusuf (2006), is a form of education that seeks to prepare persons for employment in recognized occupations. This type of education provides the skills, knowledge and attitudes necessary for effective employment. Odogwu (2005) describes vocational education as a type of education that emphasises preparation and participation in an occupation of social value. Contrasted with general education, vocational education is skill-oriented and trains both the head and the hands. (Oranu, 2009) The Federal Republic of Nigeria (2004) further describes vocational education as that aspect of education that leads to the acquisition of practical skills as well as applied scientific knowledge.

This type of education was underemphasised in the early Nigerian education. Jacob (2006) lamented that in the early Nigerian education system, little focus was placed on vocational and technical training that could produce persons adequately skilled, confident and properly oriented towards eventual self-employment and self-reliance. This phenomenon, he concludes, accounts for the large scale unemployment of youth still today. This neglect does not in the least suggest that there were no attempts by the government in those early days to implement skill acquisition and training. To the contrary, Nworise (2006) reports that attempts were made to introduce vocational and technical education into the school system as far back as 1847, with the recommendation of the Privy Council to the colonial office. The committee recommended among other things that Nigerian schools should:

- Provide a means of improving on the conditions of the peasantry by teaching them how health may be preserved by proper diet, cleanliness, ventilation and clothing.
- Give practical training in household economy and in the cultivation of the cottage garden as well as those common hand crafts by which a labourer may improve his domestic comfort.
- Provide an improved agriculture to replace the system of exhausting the virgin soil and living to natural influence alone the work of reparation.

In the traditional period, vocational programmes included: metal smelting, weaving (cloth and mat), dyeing, pottery, leather work, bead making, wood carving and canoe carving, artistry, agricultural activities, singing, dancing, music, hair styling, tattoo or body art, and hunting. The modern vocational curriculum, which has been enlarged, includes: carpentry and joinery, furniture making, baking, shoe making and repairing, dress making, sign writing, photography, metal work, hairdressing, fashion design, fabrication, motor mechanic work, electronic servicing, mechanical engineering, building, home economics, advanced agriculture, and secretarial and accounting work. Today it is referred to as vocational and technical education to justify the application of science and technology in the training of most of the contemporary trades and crafts (FRN, 2004). The objectives of technical and vocational education in Nigeria today are such that if adequately implemented, will bring about the revolution of technological development in Nigeria thereby having a significant and positive impact on the national economy. These objectives include, among others, the training of manpower particularly at professional grades, the provision

of technical knowledge and vocational skills, and providing training and skills that lead to the production of craftsmen, technicians and other skilled personnel (FRN, 2004).

The fact remains, however, that none of these will be accomplished if students in schools are improperly trained. Effective training of students cannot be accomplished in the absence of certain ingredients that create conducive environments for teaching and learning. These ingredients include the right quality and quantity of teachers, well equipped workshops and laboratories with up-to-date materials, and adequate tools and other materials. Omekwe (2009) argues that for the effective implementation of any education programme, adequate human and material resources must be made available to the schools. In particular, a large enough number of trained teachers with different types of expertise (science, language, technology, etc.) must be recruited and posted to the schools as and when required. In addition, for effective management, academic staff must be complemented by non-academic staff in proportionately adequate numbers.

The importance of vocational and technical education cannot be overemphasized. The Federal Republic of Nigeria (2004) noted that the federal government recognizes the importance of vocational and technical education and the need to relate its programmes to the requirements of commerce and industry. The Curriculum Conference of 1969 did, in fact, give vocational and technical education its deserved position and prominence. Likewise, the Federal Republic of Nigeria (2004) has since recommended that Introductory Technology, Practical Agriculture and some pre-vocational subjects be made core subjects at junior secondary schools. At the senior secondary school level, agriculture and food and nutrition are now offered.

The Federal Republic of Nigeria (2004) stated that as part of the Nigeria Certificate in Education (NCE) and at degree levels, teacher education programmes will be expanded to cater to the requirements of vocational, technical and commercial education. Recognizing the problems with Nigeria's education system, the federal government has promised to implement the Commission's recommendations by providing physical facilities and quality staff in schools. There has also been an acknowledgment of the federal government's willingness to direct universities to work out a programme that makes it possible for suitably qualified holders of the Nigeria Certificate in Education (NCE) to complete a degree in education at universities in two (2) years instead of the presently required three (3).

Sub-section 74 states that teacher education will continue to recognize changes in methodology and curriculum and teachers will be regularly exposed to innovations in their profession. In-service training will thus be developed as an integral part of continuing teacher education. Even with all of these commitments and the programmes they have led to, however, little has been achieved as the goal for which these moderate preparations were made has not been met due to poor implementation strategies. Olorube (2009) argues that in Nigeria, as in most developing nations, the problem is not designing beautiful programmes for national development but implementing them.

The Federal Government has, for example, instituted Introductory Technology as a compulsory subject at the Junior Secondary (JSS) level with the aim of graduating students with sufficient practical skills in the areas of building technology, wood work, electricity, and electronics. To facilitate the take-off of this project, different types of equipment were imported from Europe and America. Many years after the implementation of this project, it is disheartening to observe the non-attainment of its objective. Several reasons have been given to explain this state of affairs. Some of these, according to Olalekan in Ojo (2002), include haphazard planning, inadequate supply of technical manpower to teach the courses, a dearth of indigenous textbooks, poor administrative and implementation strategies, and the absence of guidance and counselling facilities.

The importance of this type of education stretches from the individual to community and beyond to the nation at large. Olalekan (1996) notes that although the individual is the primary beneficiary of vocational and technical education, the community or nation is always the better for it. He contends that vocational and technical education reduce drop-out and unemployment rates by providing training opportunities to persons who are not too far removed from the realities of the world of work. Experts have observed that Nigeria, and Rivers State in particular, has an unprecedentedly high unemployment rate because of a lack of skills among youth and few job opportunities. Consequently, it appears that Nigerians are educated but unemployed because of the forms of general education they receive.

The history of formal vocational education in Rivers State coincides with the localization of the oil and service industries in Port Harcourt and area. Over the last three decades, vocational and technical education has improved tremendously and expanded considerably across the state (Nworise, 2006). This is demonstrated by the number and types of vocational and technical colleges in operation today. Before national enforcement of vocational courses in secondary schools in Nigeria in 1982, vocational programmes were offered in the following institutions in Rivers State: Comprehensive Secondary School, Private Commercial Institutes (unaided), Trade Centres (now Technical Colleges), Penal Institutions (Prisons) and Craft Development Centres. In addition to these skills acquisition centres, the Skills Acquisition Authority at Port Harcourt, and local government industrial units in the local government areas were established and functioning (Wordu, 1989).

Contrary to expectations, vocational and technical education programmes have not been effectively and efficiently carried out over the years, despite a number of good vocational and technical education policies. It seems likely that these policies were either poorly implemented or not implemented at all. According to Onwuchekwa (2002), the vocational teacher education workshop at the University of Nigeria, Nsukka (UNN) resembled the junkyard of the Nigeria Railway Co-operation. The machines in this workshop were supplied by the Ford Foundation in 1960 and have not been supplemented with more modern machines despite the fact that the workshop turns out hundreds of vocational-technical educators every year. As with other disciplines, developing nations like Nigeria often exert great effort to fashion relevant education systems, the greatest barrier to which is implementation.

Some of the current challenges faced by vocational and technical education derive from the fact that administrators and chief executive officers of educational institutions tend to be general educators not specialists in vocational or technical education (Oranu, 2009). These general educators often direct funds meant for vocational technical education equipment and facilities to other sectors more in line with their interests. Oranu (2009) thus recommends, that policies concerning vocational and technical education programmes be left to those in the field of vocational and technical education to formulate and implement.

Given all of the above, there is a need to investigate the issues and challenges facing the implementation of vocational and technical education programmes at technical schools in Rivers State and make recommendations for improvement. Such research will help to redirect these programmes towards achieving their objectives for a sustainable democratic society.

Statement of Problem

Before the introduction of formal education in Nigeria, young people were trained for specific occupations and careers through an apprenticeship scheme or on-the-job training. The introduction of reading, writing, and arithmetic, and colonial academic education in general, become associated with white collar jobs which were seen as an instrument for upward mobility in the social classes. In an attempt to address this problem, the Federal Government built vocational and technical education programmes into its National Policy on Education, and as a strategy for effective implementation of the programmes, made science education compulsory at the primary school level. The purpose of this policy was to give children in technical schools different subject options upon which they could build a career. The policy identified several types of vocational and technical education programmes, including pre-vocational and vocational programmes offered at the junior and senior secondary schools and technical colleges, at the secondary level, and polytechnics and colleges of education (technical) at the post-secondary level. Others programmes include open and private apprenticeship schemes, skills acquisition (NGOs), and on-and-off the job training schemes (non-formal).

As laudable as the policy was, issues have been raised regarding the implementation of its programmes, especially in terms of staffing, facilities, and funding in Rivers State. The result of this ineffective implementation has been the production of misleading or unreliable plan projections, forecasts and targets against predetermined goals. This situation calls for proper identification of factors that inhibit the effective implementation of the programmes via an assessment of the shortcomings that have plagued the policy since the inception. This study thus seeks to investigate the issues and challenges around the implementation of vocational and technical education programmes at the technical school level in Rivers State.

Purpose of the Study

The main purpose of this study was to investigate the implementation of vocational and technical education programmes in Rivers State. Specifically, this study sought to:

- Ascertain the funding strategies adopted by the government for the implementation of vocational and technical education programmes in Rivers State.
- Examine challenges to the implementation of vocational and technical education programmes in Rivers State.
- Investigate strategies for improving the implementation of vocational and technical education programmes in Rivers State.

Research Questions

Based on the aforementioned purposes, the following research questions guided this study:

- What funding strategies have been adopted by government for the implementation of vocational and technical education programmes in Rivers State?
- What are the current challenges to the implementation of vocational and technical education programmes in Rivers State?
- What are some of the strategies for improving the implementation of vocational and technical education programmes in Rivers State?

Research Hypotheses

To further assess the data gathered for this study, the following hypotheses were formulated:

- There is no significant difference in the mean opinion scores of principals and technical teachers on the funding strategies adopted by government for the implementation of vocational and technical education programmes in Rivers State.
- There is no significant difference in the mean opinion scores of principals and technical teachers on the challenges to the implementation of vocational and technical education programmes in Rivers State.
- There is no significant difference in the mean opinion scores of principals and technical teachers on the strategies for improving the implementation of vocational and technical education programmes in Rivers State.

LITERATURE REVIEW/THEORETICAL FRAMEWORK

Theoretical Framework

This study is anchored in a socio-technical system approach. The term socio-technical system was coined in the 1960s by Eric Trist, Ken Bamfort and Fred Emery, who were working as consultants at the Tavistock Institute in London. The theory is concerned with the social aspect of people and society and technical process. Lambert (2010) clarified that ‘technical’ here does not only imply technology, “technical,” at that time referred to the structure and broader sense of technicalities. Socio-technical thus refers to the interrelatedness of the social and technical aspects of an organization. It is a joint optimization, with a shared emphasis on achievement of both excellence in technical performance and quality in people’s work lives. The socio-technical system approach is based on two main principles:

- The interaction of social and technical factors creates the conditions for successful (or unsuccessful) organizational performance. This interaction consists partly of linear cause-and-effect relationships and partly of non-linear, complex, even unpredictable relationships. Whether designed or not, both types of interaction occur when social and technical elements are put to work.
- The corollary of this, and the second of the two main principles, is that optimization of each aspect alone (social or technical) tends to increase not only the quality of unpredictable, undesigned relationships but relationships that are injurious to system performance (Lambert, 2010).

In organizational development, a socio-technical system describes an approach to complex organizational work design that recognizes the interaction between people and technology in work places. The term also refers to the interaction between society’s complex infrastructures and human behaviour. According to Lambert, society itself, and most of its sub-structures, are complex socio-technical system. No wonder Weihrich and Koontz (2005) argued that the successful implementation of new work methods is dependent on the willing and effective cooperation of staff, managerial colleagues, and unions, and that people are the key factor in the management of an organization.

A socio-technical system is the term usually given to manifestations of social and technical elements engaged in goal directed behaviour. It is a particular expression of socio-technical theory, although they are not necessarily one and the same thing, and recognizes that organizations have boundaries and that transactions occur within the system (and its sub-systems) and between the wider contexts and dynamics of environments. As an extension of socio-technical theory, it provides a rich descriptive and conceptual language for describing, analysing, and designing organizations. According to Mullins (2005), a system designed with an emphasis on social needs, but ignorant of technical needs, will quickly run into technical problems. Conversely, a system designed according to only the demands of technology can be expected to generate social and organizational difficulties. An approach aimed at the joint optimization of social and technical components and other requirements is thus optimal.

The socio-technical system approach used in this study is supported by Adam Smith's (1776) Human Capital Theory. This conceptualization of human capital, as propounded by Smith and expanded by Becker (1962), suggests that human beings can be invested in and improved by means of education, training or other activities that raise their future income and hence their life time earnings. Human beings are thus seen as assets that will generate income in the future and are therefore referred to as capital. According to Smith, education helps to increase the productive capacity of workers in the same way that the purchase of new machinery or other forms of physical capital increase the productive capacity of a factory or other functional enterprises. Human Capital Theory refers to both the mental and physical abilities (skills, acquired knowledge and dexterity) of the human component of a society which can enhance productivity.

The theory tries to explain and indeed establish a relationship between the development of human resources and growth in national productivity. While the social benefit of education (for both individuals and societies) often stands as the primary justification for increased investment in education in both developed and developing countries, human capital theory continues to underpin a belief in the economic benefits of educational investment (Anyamele, 2004).

The need for the Nigerian education system to address issues of employment and skill literacy has been long articulated. This is one of the greatest challenges facing education in Nigeria and can be, in part, addressed through the application of vocational education. In recent writings on the "rise of knowledge economies", Nwangwu (2009) and Ololube (2009) assert that educational institutions with the scientific knowledge and skills demanded by new technologies and economies. This assertion remains at the heart of human capital theory. Based on this framework, a system (school) may be judged to be productive when it is able to implement the programmes that warranted its establishment, and achieve its overarching goals and objectives through the effective application of teaching and learning in schools.

A socio-technical system approach was used in this study because it encompasses both the social dimension of people and society and contemporary technical processes. It is a work design that recognizes the interaction between people and technology in the work place and encompasses the interaction between society's complex infrastructures and human behaviour. Socio-economic development is no longer dependent on natural resources alone, but also on relevant knowledge and skills, without which the real value of a country's natural and human resources remain untapped. It is on this basis, that a socio-technical approach and the premise of human capital theory that human resources can be improved through education have been adopted as frameworks for this research. The purpose of using the approach and theory outlined above is not to test or refute these concepts, neither does this choice mean that they are without criticism, but only that they were deemed by the researcher to best illuminate the significance of the data gathered in this research.

Vocational and Technical Education

Vocational and technical education have evolved over time, largely keeping pace with the changing employment needs of different nations as they pass through various stages in their social, economic and political development. Consequently, vocational and technical education have, like many other concepts in academia, been described and defined by in various ways based on purpose and function. In other words, vocational and technical education has assumed numerous definitions that vary in authority, place, and time.

Roberts, in Akele (2004), notes in a review of vocational education literature, variations in the meanings of the terms as commonly used and as applied in different settings. In the simplest sense, a number of authors have deemed vocational education to be the education, or training of workers. This implies that any type of education or training in which a worker participates is vocational education. In other words, that vocational education is education for manual work and is not concerned with work involving purely intellectual activities. Others argue that vocational education is education in certain subjects and tends to be more frequently subjects confined to the secondary schools.

The American Vocational Association, in Egwuela (1995), defines vocational education as education designed to develop the skills, abilities, understanding, attitudes, work habits and appreciation needed by workers to make progress in employment on a useful and productive basis. Yusuf (2006), citing Makuda, sees vocational education as a type of education deliberately designed for the development of skills and knowledge that are useful to both the individual and society. According to Ojo and Edem (1998) the three main goals of vocational education are (i) meeting society's need for workers, (ii) increasing individuals' options related to work, and (iii) conveying knowledge and/or the relevance of general education in work.

The Federal Republic of Nigeria (2004) has defined technical education as that aspect of education that leads to the acquisition of practical and applied skills as well as basic specific knowledge. The Republic has identified five types of technical education institutions outside of the university. These include: the pre-vocational and vocational educational programmes of technical schools at the post-primary level, including Technical

Colleges, Polytechnics and Colleges of Education (Technical). According to the Federal Republic of Nigeria (2004), the goals of vocational and technical education are:

- To provide manpower in applied science, technology and commerce, particularly at the sub-professional level.
- To provide the technical knowledge and vocational skills necessary for the agricultural industry, and commercial and economic development.
- To provide people who can apply scientific knowledge towards solutions for environmental problems.
- To offer an introduction to professional studies in engineering and other technologies.
- To offer training and necessary skills that will lead to the production of craftsman, technicians and other skilled personnel who will be enterprising and self-reliant.
- To enable our young men and women to have an intelligent understanding of the necessary complexities of technology.

Banjo, in Ojo (2008), opined that the most important characteristics of a system of technical education are that it must be relevant in functional terms and the content must be selected and designed to cover the spectrum of engineering needs of the community (in terms of skill and manpower development). Banjo also contended that technical education is vocational education in its provision of skills and manpower for industrial and other engineering and social services that a society requires for its socio-economic advancement. Similarly, Aghenta (2009) sees technical education as stressing the engineering aspect of vocational education, including the Electronics/Electrical and Mechanical/Automobile components. This type of education requires the understanding and practical application of the basic principles of mathematics and science.

For Dike and Denga (1990), technical education is the technology that imbues practical methods which enable people to create not only habits for food production, comfort, health, travel and communication, but also arts, painting, sculpture, music and literature. They argue that the aims of such education are:

- To give children an awareness of technology and its implications as a resource for the achievement of human purposes as well as its dependence on human involvements in judgmental issues;
- To develop in children, through personnel experience, the practical capability to engage in technological activities; and
- To help children acquire the resources of knowledge, intellectual and physical skills needed for technological activities.

Oranu (2009), on the other hand, has attempted to differentiate vocational education from technical education. He notes that conceptually, educators often cannot differentiate between the terms, although society had been led to believe that vocational education is for those who are incapable of pursuing academic programmes. For Oranu, vocational education is a skilled based programme designed for the sub-professional level education based on a specific vocation. Technical Education, in contrast, facilitates the acquisition of practical and applied skills as well as basic scientific knowledge. The major difference between the two thus, whereas vocational education is designed for a particular vocation, technical education does not target any particular vocation imparts general technical knowledge. This means that while every vocational educational programme is technical in nature, not all technical education programmes are vocational. Oranu concludes that this subtle relationship accounts for the tendency to use the terms interchangeably in both academia and everyday life. He goes on to observe that it is unfortunate that many Nigerians still believe that vocational education is for students with low intelligence or those who have dropped out of the formal school system as vocational education is highly useful – the occupational content offers trainees the opportunity to acquire skills, attitudes, and knowledge needed for the technological growth of the nation.

Nigerian National Policy on Vocational/Technical Education

The need for an education system in Nigeria that addresses issues of employability, and skills literacy has been long articulated. The development of such a system is, in fact, one of the greatest challenges facing Nigeria today. This challenge can be met by using vocational education to reduce skill shortages, remove obstacles to skill development and support the production of graduates who meet public and private sector labour force needs. This position is well supported by the Nation's education policy (Putsoa, 2005).

Across the world, education, be it formal, non-formal, vocational or special, is generally guided by a country-specific national policy that articulates its service, value and utility to the nation. In the Nigerian case, the introductory paragraph of the National Policy on Education reveals this utilitarian posture. It states that the federal government has adopted education as an instrument par excellence for national development (FRN, 2004), and that it plays a central role in:

- A free and democratic society;
- A just and egalitarian society;
- A united, strong and self-reliant nation;
- A great and dynamic economy; and
- A land of bright and full of opportunities for all citizens.

In order to achieve these goals, education must inculcate certain values. Two of these values, which are also basic philosophies of vocational education, include:

- Shared responsibilities for common goals of society; and
- Respect for dignity of labour.

Likewise, there are two national education objectives that are particularly relevant to vocational education. These are:

- The inculcation of the right type of values and attitudes for the survival of the individual and Nigerian society; and
- The acquisition of appropriate skills, abilities and competencies, both mental and physical as equipment for the individual to live in and contribute to the development of society.

These are the purposes and goals of vocational and technical education and the objectives which the technical schools, as the integral part of the education system, are expected to achieve. In order to survive and progress, every society must meet certain functional prerequisites, chief among which is education. Through education a population is reproduced culturally and socially, and children, in particular, imbibe the values and skills they need to function as mature adults. Thus, school not only develops the mental, moral and physical capabilities of students but also enables them to acquire skills related to literacy, numeracy, and technology, including computer literacy, that enable them participate effectively in the economic activities of the society.

The tasks earmarked for vocational and technical schools must thus be viewed from an appropriate perspective, that is, in relation to the purposes outlined for the educational system as a whole. The starting point of such an exercise is, of course, the National Policy on Education (revised 2004). As originally envisaged, it was meant to usher in an educational revolution that included radical changes in the curricula, methods, purpose and ethos of education at all levels. This is with a view to effecting rapid changes in all aspects of the society. The centre-piece of the National Policy on Education is, of course, the 6-3-3-4 system.

In many ways, it was the middle 3-3 segment (three years of junior and three years of senior secondary education) which encapsulated the revolutionary new elements of the 6-3-3-4 system (Okwe, 2006). To understand this revolution, it is important to remember that Western Education as previously introduced and executed in Nigeria, by and large, prepared students for clerical and administrative occupations with the consequent neglect of technical occupations. The curricula of junior and senior schools, where the learning of skills is made a central pre-occupation, was thus a significant departure from traditional colonial education. After restating that one of the specific objectives of secondary education is to equip students to live effectively in our modern age of science and technology, the policy dictates the core subjects at the junior secondary levels as Mathematics, Sciences, and Prevocational Subjects (e.g. wood work, electronics, religious and moral instruction, languages, social studies, etc.). Similarly, at the senior secondary level, the core subjects include Mathematics, one of the Physical Sciences, English Language, a Nigerian Language, a Vocational Subject, and History or Geography. Although the National Policy sets out the broad aims and objectives for other levels of education, the emphasis on the acquisition of skills and its orientation to science remain central planks of the Policy, especially as the skills the Policy envisages are those based on the sciences and scientific technology.

As noted by Mkpa (2009), there is, however, much more to the 6-3-3-4 system of education than the learning of skills. Indeed, the 6-3-3-4 system was envisaged as laying the foundations for Nigeria's scientific and technological take-off. It is unfortunate then that twenty-eight years after the inception of this new system, the promised scientific and technological take-off has not materialized, aside, of course, from the recent launch (in Russia) of Nigeria's first communication satellite (Nigeria Sat-1). The failure of 6-3-3-4 to spur Nigeria's scientific

and technological revolution may be due to the fact that almost all of the instructional materials needed for the technical and vocational components of this system, including workshop facilities and equipment and access to computers and the Internet, are in short supply. Compounding this, the inadequate provision of teaching staff by government has hampered the effective implementation of the goals and vision of the National Policy on Education. As observed by Oranu (2009), no matter how laudable an education system and how well equipped its institutions, not much will be achieved in the absence of adequately trained and motivated teachers (Okeke, 2005). This is, in fact, affirmed in the National Policy on Education treatment of teacher education where it was stated that “no education system can rise above the quality of its teachers.” The National Policy went on to stipulate that the NCE certificate will ultimately become the minimum basic qualification for entry into the teaching profession in Nigeria.

Issues of Funding

School funds refer to money or financial resources or income generated or allotted to institutions for their growth and maintenance. Funds are required for multiple uses in the school system. Except for government schools where salaries and allowances are paid directly, schools incur multiple expenses. Much money is, for example, involved in paying staff emoluments at a time of prescribed minimum wage and the need to pay competitive wages in order to attract and retain qualified and resourceful teachers and staff (Obulor, 2006). Growing school populations mean increases in teaching and other staff, and modern education requires considerable infrastructure maintenance and technology renewal. Mills (2005) has made a case for the acquisition of new instructional techniques and media in terms of overall economic efficiency and individual student self-actualization and for technology to have the desired impact on schooling, there will be both capital and labour-intensive mechanisms at work. Although, on one hand, recurrent costs should be reduced, quality must not be sacrificed.

Education is hindered when funds are not available for routine classroom work, extra-curriculum activities and other school learning ventures. And yet, the irritating shortage of much needed inputs such as library materials, laboratory equipment, and other learning tools, persists. Mkpa (2009) has argued that no good school can carry out its production functions with only students as its inputs while other inputs, namely human resources (staff) and capital resources (equipment), are deficient in terms of quantity and quality. He also noted that a school cannot succeed in making its products, the educational services rendered and corresponding improvements in student skills and attitudes, available if funds are not provided to harness the required inputs for continued increases in productivity.

The Federal Republic of Nigeria (2004) has conceded that education is an expensive social service; one that requires adequate financial support from all tiers of government for the successful implementation of the educational programmes. The government also recognizes the importance of technical and vocational education and the need for its programmes to relate to the needs of commerce and industry. The importance of vocational and technical education is being recognized all over the world, perhaps particularly in Africa, however, in service of rapid industrialization and self-reliance.

According to Egwuella (1995), in the wake of the global economic recession and mass youth unemployment, whose impacts are more pronounced in developing economics, the need for vocational and technical education is increasingly apparent, as is the need for adequate funding. As noted in an ITF News Editorial (June 1996) (cited in Egwuella, 1995) one of the adverse effects of Structural Adjustment Programmes (SAP) in most parts of Africa is the inability of governments to adequately fund formal education, especially vocational education, at a time when the entire continent is suffering from an acute shortage of skilled labour and technological know-how. While expressing optimism at the prospects of vocational education, the editorial opined that the only way to break the jinx of the present system of education was to pay serious attention to the acquisition of skills and knowledge relevant to national development. The editorial stressed the need for adequate funding of vocational and technical education since it is the only education system directly responsive and relevant to the world of work that can serve as a bedrock for the rapid industrialization of a developing economy like Nigeria. Finally, the piece recommended that every African country should assess its training needs and labour requirements in light of its national priorities to better articulate some workable strategies for financing vocational and technical education programmes.

One of the main defects of the Nigerian education system in the colonial era was its strong bias towards academic and literary studies and its underdevelopment and underfunding of technical education (Ukeje, 1978). The history of Nigerian education shows that the funding of technical education was principally through government grants. This pattern remained unchanged into the 1970's (Fafunwa, 1982). According to Fafunwa (1982), the first technical education programme was, in fact, incorporated into the 1946 Ten Year Education Plan.

Ogwushi (2008) observed that although the establishment of the Industrial Training Fund (ITF) has initiated wider participation in the financing of vocational and technical education, in addition to government direct

funding, the finger-print of inadequate financing is still quite apparent. Likewise, Omekwe (2009) noted that a major problem with vocational education programmes is the fact that the Industrial Training Fund [ITF], charged with organizing these programmes, continues to grapple with underfunding in the midst of dwindling budgetary allocations to education. According to Nneji (1992), vocational and technical education must be adequately funded as the funding directed to this aspect of education is quite separate from other forms of education, including general education. This argument is reinforced by one of the theories of vocational and technical education which notes that vocational and technical education require a minimum level of funding below which they cannot be effective and should not be attempted (Nneji, 1992). Money is required, among other things, to purchase vocational and technical equipment, maintain existing equipment, train personnel on a regular and in-service basis, pay salaries, and for general administration. While early funding for vocational and technical education was sourced from foreign agencies like UNESCO, the Ford Foundation, and Michigan State University, now these agencies have withdrawn their support the programme is funded entirely by the Federal Government of Nigeria (Olaitan, 1996).

Challenges to Programme Implementation in Rivers State

The development of vocational and technical education in Rivers State has been besieged by a number of peculiar problems affecting its smooth implementation. These include: political instability, poor job performance, teachers' strikes, corruption and the quest for material wealth, reliance on foreign labour, the location of colleges, poor attitudes to work, and poor organization and administration of vocational education.

Political Instability

The area now known as Rivers State has, over the years, been led by several governors, ranging from civilian to military, each of whom had different armies of subordinates and their own priorities and interests. While some of these leaders favoured vocational and technical education, others saw it as irrelevant and a waste of public money. According to Okweite (2005), the achievements of these leaders were influenced by their interests and priorities and this produced often conflicting policies for the state education system. Some, Okweite noted, relegated vocational and technical education to the background, while others favoured it to the extent that many young people were awarded scholarships to study vocational education abroad. The post-war military government in Rivers State appears to have given more attention to vocational and technical education than any other government as evidenced by the rise in the number of vocational colleges during the period.

Poor Job Performance

Very closely related to poor standards of training for vocational students due to a lack of facilities and qualified teachers, is poor job performance. This is evident in the number of graduates of vocational institutions roaming the streets of Rivers State unemployed. In many cases, the truancy of teachers and students begins when teachers naturally opt for better paying daytime alternatives even after they have been paid by the school. When teachers embark on strikes, the government is often to be blamed as it is unrealistic to expect teachers to work with zeal when they are starved of their monthly salaries and other allowances, including conducive working conditions. Poor job performance is thus a function of not only poor training, but a host of other complex factors which impinge on a person's attitude to work, including adequate remuneration and incentives, job satisfaction, and domestic and other socio-economic factors not directly linked to their job (Ugushi, 2008)

Corruption and Quest for Material Wealth

Many Nigerians believe that it is possible to succeed without hard work. Based on this, the concept of "dignity of labour," which was the watch word for all enterprising and career public servants, has been relegated to the background. This has unfavourably affected the development of vocational and technical education in Rivers State. Many Nigerian students do not want to work hard but are eager to obtain certificates for hard work at the end of their educational career. Worse still, are situations where parents and teachers participate in examination malpractice by giving their children/wards financial or moral encouragement to cut corners to achieve "success" in vocational institutions. Osam (2009) opines that these activities have given way to the institutionalization of corruption and the ultimate adoption of unhealthy attitudes and behaviours in public office that are inimical to national development.

Location of Vocational and Technical Colleges

Often poor attitudes to work by teachers and allied staff and student truancy are influenced by many factors including environmental and societal issues such as high costs of living in a given area. Vocational and technical institutions established by missionaries were not traditionally accessible to a large number of people because of their location. This seriously affected enrolment figures and robbed these schools of potential candidates. Other times, the location of a school makes it difficult for teachers to accept postings, especially those in the riverine areas of the state. Unfortunately, until technical and vocational colleges are adequately supervised, negative attitudes and behaviours of teachers such as truancy and absenteeism are bound to continue to affect the development and outcomes of vocational education in Rivers State (Nwaolu, 2005)

Organization and Administration of Vocational Education

To-date, the management of Rivers State vocational and technical education has been in the hands of those who oversee general education. Nwaolu (2005) observed that leaving the organization and administration of vocational and technical education to non-experts leads to the misplacement of priorities. In Rivers State, most courses offered in state vocational and technical colleges are adopted from a curriculum with little reference to the industrial needs of the state. A close look at this curriculum reveals that it does not support the needs and lifestyle of the Rivers people, who make up the State.

Other curriculum related problems are often linked to the lack of research facilities, lack of comprehensive evaluation procedures to ensure quality control, and inadequate guidance services, among others. This has led to a situation in which employers of technicians and trades people prefer graduates trained in private institutions as those educated in public institutions do not appear to be adequately trained. According to Nzewunwa, as cited in Okweiete (2005), the graduates of company training centres perform better on the job because, these centres have adequate training facilities and encourage students to learn in actual working conditions. Government colleges who lack such facilities tend to concentrate far more on the theoretical aspect of their programmes.

Incessant Teachers Strikes

In Nigeria, civil servants, teachers in particular, are not adequately remunerated. Worse still their salaries are very irregularly paid, often leaving them with little choice but to strike. This is an incredibly disheartening situation. Most years, the timetable is quickly disrupted.

Strategies for Improving Vocational and Technical Education Programme Implementation

Wehrich and Koontz (2005) argue that vocational training is a continuation of basic schooling but with an emphasis on job skills. In addition, they note that without vocational programs, German firms would not be as successful as they are in producing the high quality products and services they sell worldwide. Likewise, Okwue (2006) contends that since automobile manufacturing, heavy equipment, and consumer durables form the industrial base of advanced nations, vocational education should undoubtedly increase the opportunities for youth to acquire the knowledge and skills needed for professions in these areas. Given this, Resnick and Resnick (1983), contend that educational standards are a function of the demands placed on students, and of the opportunities they are given to learn in the classroom. Vocational educators can, therefore, take steps to increase these demands and opportunities by planning for improved vocational programme offerings and lobbying to improve the instructional facilities and workforce available in our technical colleges.

Since the colonial era, various institutions and organizations have been established to provide vocational education and/or training services to the general public. More recently, there have been renewed efforts by the government to provide functional technical education to citizens (FRN, 2004). In spite of these efforts and extensive public funds invested in vocational education, the nation continues to grapple with the seemingly unending problems of youth unemployment. Many have attributed this to the poor or haphazard implementation of vocational and technical education programmes. Ogushi (2008) thus argues there is a dire need for a thorough re-examination and over-haul of the vocational education planning, content and delivery as well as of the skills taught in order to facilitate the employability of thousands that look to vocational education as a vehicle for achieving their social and economic goals in the face of a fast changing and increasingly technological world.

Based on this, it seems apt to embrace the suggestion of Okwe (2006) that since steel, automobile manufacturing, heavy equipment and consumer durables form the industrial base of the advanced nations vocational education must be redesigned to increase opportunities for youths to acquire the knowledge and skills needed for professions in these areas. There is undoubtedly a need to update or modify the programme offerings in

Nigerian vocational and technical institutions from their focus on rigid traditional occupations to ones designed to provide skills and easy adaptation to new situations. In other words, to provide knowledge and skills that can be applied in ever-changing conditions (Udam, 2010). According to Obusor (2005), vocational educators must be ready to assume many functions in the face of emerging new technologies. If the challenges posed by these technologies are to be met, vocational educators must look for strategies that help to produce more appropriate and effective results-oriented vocational education programmes.

While efforts are made to update existing curricula and introduce new ones, vocational colleges need tools and equipment for the successful implementation of new and existing programmes. Increased government funding will be required. There is also a need for government partner with commerce and industry to create an environment for the production of capable a workforce. Nigeria's machine tools industries and other local craftsmen, for example, should be greatly in the production of machines and machine parts. The technical colleges themselves can become more involved in the production of basic hand tools as they can themselves produce most of the tools now imported for introductory technology courses in our junior secondary schools, if given the same financial remuneration (Nworie, 2010).

Practical work constitutes an essential component of vocational education. It is obvious, therefore, that without suitable workshop space, programme implementation will be difficult if not impossible. To reduce, government should, as a matter of policy, provide funds for the building of adequate workshops. Some technical colleges, if encouraged, can embark on building their own workshops.

The acquisition of adequate tools and equipment, and the provision of adequate workshop space in the absence of an adequate supply of relevant and qualified teachers, will continue to amount to poor programme implementation. For the successful implementation of vocational and technical education programmes in Rivers State, therefore, teachers, especially of the professional cadre, must be enlisted. It is no longer news that many technical teachers abandon their teaching jobs for more attractive opportunities with industry. Oruama (2010) contends that one sure way of preventing teachers from leaving for better opportunities is for government to offer technical teachers attractive conditions of service comparable to that enjoyed by their counterparts in the industry.

METHOD

Research Design

This study represents descriptive survey research, aimed at investigating the implementation of vocational and technical education programmes in Rivers State. This research collects data and describes it in a systematic manner. Data is collected as is, analysed and reported without manipulation or distortion of any of the variables. Ololube (2009) defined this approach as research designed to gather systematic descriptions of existing phenomena in order to describe or explain what is going on. The choice of a descriptive survey method is borne out of the fact this method focuses on people and their attributes which will help the researcher to understand and explain the way in which vocational programmes can be effectively implemented. To achieve this, the researcher has used a survey questionnaire, observation schedule and document analysis.

Population

The population for this study is comprised of all the five (5) government-owned technical colleges involved in developing and providing vocational education in Rivers State. These five (5), which include GTC Ahoada, FSTC Ahoada, GTC Port Harcourt, GTC Tombia and GTC Elogu, have 241 academic staff comprised of eleven (11) principals (six in senior and five in junior sections) and 230 technical and science teachers.

Sample and Sampling Technique

The sample for the study consisted of one hundred and forty-four (144) respondents, (8 principals and 136 technical and science teachers) across all five (5) technical colleges in Rivers State. A stratified random sampling technique was used to select the one hundred and forty-four (144) academic staff, representing 59% of the population.

Instrumentation

The instruments for the study included an observation schedule, document analysis, and a thirty-five (35) item-survey questionnaire (Vocational and Technical Education Programme Implementation Assessment Questionnaire - VATEPIAQ) that used a modified Likert-type scale with four response options. The questionnaire was divided

into two sections. The first section was made up of five (5) items used to gather demographic information about the respondents, while the second section was made up of thirty (30) items used to elicit information from respondents on their assessment of and strategies for the implementation of vocational and technical education programmes. The observation schedule included items used to collect concrete evidence on the availability, quantity and conditions of existing facilities and equipment in the assessed schools, while document analysis was used to obtain information on the availability, quality, experience and teaching relevance of academic staff in the technical colleges.

Validity

After developing the instrument, its face and content validity were established by subjecting it to a critical assessment by the researcher's supervisor and two other experts in educational measurement and evaluation from the Faculty of Education at the University of Port Harcourt. They helped to ascertain that the contents of the instrument were in line with the purpose of the study, research questions and hypotheses.

Reliability

To ascertain that the instrument was reliable, i.e. able to consistently elicit the same information from the respondents, the researcher adopted the test re-test technique. Twenty five (25) copies of the questionnaire were administered to twenty five (25) academic staff, (3 principals and 22 technical teachers) not participating in the study. The instrument was re-administered to the same respondents within an interval of two weeks. The responses (results) of the first and second instrument were collated and subjected to a reliability test using the Pearson Product Moment Correlation Analysis. The result obtained yielded a reliability index of 0.957, indicating high reliability of the research instruments.

Administration of the Instruments

The instrument was administered by the researcher in person, with the support of a well-informed research assistant to ensure a one hundred (100) per cent return of completed questionnaires. The researcher administered the questionnaire and collected them after an interval of four days. On arriving at the schools, the researcher explained to the respondents the purpose of the study to allay their fears and reduce misinterpretation of the items. The researcher also engaged in a discussion with the head of each school to obtain access to documents (nominal roll and attendance register) and to allow observation of the equipment and facilities therein. Finally, the researcher assured confidentiality of all information provided. One hundred and forty four (144) copies of the questionnaire were printed, distributed and retrieved, representing a one hundred (100) per cent return.

Method of Data Analysis

In preparing the data for analysis, the researcher developed keys for coding the information contained in the research. Descriptive statistics was used to analyse the data collected and to obtain the mean assessment for each scale item. Responses to the Section B questionnaire items were weighted across a four point Likert-type scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The deductions from the document analysis were weighted based on availability, quantity, qualification, relevance and experience. The data gathered from the observation schedule was weighted based on availability, quantity, condition, and adequacy. A percentage scale of the responses to each item was analysed and used to answer the research questions. The research hypotheses for this study were tested using *z*-test statistics to establish the significant differences between the variables in the study. There was a $p < 0.05$ level of significance for all of the hypotheses, while the acceptance or rejection of null hypotheses was based on the calculated value of the *t*-test analysis.

RESULTS

Research Question 1:

What funding strategies have been adopted by government for the implementation of vocational and technical education programmes in Rivers State?

Table 3: Mean, standard deviation and rank order statistics of principals and technical teachers on the funding strategies adopted by government

S/N	Items	Teachers 133		Principal 11		Mean Set	Rank	Remark
		\bar{X}_T	SD _T	\bar{X}_p	SD _p			
13	Budgetary allocation to education institutions constitutes a major source of funds for vocational education programme implementation	3.22	1.11	3.64	0.81	3.43	1 st	Agreed
14	International and voluntary agencies encouraged by government are major financiers for vocational education programme implementation	1.86	1.14	1.55	1.04	1.71	6 th	Disagreed
15	Principals of technical schools are now encouraged by government to articulate workable strategies for vocational education programme implementation	3.39	0.95	3.36	1.27	3.38	2 nd	Agreed
16	The funds collected through Parent Teachers Association (PTA) levies in technical school help in meeting some funding needs for vocational education programme implementation	3.29	1.01	3.36	0.92	3.33	3 rd	Agreed
17	The Education Tax Fund paid by corporations and companies operating at certain capacity and registered in Nigeria helps to fund vocational education programme implementation	3.19	1.20	3.27	0.90	3.23	4 th	Agreed
18	The Educational Endowment Fund launched and organized by government in which wealthy individuals and co-operate bodies make donations is a source of funds for vocational education programme implementation	1.84	1.09	1.91	1.38	1.88	5 th	Disagreed

N=144

As shown in Table 3, items with serial numbers 13, 15, 16 and 17 have their mean sets above the criterion mean of 2.50 and are therefore agreed upon by the teachers and principals as the funding strategies adopted by government for implementation of vocational and technical education programmes in Rivers State. Items with serial numbers 14 and 18 have their means sets below the criterion mean of 2.50 and are therefore not agreed upon by teachers and principals as the funding strategies adopted by government for the implementation of vocational and technical education programmes in Rivers State. In response to the research question posed above, and as queried on items 13-18 in section B of the questionnaire, government budgetary allocations to education institutions constitute a major source of funds, but are not effective enough for the implementation of vocational and technical programmes in Rivers State.

Research Question Two:

What are the current challenges to the implementation of vocational and technical education programmes in Rivers State?

Table 4: Mean, standard deviation, and rank order statistics of principals and technical teachers on the challenges to the implementation programmes

S/N	Items	Teachers 133		Principal 11		Mean set	Rank	Remark
		\bar{X}_T	SD _T	\bar{X}_p	SD _p			
19	Inadequate functional facilities and equipment for effective performance in practical instruction is a major problem	3.57	0.84	3.45	1.04	3.51	1 st	Agreed
20	Uncommitted and incompetent vocational instructors recruited to technical schools is a major problem	3.59	1.02	3.27	0.79	3.43	3 rd	Agreed
21.	The engagement of vocational instructors with inadequate practical experience is a major problem	3.37	1.13	3.64	0.92	3.51	1 st	Agreed
22	Poor funding of vocational and technical education programmes is a major problem	2.95	1.27	3.27	1.01	3.11	4 th	Agreed
23	Unreliable plan projections in terms of enrolment and equipment is a major problem	1.87	1.31	1.82	0.75	1.85	5 th	Disagreed
24	Lack of accurate statistical data for vocational programme planning is a major problem	1.69	1.03	1.73	0.90	1.00	6 TH	Disagreed

As shown in Table 4, items with serial numbers 19-22 have their mean sets above the criterion mean value of 2.50 and are therefore, agreed upon by teachers and principals as being the major challenges to the implementation of vocational and technical education programmes. Items with serial numbers 23 and 24 have their mean set below the criterion mean value of 2.50 and are therefore not agreed upon by teachers and principals as being challenges to the implementation of vocational and technical education in Rivers State. In response to the research question posed above and as queried by items 19-24 in section B, the challenges were considerable, but prominent among them were inadequately qualified academic staff, poor funding and a dearth of equipment and facilities for the implementation of vocational and technical education programmes in Rivers State.

Research Question Three

What are some of the strategies for improving the implementation of vocational and technical education programmes in Rivers State?

Table 5: Mean, standard deviation and rank order statistics of principals and technical teachers on strategies for improving the implementation of vocational and technical education programmes in Rivers state

N=144

S/N	Items	Teachers 133		Principal 11		Mean set	Rank	Remark
		\bar{X}_T	SD _T	\bar{X}_p	SD _p			
25	Employment of technical teachers teaching subjects relevant to their areas of specialization is a strategy for improving the implementation of vocational education programmes	3.03	1.10	3.27	1.27	3.15	4 th	Agreed
26	Given teaching staff opportunities for re-training and scholarships for further development is a strategy for improving the implementation of vocational education programmes	3.29	0.85	3.18	1.17	3.24	3 rd	Agreed
27	Drawing students from competitive examinations is a strategy for improving the implementation of vocational education programmes	1.91	1.06	1.91	1.38	1.91	5 th	Disagreed
28	The appointment of experts/specialists of vocational education to head up technical schools is a strategy for improving the implementation of vocational education	3.17	0.79	3.36	1.03	3.27	2 nd	Agreed

	programmes							
29	Proper co-ordination of teaching staff through effective supervision of teaching and learning processes in technical schools is a strategy for improving the implementation of vocational education programmes	3.03	1.29	3.27	0.79	3.15	4 th	Agreed
30	Staff motivation and discipline in technical schools is a strategy for improving the implementation of vocational education programmes	3.45	1.00	3.18	1.25	3.32	1 st	Agreed

As shown in Table 5, items with serial numbers 25, 26, 28, 29 & 30 have their mean sets above the criterion mean value of 2.50 and are therefore agreed upon by teachers and principals as strategies for improving the implementation of vocational and technical education programmes in Rivers State. The item with serial number 27 had a mean below the criterion mean of 2.50 and is therefore not agreed upon by teachers and principals as a strategy for improving the implementation of vocational and technical education programmes in Rivers State. In response to the research question above, and as queried by items 25-30 in section B, employment of technical teachers, the motivation of staff, and opportunities for retraining were prominent as means for improving the implementation of vocational and technical education programmes in Rivers State.

Hypothesis One:

There is no significant difference between the mean opinion scores of principals and technical teachers on the funding strategies adopted by government for the implementation of vocational and technical education programmes in Rivers State.

Table 6: Mean difference in the mean scores of academic staff on the funding strategies adopted by government for programme implementation

Category	N	df	X	SD	Z-Calculated	Z-Critical	Remarks
Teachers	133	142	2.79	1.08	0.18	1.96	Accept
Principals	11		2.85	1.05			

As shown in Table 6, teachers have mean and standard deviation scores of 2.79 and 1.08 while principals have mean and standard deviation scores of 2.85 and 1.05. At an alpha level of 0.05 with a degree of freedom of 142, the z-calculated value is less than the z-critical value. Therefore the null hypothesis of no significant difference in the mean scores of principals and technical teachers on the funding strategies adopted by government for the implementation of vocational and technical education programmes in Rivers State is upheld. By implication there is no significant difference in the mean scores of principals and technical teachers on funding strategies adopted by the government for the implementation of vocational and technical education programme in Rivers State.

Hypothesis Two:

There is no significant difference between the mean scores of principals and technical teachers on the challenges to the implementation of vocational and technical education programmes in Rivers State.

Table 7: Mean difference in the mean scores of academic staff on the challenges of programme implementation

Category	N	df	X	SD	Z-Calculated	Z-Critical	Remarks
Teachers	133	142	2.51	1.10	1.22	1.96	Accept
Principals	11		2.86	0.90			

As shown in Table 7, teachers have mean and standard deviation scores of 2.51 and 1.10 while principals have mean and standard deviation scores of 2.86 and 0.90. At an alpha level of significance 0.05 with a degree of freedom of 142, the z-calculated value of 1.22 is less than the z-critical value of 1.96. Therefore the null hypothesis of no significant difference in the mean scores of principals and technical teachers on the challenges to the implementation of vocational and technical education programmes in Rivers State is upheld. By implication,

there is no significant difference in the mean scores of principals and technical teachers on challenges to the implementation of vocational and technical education programmes in Rivers State.

Hypothesis Three:

There is no significant difference between the mean scores of principals and technical teachers on strategies for improving the implementation of vocational and technical education programmes in Rivers State.

Table 8: Mean difference in the mean scores of academic staff on strategies for improving programme implementation.

Category	N	Df	X	SD	Z-Calculated	Z-Critical	Remarks
Teachers	133	142	2.98	1.02	0.11	1.96	Accept
Principals	11		3.03	1.45			

As shown in Table 8, teachers have mean and standard deviation score of 2.98 and 1.02 while principals have mean and standard deviation score of 3.03 and 1.45. At an alpha level of 0.05 with a degree of freedom of 142, the z-calculated value of 0.11 is less than the z-critical value of 1.96. Therefore the null hypothesis of no significant difference in the mean scores of principals and technical teachers on strategies for improving the implementation of vocational and technical education programmes Rivers State is accepted. By implication, there is no significant difference in the mean scores of principals and technical teachers on the strategies for improving the technical education programme in Rivers State.

Summary of Findings

The findings of the study are summarized as follows:

1. The funding strategies adopted by government for the implementation of vocational and technical education programmes include: budgetary allocation, workable strategies for funds as devised by principals, PTA levies, and the Education Tax Fund paid by corporations and companies registered in Nigeria. None of these strategies were very effective, hence the underfunding of the programme.
2. Challenges to the implementation of vocational education programmes include: the engagement of teaching staff with inadequate practical experience, poor funding of the programme, unreliable plan projections in terms of enrolment and equipment and inadequate statistical data.
3. Strategies for improving the implementation of vocational and technical education programmes include: employing teachers with relevant experience to their teaching subjects/areas, giving teaching staff opportunities for re-training and scholarships for further studies/development, appointing experts to lead schools, the proper coordination of teaching staff through effective supervision of teaching and learning processes, and ensuring staff motivation and discipline in the school.
4. There is no significant difference in the mean scores of principals and technical teachers on the funding strategies adopted by government for the implementation of vocational and technical education programmes in Rivers State.
5. There is no significant difference in the mean scores of principals and technical teachers on the challenges to the implementation of vocational and technical education programmes in Rivers States.
6. There is no significant difference in the mean scores of principals and technical teachers on strategies for improving the implementation of vocational and technical education programmes in Rivers State.

DISCUSSION

Funding Strategies Adopted by Government

The findings of this study have serious implications for vocational education programme implementation. The majority of respondents in this study agreed that there is a lack of funds to sustain the central operations of technical schools. The development of public vocational schools is influenced by the funding ability of government. For any investment in vocational and technical education to yield the desired results, adequate funds have to be provided for the proper functioning of the programmes. As observed by Aghanta (1993) the quality of education depends on the level of funding, and low government financial support for the education sector leads to

the poor functioning and performance of the sector. Consequently, funding is the factor that makes or mars the establishment and operation of such schools. The present findings are also consistent with earlier findings by Akele (2004) which assert that adequate financial support should be provided for the procurement and development of the necessary infrastructure and staff required for the effective functioning of schools. Given the limitations of government revenues, there is a need for government to partner with the private sector and non-governmental organizations (NGOs) to provide the needed funds for the effective implementation of vocational and technical education programmes in Rivers State.

Challenges to Programme Implementation

This study has revealed that the underfunding of vocational and technical education programmes is a major factor inhibiting the attainment of vocational education objectives. The impact of the funding factor was evident in the irrelevant tools, obsolete equipment, poor quality academic staff and poor statistical data available in vocational schools. All of these represented constraints to the implementation of vocational and technical education programmes in Rivers State. Both technical teachers and principals agreed on the challenges affecting the implementation of vocational and technical education programmes in Rivers State, suggesting that these two groups have encountered challenges.

These challenges have a number of important implications. First, it is unlikely that students will find themselves successfully self-employed at the end of their studies. Second, the obsolete skills that students acquire will not assist them in what work they do find in the labour market. Thirdly, these challenges mean that graduates will have limited employment prospects given that the programmes produce graduates poorly matched to job opportunities.

Ukeje (1980) likewise outlined some of the constraints of vocational school programme implementation as the use of obsolete tools and techniques, poor teaching habits, ignorance and superstition, lack of risk taking ability, poor capital investment, shortage of research work, workshops and laboratories, lack of motivating factors, conceptual designs that inhibit proper skills acquisition, and a lack of realistic school planning and programming.

Both technical teachers and principals agreed that the challenges to the implementation of vocational and technical education programmes in Rivers State included: poor statistical data, lack of motivation, discipline and improper co-ordination of teaching staff through effective supervision of teaching and learning processes.

Strategies for Improving Programme Implementation

This study revealed that there are a number of opportunities around which stakeholders should gather to better implement vocational and technical education programmes in Rivers State. Based on the findings of this study, the effective implementation of vocational and technical education programmes is only possible when schools are improved through the recruitment of high quality staff and provided with up-to-date equipment and facilities. The production of highly trained vocational and technical school graduates will advance national progress via a much needed skilled workforce spread across the different sectors of the economy. This is only possible, however, with the provision of the right equipment and facilities, in turn, influenced by the availability of funds. The present findings corroborate an earlier study by Wordu (1989) which found that the products of vocational and technical schools if properly trained will in time become creators of labour and that education without skills and adequate occupational information accounts for the large number of school drop-outs in our society. Both technical teachers and principals in this study agreed on the importance of quality teaching and adequate facilities/equipment to the implementation of vocational and technical education programmes in Rivers State.

Finally, the results of this research have several far reaching implications for improving the quality of vocational and technical education. The engagement of unqualified staff will not lead to high quality vocational education, but will have a negative and unpleasant effect on students and learning outcomes. This in turn means the production of graduates who are less equipped for meaningful employment and ultimately a detrimental effect on the nation's economy. It is likely that these students will exhibit poor results on the WAEC and NABTEC and other tests that represent proper evaluation of academic performance.

The use of obsolete facilities and equipment to train students will also lead to the production of graduates who are ill-equipped and lack relevant knowledge and practical skills. The quality and adequacy of facilities and equipment is a benchmark of a high quality learning process. These inadequacies are also likely to have a grave impact on the country's ability to make a technological breakthrough, one of the main objectives of the establishment of the vocational schools.

CONCLUSION

Based on the findings of the study, it appears that the implementation of vocational and technical education programmes has yet to be substantially achieved in Rivers State. The main issues of concern include a dearth of qualified vocational and technical teachers, especially in the semi-urban areas, inadequate functional equipment and facilities, poor funding strategies and challenges to the implementation process. The desired goals of the programmes can hardly be considered to be achieved given this state of affairs. For effective implementation of these programmes in Rivers State, the researcher is of the view that successful management of any policy depends to a very large extent on the support it receives, not from its formulators (government), but also from those expected to implement and consume it. Individuals, organizations and businesses must be patriotic enough to contribute to the Vocational Education Fund for the procurement and development of necessary infrastructure and staffing for the programme.

The significance of this study is derived from the important role effectively implemented vocational education programmes are expected to play in the socio-economic development of River State and Nigeria. The findings of this study will aid educational administrators and planners in decision-making and in designing appropriate and relevant vocational programmes that will stand the test of time.

This study is useful to the Rivers State government and those industries interested in effective vocational education programmes and skilled labour development. It is hoped that this study will provide justification for the inclusion of the education sector, and technical colleges in particular, in the National Council on Privatization [NCP] list.

It is also hoped that the findings and recommendations of this study will provide useful to researchers on vocational education. As technical education is ever-evolving, it is hoped that education administrators will also be able to use the results of this study to properly re-focus vocational education programmes in Rivers State and Nigeria. The results of this study additionally act as a guide for designing re-training programmes for technical teachers and administrators to equip them with the skills and competencies demanded by the present information technology revolution. The recommendations, if properly applied, will inculcate the trades and entrepreneurial spirit needed to make students job creators and not job seekers.

Finally, it is hoped that this study and its application will guide policy formulators, vocational educators, and administrators of government technical colleges to appreciate the appropriate and relevant measures needed to improve vocational education programmes across the state. If adhered to, this study can guide technical education boards on how to effectively address the staffing, funding and infrastructural needs of vocational schools in Rivers State.

REFERENCES

- Aghenta, J. A. (2009). *Principles and Methods in Vocational Education*, Enugu: Pacific Publishers.
- Akele, C. (2004). *Towards a Relevant Technical Education Curriculum in Nigeria*, Onitsha: Peoples Publishers.
- Akinkule, B. C. (2006). *Issues and Contemporary problems of Technical Education in Nigeria*, Owerri: Ahamzu Publishers.
- Dike, A., & Denga, F. (1990). *Vocational and Technical Education in Nigeria, Issues and Analysis*, Owerri: Noble Publishers.
- Egwuela, J. C. (1995). A Development of Vocational and Technical Education and Personnel Development in Nigeria. *Nigeria Teacher, Journal of Teacher Education I*. 199-205.
- Eya, P. E. (1997). Resources for Technical Education in Technical Colleges of Enugu State: in G. C Obodo (Ed); *Stress and crisis in Science and Technology Education in Nigeria*. Enugu: Rejoin Publishers.
- Fafunwa, A. B. (1982). *The History of Education*, Ibadan: Macmillan Publishers
- Federal Republic of Nigeria, (2004). *National Policy on Education*, Lagos: NERDC Press.
- Jacob, C. N. (2006). *Principles and Methods in Vocational and Technical Education*, Onitsha: Pacific Publishers.
- Lambert, M. (2010). Blogs sociotechnical systems not just another pretty theory, retrieved on the 19th March, 2011. From <https://dap.dav.mil/mglbog/archive/2010/08/24/socio-technical-systems-not-just-another-p>
- Mills, G. E. (2005). *Vocational Education and Metal Work*, Illinois: The Good Heart-Wilcox Company.
- Mkpa, M. A. (2009). *Overview of Educational Development: Pre-colonial to present Day*. Retrieved October, 30, 2012 from <http://www.onlinenigeria.com/education/index.asp?blur=551>
- Mullins, L. J. (2005). *Management and Organizational Behaviour*. England: Pearson Education Press.
- Nneji, W. U. (1992). *The meaning of Vocational Education and its implications to National Policy on Education*, Port Harcourt: Harper Publishers.

- Nwaolu, J. (2005). *Philosophy and Objectives of Nigeria Education as it relates to Mechanical Engineering Trades*. National Seminar for Heads of Trade and General Studies Department / Section in Technical Colleges and similar Technical Institutions in Nigeria, Kaduna: Nigeria.
- Nworise, O. K. (2006). *Education Adaptation in Nigeria: Problems and Prospects*, Zaria: University Press.
- Nwosu, J. K. (2005). *The Sociology of Industry*, London: George Allen Press.
- Obulor, B. C. (2006). *The Problems of Fund Allocation in the planning of Vocational Education in Nigeria*, Ibadan: University Press.
- Obusor, A. E. (2005). *The Implementation and Constraints of Technical and Vocational Education, Component of the National Policy on Education (NPE)*. Paper presented at the National Seminar on Vocational and Technical Education and Training in Nigeria, NBTE; Kaduna 15-17, 2005.
- Odogwu, A. C. (2005). *An Introduction to Vocational and Technical Education in Nigerian Schools and Colleges*, Owerri: Nigeria Wisdom People Publishers.
- Ogushi, R. (2008). *Multiple Approaches to Improving the Development of Apprenticeship/Vocational Technical Training Programmes*. National Symposium On meeting National Manpower needs through Apprenticeship and Vocational Training. Jos: Plateau State, Nigeria.
- Ojo A. (2008). *Elements of Guidance, Vocational Education*. Lagos: Peoples Educational Publishers.
- Ojo A. (2002). *Inhibiting factors in the implementation of Technical Education Policy in Nigeria*. Benin: University Press.
- Ojo, A., & Edenk. A. (1998). New Directions for Occupational Education in Nigeria, *Nigeria Vocational Journal*. 5(3). 15-20
- Okeke, C. L. (2005). *Teaching and Training for Manpower Development*, London: Macmillan.
- Okwe, K. C. (2006). Comparative Occupational Education and Work Experience in the curricula, Lagos: The Interstate Publishers.
- Olaitan, S. O. (1996). *Vocational and Technical Education in Nigeria: Issues and Analysis*. Onitsha: Noble Graphic Publishers.
- Olalekan, E. M. (1992). Teacher Education: A Critical appraisal of Nigerian National Policy on Education and its Implementation. *The Nigerian Teacher today*. I(2) 28-33.
- Olalekan, J. (1996). The Role of Education in Career and Vocational Education Development. In Jude E. (Ed) *Educational and Vocational Guidance, Concepts and Approaches*. Lagos: Grace Publishers.
- Ololube, N. P. (2009). *Understanding Teachers Professional Competencies for Education Effectiveness*. New Owerri: Springfield publishers.
- Ololube, N. P., & Kpolovie, P. J. (2012). Approaches to conducting scientific research in education, arts and the social sciences. *Online Journal of Education Research*, 1(3), 44-56.
- Ololube, N. P., & Egbezor, D. E. (2012). A critical assessment of the role/importance of non-formal education to human and national development in Nigeria: future trends. *International Journal of Scientific Research in Education*, 5(2), 71-93.
- Omekwe, I. C. (2009). *Issues and problems in implementation of Vocational Education programmes in Nigeria*. Ilesha: Joja Educational Research and Publishers
- Oranu, k. (2009). *Planning Industrial Technology Programmes in Universities of Technology, Issues in Curriculum Evaluation and Vocational Education in Nigeria. (Curriculum Organization of Nigeria, Monograph Series)*. Benin, Nigeria.
- Osam, I. (2009). Incorporating Entrepreneurship Education into secondary school curriculum: An Effective Preparation for Youths for self-reliance. *African journal of Educational Research and Development*, 3(2), 370-375.
- Putsoa, B. B. (2005). *Some inhibiting Factors in the Implementation of Technical Education Policy*. M. Ed Seminar paper. Presented at the Faculty of Education, University of Benin City.
- Resnick, D. P., & Resnick, L. B. (1983). *Improving Educational Standard in America School*. New York: Phi Delta Kapper Press.
- United Nations Education Scientific and Children Organization (1976). Status of Teachers in Asia, New Delhi, India: World Confederation of Organizations on the Teaching Profession.
- United Nations Education Scientific and Children Organization (2005). *United Nations Decade of Education for Sustainable Development 2005 – 2014*. Retrieved September 5, 2010, from <http://portat.unesco.org/education/eu/eu.php>
- Wehrich, H., & Koontz H. (2005). *Management: A Global perspective*. New York: Tata McGraw – Hill publishing company.
- Wehrich, H., & Koontz, H. (2005). *Management: A Global Perspective* New Delhi: Hill Publishing.

Wordu, H. (1989). *Correlation between Vocational Skills Acquired in the State Technical Collages and Occupational demands in Manufacturing industries in Rivers State*. Unpublished Master Degree thesis, University of Port Harcourt, Nigeria

Yusuf, F. R, (2006). *Issues and Challenges of Vocational and Practical Arts Education*. New York: Unwin Publishers

 © IJSRE

ⁱ Dr Innocent Osam holds a Ph.D in Educational Management from the University of Port Harcourt, Nigeria. Dr. Osam also holds a Bachelors of Education and Masters of Education. He has written extensively in the areas of personnel management and development. His publications have appeared in national and international journals and include a number of chapters in books.