

**AN INVESTIGATION OF TEACHER AND
ADMINISTRATOR PERCEPTIONS OF BLENDED
LEARNING IN TWO SELECTED UNITY SCHOOLS IN
KOGI STATE, NIGERIA**

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List of Abbreviations

Blended Learning (BL)

Continuous Professional Development (CPD)

Google Application for Education (GAFE)

National Commission for Secondary Education (NCSS)

National Policy on Education (NPE)

National Teacher Education Policy (NTEP)

National Policy for Information and Communication Technology (NPICT)

The National Teacher Education Policy (NTEP)

Universal Basic Education Commission (UBEC)

Dedication

First and most importantly to the only wise God, the faithful, the merciful and gracious one, I dedicate this work.

To you my husband Makoji Stephen, I call you treasure for a reason, thank you for your faith concerning this, it was a mountain to me, but you saw it become plain, thank you.

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Declaration

This is to certify that this thesis is a result of my own work, and that no portion of it contained herein has been submitted for another degree or qualification in this or any other university, to the best of my knowledge, and that the original work is mine except where due references are made.

Abstract

Background

Unity Secondary Schools in Nigeria are taking significant steps to provide effective learning experiences for their students and one approach that they have adopted is blended learning.

Motivation behind the research

Despite this move, there appears to be no clear understanding of what blended learning is and what this approach to learning really entails. This qualitative study, therefore, seeks to investigate the perception of teachers and administrators on what they consider to be the definition and practice of blended learning, its implementation, and challenges as well as the implication of blended learning for teachers' professional development in two selected Unity Secondary Schools in Nigeria.

Theoretical Framework

The researcher used the theoretical framework of Davis (1986) Technology Acceptance Model (TAM) as a theoretical lens to penetrate issues, challenges and current concerns posed in blended learning implementation in selected Unity Secondary Schools in Nigeria. The researcher proposes that applying Davis (1986) Technology Acceptance Model (TAM) will facilitate an understanding of issues relating to the implementation of blended learning in Unity Secondary Schools and provide useful insights for educational institutions who have adopted or wish to adopt and combine various information, communication, and related technologies with traditional classroom instruction.

Methodology

This research is framed in an interpretivist perspective in the context of a qualitative research to examine the perceptions of teachers and administrators with a view to ascertaining how the concept of blended learning is defined, how it is implemented, its challenges as well as its implications for teachers' professional development. The qualitative research approach is considered a valuable method for educational research to develop theory, evaluate programs, and develop interventions. To achieve the aim and objectives of this research work, extensive fieldwork research was conducted using multiple sources of data collection to ensure triangulation of data. The triangulation design used data collected from three different qualitative research methods (semi-structured interviews with teachers and administrators, focus group discussion with teachers, and documentary evidences such as the National Policy on Education (NPE), National Teacher Education Policy (NTEP) and the National Information and Communication and Technology (ICT) Policy. The qualitative evidence was analysed using thematic analysis and content analysis of policy documents. The content analysis of policy documents responded to the need to systematically examine the implementation of the provisions of the National Policy on Education, National Information and Communication Technology (ICT) Policy as well as the Nigerian National Policy for Information and Communication Technology (NPICT) in Education regarding the provision of ICT infrastructure and capacity development and how it affects the use of the blended learning approach to teaching and learning in Unity Secondary Schools in Nigeria.

Results

Although the research findings identified various perceptions of the definition of blended learning as well as perceived benefits of blended learning intervention. Practical challenges of the effective implementation of blended learning were also identified as follows: lack of clearly defined and streamlined strategies for teachers' professional development supportive of blended learning implementation, poor ICT skills of teachers, lack of ICT infrastructure, under-funding, inadequate electricity, lack of access to software that will facilitate teaching and learning, lack of internet access, absence of a well-articulated strategy to guide ICT implementation, lack of political will to implement blended learning in Unity Secondary Schools, all of which account for blended learning implementation challenges.

Recommendations

While highlighting these perceived challenges of the effective implementation of blended learning, the study recommends that the Federal Government of Nigeria through the Federal Ministry of Education and the Federal Ministry of Communication and Digital Economy strengthens the administrative capacity of Unity Secondary Schools to drive and implement blended learning interventions, while also putting into place strategies that favour the professional development-oriented growth for teachers in Unity Secondary Schools. Furthermore, the research suggests that an ICT Policy Implementation Commission be established that will address the challenges highlighted in the literature and in this study, and help sustain the shift from traditional pedagogy to the pedagogy of technology integration where teaching can incorporate technology to make learning active and teaching student centred

Contribution to Knowledge

The contributions of this research work on academic and practical levels are apparent with the research demonstrating a significant effort at carrying out an in-depth study that seeks to examine the issues, challenges, and dilemmas in the implementation of the blended learning instructional approach in the context of a developing-country, and more specifically in Unity Secondary Schools. This is due to previous studies focusing on blended learning in Higher Education Institutions and were generally undertaken in different cultural contexts from Nigeria. The study therefore, seeks to bridge this gap in knowledge. Practically, the study has significant implications for both educators, and decision makers, such as: the need to be more committed to the effective implementation of blended learning interventions. Similarly, the study underscores the need for the development of a strategic framework for teachers' professional development. Fundamentally, the study emphasises the need to develop a carefully outlined action plan that will guide educators as well as other stakeholders in Nigeria's secondary education sub-sector on ways to address the challenges that have inhibited the effective implementation of blended learning. These plans, the study noted, must be such that will address the issues of teachers' professional development, underfunding and lack of ICT infrastructure in Unity Secondary Schools. Finally, several directions for further research have been recommended for study.

Chapter One

Introduction

1.0 Origin of this Thesis

This thesis was inspired by my experiences as a supervisor of schools with the Kogi State Universal Basic Education Board (SUBEB), generally being in charge of quality assurance at primary school level, as well as the experience I had in terms of technology adoption in the classroom during my master's in an education programme at the Liverpool Hope University, United Kingdom.

While working as a supervisor of primary schools, I discovered that some teachers struggled while imparting knowledge to primary school students due to the lack of adoption of Information and Communication Technology in the classroom. Teachers in State-owned secondary schools were equally struggling with teaching and learning because of an obvious lack of ICT integration in the classroom. I realised later during one of the seminars I attended which was sponsored by the Federal Government of Nigeria that the Federal Government Unity Secondary Schools had adopted the use of a blended learning instructional approach to teaching and learning. This led me to conduct this research, that investigates the perception of teachers and administrators on blended learning and to equally explore the challenges and dilemmas in blended learning implementation in Unity Secondary Schools. Since I worked as staff of the State Government, the lessons learnt from the Unity Schools which are owned by the Federal Government would be valuable if applied in the State primary and secondary schools which are owned by the respective State Governments.

My experience in practice has shown that to leverage teaching and learning there is the need for a paradigm shift in teaching and learning that lays emphasis on effective implementation of blended learning at all levels of education in Nigeria.

1.1 Research Background

According to Poon (2013:274) blended learning as an instructional approach benefits students and institutions in all places. It facilitates improved learning outcomes, accesses

flexibility, a sense of community, the effective use of resources, and student satisfaction. Despite the seeming benefits derivable from blended learning, a concern that teachers have regarding this instructional approach is that it is yet to be defined or commonly understood amongst teachers and administrators. Poon (2013) claims that there has been much discussion about the term ‘blended learning’ in recent years, yet there continues to be no agreed single definition. Scholars (Kop and Hill, 2008; Kliger and Pfeiffer, 2011; Al-Ani, 2013) describe blended learning, as a cross between face-to-face learning and the integration of technology, as a student-centred approach that is framed in connectivism and social constructivism learning theories.

Kop and Hill (2008) noted that connectivism was introduced in 2005 by two publications, Siemens’ *Connectivism: Learning as Network Creation* and Downes’ *An Introduction to Connective Knowledge*. They observed that both received significant attention in the blogosphere and an extended discourse has followed on the appropriateness of connectivism as a learning theory for the digital age. In 2007 Kerr entered into the debate with a series of lectures and talks on the matter, as did Forster, both at the Online Connectivism Conference at the University of Manitoba. In 2008, in the context of digital and e-learning, connectivism was reconsidered and its technological implications were discussed by Siemens and Ally.

Bersin (2004:323) noted that blended learning is generally looked at as a combination of different training media, including technologies, activities and types of events, to create an optimum training program for a specific audience. Commenting further, Bersin (2004: 323) maintains that blended learning is an instructor-led training supplemented by an electronics format or vice-versa.

With the growing trend of blended learning as an instructional approach, it is important to identify the basic components of this instructional approach. While it has been noted in the existing literature (Kliger and Pfeiffer, 2011; Al-Ani, 2013) that components such as technology are useful for teaching and learning within the classroom, teachers and administrators appear to lack the requisite skills to use this approach in an engaging and rigorous manner.

As educators in Nigeria move forward with the implementation of the National Policy on Information and Communication Technology, which introduced the use of Information and

Communication Technology (ICT) in schools and mandated teachers and administrators to adopt and integrate technology to improve their pedagogical activities. Scholars (for example Adesola, 2012; Adeoye, 2015) have recognised the need to use technology to synthesise information, create new knowledge and communicate the same in classrooms. With the use of technology being required within the classroom as contained in the National Policy on Information and Communication Technology in Nigeria, it is possible that future professional development may be necessary to support teacher performance.

It is from this background that this study seeks to identify commonly known and understood components of what teachers and administrators believe to be blended learning, and to investigate their perceptions about how blended learning impacts student overall learning within the classroom in selected Unity Schools in Nigeria. The study equally seeks to gauge the perception of teachers and administrators as to the components of blended learning that provides optimal support to teachers in the selected Unity Secondary Schools.

1.2 Adoption of Blended Learning: Focus on Nigeria

Although it is clear from research on Nigerian education provision, innovative and effective teaching approaches and strategies are key to keeping pace with a fast-changing knowledge-based world. However, it seems that appropriate strategies to integrate ICT into secondary school curriculum are still lacking, with a great deal of instructional and administrative work in still being carried out manually without the use of information technology (Aduwa-Ogiegbaen and Iyamu, 2005). The advantages offered by technology-mediated learning include: increased, enhanced and transparent synchronous and asynchronous communications between teachers and students, as well as between students, flexibility and convenience in teaching and learning without restriction to time and space (geographical location), increased and ease of access to learning materials, increase in students carrying out capacities by institutions and cost effectiveness amongst others (Nganji and Nggada, 2014; Coverdale-Jones, 2017)

Despite the advantages derivable from the adoption and integration of technology into the educational system, the Nigerian education system and more specifically the secondary education sub-sector appears to be discounted from this global momentum owing to a plethora of challenges. These challenges according to the Nigerian Education Sector Report

(2010) range from lack of reliable access to electricity, limited technology infrastructure (especially internet access, bandwidth, hardware and software provision), language of instruction and available software; geographical factors such as country size, terrain and communications; demographic factors such as population size, density and dispersion.

Despite these concerns, Nigeria as well as other developing countries are expected to “ensure inclusive and equitable quality education and promote life-long learning opportunities for all” as specifically outlined in Sustainable Development Goal 4 (SDG4) of the UN Sustainable Development Goals (SDGs) 2016–2030. SDG4 emphasises that “all girls and boys complete free primary and secondary schooling by 2030” (Incheon Declaration and Framework for Action (UNESCO, World Education Forum, 2015:31). Achieving inclusive and quality universal primary education by 2030 as carefully outlined in the SDG4 goal, which depends on the adoption of technology-mediated learning as it can help all types of learners because it breaks down some of the barriers to achieve effective teaching and learning in the educational system. Teachers’ adoption of technology-mediated learning and the perception thereof remain critical to the achievement of the SDG4 goals. In this regard, the Incheon Declaration and Framework for Action (UNESCO, World Education Forum, 2015:67) maintained that teachers remain critical to the attainment of the SDG4 and that “teachers and educators should be empowered, adequately recruited and remunerated, motivated, professionally qualified, and supported within well-resourced, efficient and effectively governed systems”. Similarly, The Oslo Summit, “Education for Development”, held in July 2015, re-echoed the need for further investment in teacher education globally.

In furtherance of the Incheon Declaration and Framework for Action (UNESCO, World Education Forum, 2015) to which the Nigerian government is a signatory, the Federal Government of Nigeria on Monday the 29th August 2016 launched a new three-year education strategic plan for the country, stretching between 2016 and 2019. According to the Minister of Education, Mallam Adamu Adamu, the three-year education strategic plan is in response to the country’s need for relevant, dynamic, and globally competitive education that will ensure socio-economic and national development.

Despite these seemingly creditable programmes and strategic plan of action by successive administration in Nigeria, the education sector and more specifically the basic and secondary education sub-sector in Nigeria is still beset with a plethora of challenges ranging from lack of leadership commitment, inadequate or poor allocation of funds, lack of basic

infrastructure to ensure quality teaching and learning, corruption as well as a lack of administrative willingness and capacity to drive effective teaching and learning (Ebisine, 2015; Hope Sr, 2017; Olujuwon and Perumal, 2017). The National Teacher Education Policy (NTEP, 2014:8-9) notes that the major challenges include:

- a. the need for up-dating of recruitment, admissions, and graduation requirements.
- b. incentives and measures for attracting talents into the teaching profession.
- c. Pre-service Teacher Education (PSTE) course content in NCE and university undergraduate programmes that fall below the requirements of today's knowledge economy.
- d. inadequate coverage and inadequate mastery of content knowledge in 'teaching subjects' especially in languages, science, mathematics, and technology.
- e. the prevalence of memorisation-regurgitation due to the predominance of the lecture method of teaching.
- f. inadequacy and inappropriateness of teaching and learning materials, and
- g. low level of IT penetration and utilisation in an IT-dominated area.

Specifically, the Nigerian Education Sector Report (2010:7) sums up the challenges in Nigeria's education sector in the following words:

The education sector has historically suffered from years of neglect and mismanagement and inadequacy of resources commensurate with national needs, population growth and demand. As a result, education as a strategic priority of the government has not been well positioned as a transformational tool and a formidable instrument for socio economic development

With the challenges in the secondary education sub-sector in Nigeria carefully outlined, one viable option that can revive and transform the ailing secondary education sub-sector in Nigeria is perhaps the adoption of technology-mediated learning. Like most fields of human endeavors, Mac-Ikemenjima (2005) observed that significant tremendous advancements and innovations have been witnessed in education globally, both in quality and quantity occasioned by the adoption of Information and Communication Technologies (ICTs) which

gave rise to several related concepts such as e-learning, distance/online learning, virtual laboratories, virtual libraries, distributed learning, blended learning, among others.

This research work is therefore, set to investigate teacher and administrator perceptions of blended learning in selected Unity Schools in Nigeria.

The necessity to take into consideration the needs of learners, as well as the management of their expectations and level of understanding, are considered germane for the development and implementation of a successful blended learning module (Harris et al., 2009). The literature on blended learning lends support to the proposition that teacher perceptions of blended learning have evolved over the years. Qasem and Nathappa (2016) noted that teacher perceptions are a major predictor of the use of new technologies in instructional settings. Commenting further, they submit that studies have indicated that blended learning can lead to improved training, increased access and flexibility, and better cost-effectiveness.

Identifying a common meaning and understanding of blended learning, understanding the issues and challenges in blended learning implementation, as well as its implications for teachers' professional development is considered significant at this time. As the Nigerian government appears committed to the implementation of the National Policy on Information and Communication Technology, which introduced the use of Information and Communication Technology (ICTs) in schools and has mandated teachers and administrators to adopt and integrate technology to improve their pedagogical activities. This mandate places a requirement on teachers and administrators to provide students with a variety of academic opportunities.

Likewise, it is important that research be conducted examining blended learning at secondary school levels and within a developing country context because the earlier studies considered participants from developed countries (Parsons, 2016). Furthermore, most research studies conducted over the past two decades have taken place at University level. While the studies carried out in higher education institutions in developed countries have made valuable suggestions for utilising blended learning within the classroom, there seems to be a marked difference in the approaches that would be applied in secondary schools. Currently, there is a dearth of research work that focuses on Nigeria that has reported the experiences of secondary school teachers and how the use of blended learning would have aided teaching and learning at that level.

It is in this context that Bada, Adewole and Olalekan (2009) submit that little is known about the use of blended learning in the Nigerian education system. Nsofor et al. (2014) assert that due to the newness of the blended learning concept in the Nigeria education system, little is known about what makes a successful blended learning experience. Corroborating, Ahaiuzu, Nyemezuru and Nsirim (2020) wrote on blended learning in the context of Library and information science, noting that despite the fact that educational systems have been influenced greatly by the emergence and spread of information and communication technologies, there is generally inadequate literature and lack of empirical evidence on the adoption of blended learning in educational institutions in Nigeria. Similarly, in a study carried out by Afiene and Asuquo (2020) on blended learning within the context of ELT (English Language Teaching) in secondary schools, they noted that little or no literature can be found on blended learning course design or detailed descriptions provided of blends used in ELT contexts in Nigeria.

A study that seeks to carry out an investigation into the perception of teachers and administrators on the implementation of the blended learning approach to teaching and learning at the secondary school level may therefore, afford teachers and administrators the information that may be beneficial if applied within the classrooms to support the teaching and learning of individual students.

1.3 Research outline

In this section, the researcher outlines the aims of the research as well as the research questions.

1.3.1 Aim of research

This research work sets out to gauge the perceptions of teachers and administrators of blended learning as an instructional approach, to consequently identify key components of blended learning as a social reality.

1.3.2 Objectives of the research

1. To gauge the perception of teachers and administrators on the instructional approaches that best define the concept of blended learning in Unity Secondary Schools in Nigeria.

2. To critically evaluate the impact of the implementation of blended learning approach in Unity Secondary Schools in Nigeria.
3. To identify the aspects of blended learning professional development that best support the implementation of blended learning in Unity Secondary Schools in Nigeria.

1.3.3 Research questions

The following research questions will guide this research work:

1. What are the instructional approaches that teachers and administrators in Unity Secondary Schools in Nigeria believe define the concept of blended learning?
2. What are the perceptions of teachers regarding the impacts of the implementation of the blended learning approach in Unity Secondary Schools in Nigeria?
3. What are the perception of teachers and administrators about the aspects of blended learning professional development that best support the implementation of blended learning in Unity Secondary Schools in Nigeria?

1.4 Significance of the Study

This study is significant in so many ways. Firstly, it is hoped that the findings from this study will contribute significantly to the field of teacher training and professional development as well as providing a contextual synopsis of the issues and challenges associated with the adoption of blended learning and generally to blended learning research. Secondly, this research, which looks at teacher and administrators' perceptions of blended learning in a developing country context, bridges the gap in knowledge on blended learning in secondary schools in Nigeria where few studies have been investigated so far. Thus, this study will be able to make recommendations to educational administrators and education policy makers as well as to the government on how best to support teachers in a blended learning environment.

1.5 Summary

In Chapter one of this research work, the researcher has given a background to the research, statement of the problem, aim of the research as well as the research questions. The significance of the study has also been highlighted.

The next chapter will provide a general overview of secondary education in Nigeria and provides information on the historical development of secondary education in Nigeria and the origin of Unity Secondary Schools, history and rationale for the selection of Federal Government Girls College Kabba and Federal Government College Ugwolawo, scope, purposes and administration of secondary education in Nigeria's context, conceptualising the Unity Secondary school management system in Nigeria as well as issues relating to the financing of secondary education in Nigeria.

Chapter Two

The Study Context

2.0 Historical Development of Secondary Education in Nigeria and the Origin of Unity Secondary Schools

The secondary education sub-sector in Nigeria does not only serve as a link between primary and tertiary education, but it also provides a veritable opportunity for a child to acquire additional knowledge, skills, and traits beyond the primary level. Most importantly, the idea behind the establishment of secondary education in Nigeria is predicated on the fact that education being provided at the primary level is proving to be insufficient for a child to acquire permanent literacy, communicative, and numeracy skills expected from him/her at the end of the training (Yusuf, 2009, Ige, 2011).

Secondary education has come of age in Nigeria having developed along with western education which was introduced by the missionaries in 1842. Initially, what was obtainable was primary education which was the major focus of the Christian missionaries at that time. The attention by the government to secondary education started some decades after the establishment of primary education, when it was realized that there was a need for outputs of primary schools to further their education in secondary schools. According to Adesina (1977), the need for the output of primary schools in Nigeria to proceed to secondary schools led the Church Missionary Society into the establishment of the first secondary school (CMS Grammar School, Bariga, Lagos) in 1859. The first remarkable effort by the then, colonial government at complementing the effort of the Christian missionaries in the establishment of secondary education was the establishment of the King's College Lagos in the year 1909. The establishment of secondary schools in Nigeria did not receive much enhancement from the colonial government until after Nigeria attained independence in the year 1960. Since the attainment of the country's independence status, secondary education has continued to grow in number and enrolment, and has remained a critical part of the nation's educational system.

A critical development in the drive towards the development of secondary education in Nigeria, post-independence was the establishment of Federal Government Colleges

otherwise referred to as Unity Secondary Schools. The Federal Government under the leadership of the Prime Minister, Alhaji Tafawa Balewa saw the establishment of these schools as a way of addressing the challenges of mistrust and ignorance of the backgrounds among the people governing the new Nation. These secondary schools were meant to attract students from all regions in Nigeria, to study in an environment where they will better appreciate the unique culture and backgrounds of other students and by that token help to reduce or attenuate the mistrust and ignorance that was becoming common place especially after the political crisis that erupted in the western region after the 1964 elections.

It is in view of the foregoing that the Federal Government in 1966 decided to establish what was then known as Inter-Regional secondary schools and later called Federal Government colleges in the three regions of East, North and West of the Federation for three main reasons:

- To bring together young boys and girls from all regions of the country, irrespective of their social or economic background to learn, play, work and live under one roof in order to remove the virtual mysteries surrounding the evolution of the people who made up the regional citizenry, thereby creating a homogeneous family devoid of rancor, suspicion or distrust.
- To create centers of academic excellence providing a reliable source of well-grounded, all-round citizens that will jumpstart the capacity building effort and ensure positive growth and development.
- To breed citizens that are void of tribalism which is needed for the good management of resources at all levels of governance of the Nation.

The success of these first-generation colleges both in terms of National integration and academic excellence was so impressive that in 1970, the then Head of State, General Yakubu Gowon, made a pronouncement on the need to replicate these Unity Schools in other States of the Federation as the initial three (3) regions were split into a twelve (12) State structure in 1967.

By 1973, nine (9) second generation Federal Government Colleges were opened. This is how these schools started and today, there are 104 of such schools in Nigeria (see the list of

the Federal Unity Secondary schools in all the 6 geo-political zones in Nigeria in appendix 10).

Admission into Unity Schools is done through national merit, state of origin merit, catchment area and educationally disadvantaged states mode. Effectively, each state in the federation is expected to fill its admission quota. The National Common Entrance Examination (NCEE) is conducted for admissions into Unity Secondary Schools and admissions is usually conducted to reflect geographical spread. Idakwoji (2016) commenting on admission into Unity Secondary school noted, that irrespective of the location of the Unity Secondary School whether urban or rural, students from all the 36 states in Nigeria are represented in each of the 104 Unity Secondary Schools. In order to entrench one of the guiding philosophies behind the establishment of Unity Secondary Schools, which is to attract students from all states in Nigeria to study in an environment where they will better appreciate the unique culture and backgrounds of other students.

2.1 History and the Rationale for the selection of Federal Government Girls College Kabba and Federal Government College Ugwolawo

The selected Unity Secondary Schools chosen are: The Federal Government Girls College, Kabba, Kogi State and the Federal Government College, Ugwolawo, Kogi State, Nigeria. The schools chosen are similar in every respect and the choice is predicated on the fact that the choice of two similar schools would help in validating the result, as well as the robustness of the conclusions from the study.

Generally, the reasons for selecting these two Unity Secondary Schools are as follows:

- **Similarity:** These Unity Secondary Schools are similar in the following respect:
- **Secondary:** They are both secondary schools
- **Supervisory Body:** The Unity Secondary Schools selected are both supervised by the Federal Ministry of Education, Nigeria.
- **Ownership:** The Unity Secondary Schools are both owned by the Federal Government of Nigeria.
- **Location:** The Unity Secondary Schools are both in the same State (Kogi).

- **Funding:** The Unity Secondary Schools are both funded by the Federal Government of Nigeria.
- **Differences:** Federal Government College, Ugwolawo is a mixed school (boys and girls) while Kabba is a girl's college. Federal Government College, Ugwolawo, Kogi State, Nigeria is a 2nd Generation Unity Secondary School (they are so categorised because of their time of establishment relative to others) having been established in 1979 and Federal Government Girls' College Kabba, Kogi State is a 3rd. generation Unity Secondary School which came into being in May 1995.

2.2 Scope, Purposes and Administration of Secondary Education in Nigeria's Context

In Nigeria, Secondary education is provided for children after primary education, that is, before tertiary education. It is aimed at developing a child further than the primary level, as it is obvious that primary education is insufficient for children to acquire literacy, numeracy, and communication skills (Ige, 2011).

Secondary Schools in Nigeria can be owned by the government (state or federal), individuals or community and it is often divided into two phases as follows:

2.2.1 Junior Secondary Phase

The junior secondary phase consists of the first three years of secondary education. The curriculum at this phase is pre-vocational and academic in scope. Core, pre-vocational and non-prevocational subjects are included in the curriculum. The core subjects include English Language, Mathematics, French, and a major Nigerian language as well as, Environment, Basic Science, Social Studies, Citizenship Education, and Basic Technology. The pre-vocational subjects include Agricultural Science, Business Studies, Home Economics, Local Crafts, Fine Arts, Computer Education and Music, while the non-prevocational subjects include Religious Knowledge, Physical and Health Education as well as Arabic. Certification at the end of this phase is dependent on the performance of a student in Continuous Assessment (CA) and the results of Junior School Certificate Examination (JSCE), being coordinated by State Ministries of Education or Federal Ministry of Education (if owned by the Federal Government).

It is important for a child to attend and complete the Junior School Certificate Examination (JSCE) at the end of this phase. A child with a minimum number of passes from the subjects in the curriculum, including English Language and Mathematics (varies across the States) qualifies to proceed to the Senior Secondary (SS) level where he/she will be trained for an additional three years. A child that fails the JSCE (that is those without the minimum passes including English Language and Mathematics) is expected to enroll in technical college, an out-of-school vocational training center or an apprenticeship scheme, in line with the 6-3-3-4 system of education in Nigeria.

2.2.2 Senior Secondary Phase

Upon successful completion of the Junior secondary school, the student is expected to proceed to the senior secondary phase which is meant to broaden the knowledge and skills of a student beyond the Junior Secondary level and thus, prepares him/her for further education. It is academic and vocational in scope. A student has to offer a minimum of seven and a maximum of eight subjects, comprising of the six core subjects: English Language, Mathematics, a major Nigerian language, one science, an art, and a vocational subject. One or two other electives are to be selected from the art, science, technical, social science, and vocational subjects. Certification at the end of this phase depends on the performance of a student in the Continuous Assessment (CA) and Senior School Certificate Examination (SSCE), coordinated by West African Examinations Council (WAEC) and National Examinations Council (NECO). A child must obtain a minimum of five credits at two sittings including English Language and Mathematics to be able to proceed to the tertiary level of the educational system.

In Nigeria, the main aim of secondary education is to prepare an individual for:

- Useful living within society, and
- Higher education.

Specifically, secondary education aims to:

- Provide all primary school leavers with the opportunity for education at a higher level irrespective of sex, social status, religious or ethnic background.
- Offer a diversified curriculum to cater for differences in talents, opportunities, and future roles.

- Provide trained manpower in applied science, technology and commerce at sub-professional grades.
- Develop and promote Nigerian languages, arts and culture in the context of the world's cultural heritage.
- Inspire students with a desire for self-improvement and achievement of excellence.
- Foster national unity with an emphasis on the common ties that unite students in their diversity.
- Raise a generation of people who can think for themselves, respect the views and feelings of others, respect the dignity of labour, appreciate those values specified under our broad national goals, and live as good citizens; and
- Provide technical knowledge and vocational skills, necessary for agricultural, industrial, commercial, and economic development (National Policy on Education, 2004).

The secondary education system in Nigeria is based on the National Policy on Education (NPE, 2014), the National Teacher Education Policy (2014), the National Policy on Information and Communication Technology (2012), and finally the National Policy on Information and Communication Technologies (NPICT) in Education (2019).

Specifically, the National Policy on Education (NPE) is an education policy document enunciated for the effective administration, management, and implementation of education from all tiers of government. The NPE (2014) is a statement of intentions, expectations, goals, prescriptions, standards, and requirements for quality education delivery in Nigeria. The National Teacher Education Policy (2014) has, as its major policy an objective to produce highly knowledgeable, skilled, and creative teachers who are capable of producing learners who can compete globally, while its goal is to ensure that teachers are adequately catered for and made adaptable to our changing world. The policy is also to ensure that teachers are trained and recruited based on explicit performance standards. This provision of the National Policy on Education (2014) re-echoes the need for teacher's professional development that best supports the implementation of blended learning in Unity Secondary Schools in Nigeria.

The Nigerian Education Sector Report (2010) is a Federal Government of Nigeria report which seeks to articulate a contextual synopsis of the critical issues, and challenges facing the education sector and the major policy options and directions for the future.

The National Policy on Information and Communication Technology (2012:7) is poised towards the provision of a framework for streamlining the ICT sector and enhancing its ability to catalyse and sustain the socio-economic development of Nigeria. The thrust of the policy is to facilitate the transformation of Nigeria into a knowledge-based economy and will be used to develop action plans, sub-sectoral policies, and specific implementation guidelines as appropriate.

Finally, the National Policy on Information and Communication Technologies (ICT) in Education (2019) is a policy document for the development and deployment of ICT in education. The policy document was first approved in the year 2010 by the National Council on Education and the Federal Executive Council. The implementation of this policy threw up a number of emerging challenges, new trends and developments in education and ICT and these challenges necessitated the review of the policy. The policy was reviewed and approved in May 2019 to bring about a standardised and coordinated deployment of ICT in education. The policy which was developed using a multi-sectoral approach had Education Parastatals, other relevant Federal Ministries, Departments and Agencies, State Ministries of Education, IT Professional Bodies, Private Sector, Non-Governmental Organisations and International Development Partners contributing significantly.

The National Policy on Information and Communication Technologies (NPICT) in education (2019) had the following focus areas:

- Human Capital Development
- Infrastructure
- Research and Development
- Awareness and Communication
- Governance
- Financing
- Monitoring and Evaluation

The challenges for the implementation of blended learning were broadly articulated in the National Policy on Information and Communication Technologies (NPICT) (2019), which

is the Federal Government of Nigeria's policy document on the implementation of ICT in educational institutions in Nigeria. Specifically, section 1.1.2 of this policy document observed that the implementation of ICT in education is plagued with many challenges. These include the following:

(i) Policy: Inadequate policy implementation.

(ii) Institutional and Administrative Capacity: although capacity- building of teachers in ICT is being conducted, a good percentage of teachers are still not proficient in ICT. There is also an insufficient pool of ICT professionals in the sector. These weaknesses are compounded by inadequate ICT infrastructure for teaching, learning, research, and educational administration in some institutions.

(iii) Regulation: IT Education, especially at the non-formal education sub-sector is still largely non-standardised, uncoordinated, and unsupervised. This has resulted in the proliferation of computer training outfits which offer all sorts of certificates and programmes based on curricula that are undefined.

(iv) Curriculum: there is generally a lack of regular reviews and updating of existing IT curricula, especially at the tertiary level, to meet changing societal needs. There is also a low capacity of curriculum developers and implementers. The challenge of an outdated curriculum is even more pronounced in view of the dynamic nature of IT.

(v) Efficiency and Effectiveness in the Use of IT: teacher educators and teachers are concerned with efficiency rather than effectiveness when they adopt ICT in education. Thus, ICT is used to make their jobs easier, instead of making learning more effective. As a result, the teaching/learning process has not embraced current educational paradigms which emphasises student-centered instruction, with the teacher as the facilitator rather than the teacher as the source of knowledge.

(vi) Equity issues: there is a great dichotomy between urban and rural schools and between public and private schools with regards to the availability of ICT personnel and resources. Urban schools and private schools tend to have more ICT personnel and resources as well as power supply.

(vii) Research: there is little research on ICT in education. Thus, policymakers are not able to assess the impact of ICT on the education system.

(viii) Funding: although funds are being provided for ICT in education, they are largely inadequate in providing the drive necessary to position the sector for the attainment of the national goals.

These policy documents were considered important for this study, as they identified the drivers and barriers to ICT including those related to but not limited to curriculum and pedagogy, the building of ICT infrastructure, capacity-building and issues of financing.

The criteria used by the researcher for the selection of these documents were that they are:

- (i) currently in use or have been specified to be used for a specific period of time.
- (ii) among the more important documents that are used for carrying out the implementation of ICT in the education sector; and
- (iii) currently being used to shape and guide the practice of blended learning in the secondary education sub-sector in Nigeria.

The responsibility of ensuring that there is coherence of national policy and procedures and ensuring that the states' policies operate within the parameters of national policy as adapted for local needs and lie with the Federal Ministry of Education. At the political level, responsibility for the coordination of policy lies with the National Council of Education (NCE). The NCE is the highest policy making body, chaired by the Federal Minister of Education and includes all the State Commissioners of Education. This body is advised by the Joint Consultative Committee on Education, which consists of all the Federal and State Directors of Education, Chief Executives of education statutory bodies, and Directors of University Institutes of Education.

Generally, the major responsibility for education is borne by the Ministry of Education however, other ministries and agencies also play an important role in the provision of education at all levels including in secondary schools. For example, it is the responsibility of the Ministry of Information to publicise to the public some of the educational policies and programs offered. The Ministry of Women's affairs and Social Welfare together with the State Commission for Women also play a role in promoting the education of women and girls. The Ministry of Communications and Digital Economy equally play a critical role in

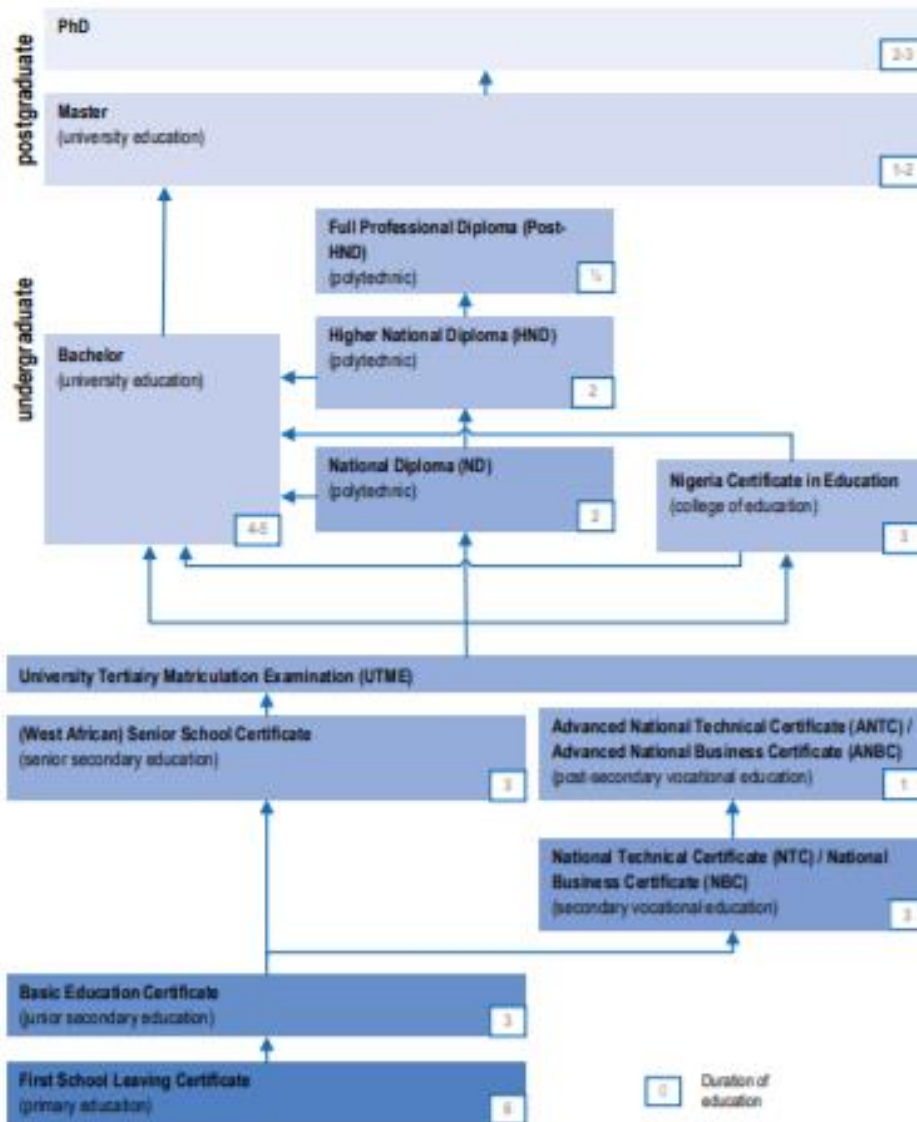
ICT for education. The Ministry was created to facilitate ICT as a key tool in the transformation agenda for Nigeria. The Ministry has a number of ICT awareness programmes and projects designed for public secondary schools in Nigeria. For example, under the Digital Awareness Programme for secondary schools, the ministry provides computers and connectivity under the School Knowledge Centre (SKC) project for public secondary schools. The project is designed to address the particularities of the beneficiary secondary schools with a view to ensuring that the respective ICT needs of these schools are moderately resolved. Under this programme, secondary schools are provided with power supply backup, connectivity, desktop computers plus accessories to facilitate e-learning and teaching. Similarly, teachers and students are trained on how to use ICT for teaching and learning. Furthermore, the Federal Ministry of Finance play a critical role in education financing. Since most of the money for education financing comes from the Education Tax Fund (ETF), the Ministry of Education also needs to collaborate with the Ministry of Finance for timely release of these funds.

Idakwoji (2016) commenting on the need for effective collaboration between the Ministry of Education and other ministries and agencies in Nigeria, submit that even though there exists a framework for synergy between the other ministries and agencies that supports the provision of education. A number of factors for example, excessive bureaucratic bottlenecks, policy somersault, and inadequate budgetary allocation hinder effective collaboration. The multiplier effect of this ineffective collaboration he noted, contributes to the challenges faced by public secondary schools in Nigeria.

In order to achieve the aims of secondary education in Nigeria, there is a need to have the requisite human, material, financial and infrastructural resources in order to meet the educational requirement of a nation. However, this is not so in Nigeria as there are critical teaching staff deficits especially in the areas of ICT, problems of underfunding, lack of basic educational infrastructure, low levels of ICT education as contained in the Nigeria Vision 2020 Report. The catalogue of challenges highlighted in the Nigeria Vision 2020 Report and other existing government policy documents necessitates a study of this nature that seeks to examine other issues, challenges and dilemmas in the implementation of blended learning in selected Unity Secondary Schools in Nigeria.

The diagram below shows the Nigerian Education System and more specifically, the secondary education qualification structure.

Figure 2.1: Nigerian Education System and Qualification structure



Source: NUFFIC (2017).

2.3 Conceptualising the Unity Secondary Schools Management System in Nigeria

The management of Unity Secondary Schools in Nigeria is vested in the principals, the vice-principals and the heads of departments who work in conjunction with the teachers to ensure efficient and effective delivery of teaching and learning. The principal as an administrator

occupies a unique and challenging position. The numerous pressures on the principal from the Education Board, students, parents and other critical stakeholders requires the principal in consultation with teaching and non-teaching staff to act rationally all the time.

A number of changes have occurred in the Nigerian education system since 1999 which requires principals as school administrators to study, implement and assess teaching-learning outcomes, while at the same time providing performance-based reports to the Federal Ministry of Education. According to Hauwa (2012: 189-191) prior to 1999, the traditional roles of principals were mainly centered on the management of school facility, direction and supervision of teachers, while building positive school community relations. However, Hauwa (2012) noted that these roles have expanded under the democratic dispensation most of which are measurable. Today, the school management team (Principal, Deputy Principals and Heads of Departments) is entrusted with measuring teaching outcome in schools to meet national goals; retraining of staff on Information and Communications Technology (ICT) to meet specific time-based national objectives; and effective management of underfunded secondary schools based on the directions of tough political leaders who mostly coin their manifestoes around free education.

The dynamism in the Nigerian education system requires principals to constantly adopt new roles in implementing government policies on education. Olibie (2010: 85-90) specifically submits that with the changes taking place in the nations educational system, the role of the school principal has expanded significantly to include:

- I. The management of the academic and administrative affairs of the school. The principals are expected to effectively manage the school by planning ahead and ensure that there are enough teachers to be assigned for classes. has a hold of the school time tabling of activities, procure teaching materials, and retrain the teachers for the task ahead.
- II. The principals are expected to monitor the performance of staff and learners of the school using the National Policy on Education as a guideline. Teaching and non-teaching Staff are expected to contribute to the evaluation of individuals in-service activities and of the overall staff development plan.
- III. The principals are to maintain the assets and other infrastructures of the school.

- IV. The school principals are not to task the learners for money but in addition to funding from the Federal government, which is normally a poor source for funds from the community and alumni body to improve school facilities.
- V. The principals are expected to provide continuous training and development of the teachers and non-academic staff particularly on ICT usage.
- VI. The principals are expected to comply with the conditions of service for teachers and non-teaching staff set by the Ministry of Education. Principals are to ensure that only qualified teachers are assigned to teach in the classrooms.
- VII. Principals are expected to strictly implement the curriculum in line with guidelines of the Ministry of Education purposely to meet specific national goals.

In all, the school management team which comprises of the principals, vice principals and heads of departments must develop, support, and equip staff with knowledge and skills that will make them better educators.

It is noteworthy that the principals cannot effectively carry out their roles in providing effective teaching and learning for students without the critical support of teachers. A teacher according to Afangideh (2001), is a trained person employed to impart knowledge to students in order to help them acquire certain skills, attitudes, values as well as creating desirable changes in their behaviour. Ideal teachers possess unique qualities which include positive mental attitude, presentation skills, calmness as well as excellent communication and interpersonal skills towards achieving the goals of education.

It is in cognisance of the critical role of principals and teachers in the effective delivery of secondary education that this study seeks to investigate teacher and administrator perceptions of blended learning in two selected Unity Schools in Kogi state, Nigeria.

2.4 The Financing of Secondary Education in Nigeria.

The 1999 Constitution of the Federal Republic of Nigeria vested the management and funding of public education in the three tiers of government: Federal, State and Local. Public institutions are funded almost solely by the government. Students in these institutions pay very low fees and charges, which constitutes an insignificant proportion of the finances of

the institutions. On the other hand, privately-owned institutions which are mainly at the pre-primary, primary and secondary levels are funded with fees paid by students.

Secondary education in Unity Secondary Schools is tuition-free. However, different forms of levies are imposed on parents to cover running costs of these institutions. The Unity Secondary Schools and technical colleges owned by the federal government are funded directly by the Federal Ministry of Education. State governments and the Federal Capital Territory, Abuja, own and manage their own secondary schools.

In terms of teacher training, the Federal Government is solely responsible for funding the training of teachers for teachers in Unity Secondary Schools, even though the State Government where the Unity Secondary is situated, could support such schools as the need arises. The Alumni of the Federal Unity Secondary Schools under auspices of the Unity School Old Students' Association (USOSA) make financial and material contributions to aid teaching and learning in the respective Unity Secondary Schools.

2.5 Summary

The foregoing has been able to explicate the context under which the study has been carried out. The next chapter is dedicated to a literature review and the theoretical framework for this research work.

Chapter Three

Literature Review and Theoretical Framework

3.0 Introduction

The aim of this literature review is to provide a rationale, and further exploration of, the research questions posited in section 1.4.2. The collection of studies used in the literature review was carried out using search engines and databases for example: ERIC, EBSCOhost, Web of Science, Google Scholar, Academia.edu, and Academic Research Complete with a view to locating relevant journal articles and books. A search on Google Scholar returned about 654,000 results for ‘blended learning’. With this in mind, specific key words were used as a general search for the general areas (though not limited to): ‘definition of blended learning’, ‘theories of blended learning’, ‘advantages of blended learning’, ‘theories of blended learning’, and ‘technology enabled/enhanced learning’.

The researcher highlights the theoretical framework for this study, which is Davis’s (1986) Technology Acceptance Model (TAM) to penetrate issues, challenges and current concerns posed in blended learning implementation in selected Unity Secondary Schools in Nigeria. The researcher contends that applying Davis’s (1986) Technology Acceptance Model (TAM) will facilitate an understanding of issues relating to the implementation of blended learning in Unity Secondary Schools and provides useful insights for educational institutions who have adopted, or wish to adopt and combine various information, communication, and related technologies with traditional classroom instruction.

3.1 Blended Learning Defined

As explained by Olivier (2011) the concept of blended learning is derived from two words, blend and learning. To blend means to combine things and learning refers to the process of assimilation of new knowledge. According to Milakovich and Wise (2019) blended learning allows students to engage in learning outside the confines of the classroom; with synchronous tools, such as web conferencing, Skype and group chats, and asynchronous tools that include discussion boards, blogs and social networking sites.

Scholars (Kop and Hill, 2008; Kliger and Pfeiffer, 2011; Al-Ani, 2013) describe blended learning, a cross between face-to-face learning and the integration of technology, as a student-centered approach that is framed in constructivism and in particular, social constructivism learning theories. Bersin (2004:323) notes that blended learning “is generally looked at as a combination of different training media including technologies, activities and types of events, to create an optimum training program for a specific audience”. Commenting further, Bersin (2004: 323) maintained that blended learning “is an instructor-led training supplemented with other electronic formats or vice-versa”. The view of blended learning put forward by Bersin (2004) appears to be broader than that, advanced by authors such as Neumeier (2005:164) who defines blended learning “as a combination of face-to-face (F2F) and computer assisted learning (CAL) in a single teaching and learning environment or different learning environment”.

The definitions of blended learning above are wide and varied and this lends credence to the position expressed by Sharpe et al. (2006:18), who submit that “scholars have difficulty in reaching a consensus around the definition of blended learning”. They note that some institutions have developed their own language, definitions, or typologies to describe their blended practices. Sharpe et al. (2006) however, adds that this poor definition may be a strength and part of the reason why the term is being accepted. The lack of definition allows institutions to adapt and use the term as they deem fit, and to develop ownership of it. This position appears to agree with the views of Heinze (2008:8) who, apart from noting that there is no single commonly accepted definition of blended learning, maintained that the lack of a commonly accepted definition affords practitioners the leverage to “negotiate their own meaning” according to the needs of their contexts of practice.

All said, blended learning emerged in the educational context as a result of a combination of factors ranging from the accessibility of computer technology in and outside the classroom and the expansion of the pedagogical potential of ICT for teaching and learning to the disillusionment generated in online learning with the stand-alone adoption of online media (McDonald, 2008; Hong and Samimy, 2010).

From the foregoing definitions, technology appears to be a common component in the use of the blended-learning instructional model. However, Sloman (2007) argues that there is more to blended learning than just the use of technology and it must be as much about

varying learning methodology. In addition, blended-learning instructional approaches must be aligned with what motivates learners, as well as the tools necessary to support student learning.

There is evidence in existing literature that research relating to blended learning has been conducted at the elementary level, looking at the use of both web-based and classroom-based techniques. One such study was conducted by Kitchenham (2005). His study sought to examine teachers' implementation of a blended-learning approach to instruction in three elementary schools, which included the use of technology within classrooms as well as an examination of the degree to which elementary teachers experience perspective transformations due to their engagement with educational technology. Generally, the study suggested that specific components of blended learning were successful when implemented within teachers' classrooms.

Similarly, Mirriahi et al. (2015) in their study explored a course which was developed to give support to teaching staff and their utilisation of a blended learning model used to interact, mentor, and share knowledge with one another. It was also intended to bring to life online and blended learning experience that would effectively offer their students support, using technology and blended learning. The online course which was titled "Learning to Teach Online" was designed to offer professional development to teaching staff as well as to support the learning of pedagogic principles related to online and blended learning practices. Key findings from the study suggested the following:

- blended learning provides participants an opportunity to gain understanding of theoretical rationale and practical applications;
- hands-on experiences in lab and simulation environments;
- interaction amongst colleagues to gain knowledge of instructional practices.

Blended learning has proved beneficial in a number of ways. Osguthorpe and Graham (2003) for example, identified six reasons for using blended learning as follows:

- Pedagogical richness
- Access to knowledge
- Social interaction
- Personal agency
- Cost-effectiveness

- Ease of revision

A further review of these six reasons by Graham, Allen and Ure (2003, 2005) revealed that blended learning was principally implemented for (1) improved pedagogy, (2) increased access and flexibility, and (3) increased cost-effectiveness. A more detailed review of the models of blended learning are presented in the following section.

3.2 Models of Blended Learning

The need to identify and clearly define the models of blended learning has continued to evolve over the years. Earlier attempts classified blended learning models into seven (Tucker, 2012). However, because of the existence of other definitions of blended learning which appeared to have overlapped, the more recent attempts at defining blended learning classified the models into four, namely rotation, flex, self-blend, and enriched-virtual (Ash, 2012; Staker and Horn, 2012; Kafer, 2013). Even though an attempt was made by Bailey and Martin (2013) at further simplifying these models, most research in blended learning continues to refer to the four models of blended learning (Watson et al., 2013). The revised blended learning taxonomy according to Staker and Horn (2012, p. 8-15) includes the following models which will be discussed in turn.

1. Rotation model: under this model, in a specific program within a given course or subject, students are made to rotate on a fixed schedule or at the discretion of the teacher between learning modalities with at least one of these rotations being online learning. Under the rotation models, there are different types of rotations discussed below:
 - a) Station Rotation: this is a rotation model implementation in which students are expected to rotate on a fixed schedule or at the discretion of the teacher among classroom-based learning modalities, with at least one of these stations being for online learning.
 - b) Lab Rotation: in this rotation model implementation, student rotate on a fixed schedule or at the discretion of the teachers among locations on the brick-and-mortar campus, with one of the spaces being a lab reserved predominantly for online learning.

- c) Flipped classroom: this is a rotation model implementation where within a given course or subject, students are made to rotate on a fixed schedule between face-to-face teacher-guided practice on campus during the standard school day and online delivery of content and instruction of the same subject from a remote location (often home) after school.
 - d) Individual Rotation: as a rotation model implementation, students here are made to rotate on an individually customised fixed schedule among learning modalities, at least one of which is online learning within a given course or subject. The difference between the individual rotation and the other rotation models is that students do not necessarily rotate to each available station or modality.
2. Flex model: in the Flex model, content and instruction delivery is primarily by the internet with students moving on an individually customised, flexible schedule among learning with the teacher on-site. The teacher here provides face-to-face support on a flexible basis through activities such as small group instruction, group projects, and individual tutoring. Here, there are some implementations that have substantial face-to-face support, while others have minimal support.
 3. Self-Blend model: this describes a situation in which students, by their own volition choose to take one or more courses entirely online to supplement their traditional courses and the teacher serves as the online teacher. Students here are at liberty to take the online courses either on the brick-and-mortar campus or off-site. There is a marked difference between the full-time online learning and the Enriched-Virtual model in the sense that it is not a whole school experience. Here, students self-blend some individual online courses and take other courses at a brick-and-mortar campus with face-to-face teachers.
 4. Enriched-Virtual model: This is a whole-school experience in which students divide their time between attending a brick-and-mortar campus, while learning remotely using online delivery of content and instruction within each course. It is important to note that many Enriched-Virtual programs began as full-time online schools and then developed blended programs to provide students with brick-and-mortar school experiences. There is a difference between the Enriched-Virtual and the Flipped

Classroom because in Enriched-Virtual programs, students seldom attend the brick-and-mortar campus every weekday. It also differs from the Self-Blend model because it is a whole-school experience, not a course-by-course model.

Having discussed the following models, it is important to state that in the K-12 education, in which the secondary school education is a part, the Rotation Model is the predominant model in use today (Christensen et al., 2013). Christensen et al. (2013) further notes that within this model falls the newest of all the blended models, that of the Flipped Classroom. Bergmann and Sams (2012) noted that the new blended models being created in K-12 are leveraging the technology to increase student-teacher engagement by providing instruction online. They assert that these models provide a robust platform for teachers to have more time and interact further with the students as it involves the traditional face-to-face learning with online learning.

Even though attempts have been made to highlight the different models of blended learning, there still exist some researchers that question the existing models of blended learning. Whereas, some researchers see benefit of blended learning in relation to the additional time, increase in student performance as well as the opportunity it affords students and teachers as a platform for engagement, other researcher have found areas of dispute.

One area of dispute is the lack of empirical research into blended learning which is seriously disturbing (Drysdale et al., 2013). Dewar and Whittington (2004:5) point out the lack of empirical studies addressing blended learning. Similarly, Halverson et al. (2012), after evaluating the 60 most impactful articles and 25 most impactful books on blended learning found that only eleven of these scholarly works met the gold star standard. Corroborating, writers (for example Lin, 2008; Mondy, Woods and Rafi, 2008) opined that even at the most basic level, researchers submit that there are no acceptable standards as to what constitutes a blended learning curriculum. Yeigh et al. (2017) comment on the fact that blended learning methods are still quite vague and remain a challenging task for most faculties. It is in view of this apparent gap in literature on what constitutes blended learning that this research work poses a question as to what the instructional approaches are, that teachers and administrators in Unity Schools in Nigeria believe define the concept of blended learning.

Another area where the blended learning model appears to have been criticised is in the area of workload (Vaughan, 2007). Even though there is evidence that blended learning provided students with the ability to review, work collaboratively and extend their learning beyond the frontiers of the classroom, there is the belief that its implementation constitutes an increase in the workload for already challenged students. In this light, Reasons et al. (2005) submit that with the implementation of blended instruction, chances are that students can find themselves confused by the introduction of technology, as well as the course requirement.

There are suggestions in the literature that students are more amenable and enthusiastic about accessing online resources prepared by the lecturer personally known to the students in a Flipped Classroom Rotation model implementation, with the ‘personal touch’ acting as the dominant factor (Williamson, 2018). Since the flipped classroom is a relatively new model of learning, there appears to not be much detailed information on how it is done thereby, throwing up a critical challenge: ‘flipped professional development’ which Williamson (2018) identifies in his research. The critical challenge here is that there are not many trained teachers who are experts in flipping a classroom and who could make people understand the best way of doing it. While acknowledging the critical role flipped classroom plays in the teaching of mathematics, Cevikbas and Kaiser (2020) observed, that part of the difficulty for FC implementation is to have the technical requirements to teach and learn mathematics. The technical problems they assert lie with accessing the Internet and mobile devices in the sense that these devices cannot be underestimated and may destroy the structure of FCs. They submit that FC practices do not work well without the Internet, and teachers should be able to use technology strategically in the process of teaching mathematics. This position aligns with the views expressed by Williamson (2018) in his research, which explored the three stages of student engagement in a flipped classroom environment.

Furthermore, Beck’s (2010:282) findings pointed to the fact that students were “especially prone to falling behind on their assignments...since the relative amount of outside-the-classroom work is greater”. The multiplier effect of this increase in workload is that inadequately prepared students could feel disenchanting from the course. Corroborating, Parsons (2016) notes that students using mobile and blended learning innovations can experience an increase in their stress level, owing to the introduction of mobile apps and

could get disoriented in the process. Even though these research studies are from the higher education context, Means et al. (2013) assert that blended web-based learning could impact teaching and learning in secondary schools significantly.

Issues regarding student access to the materials critical to a successful implementation of blended learning instruction have also been raised. Ololube (2015) notes that there are challenges in the supply of technology-aided materials in the education system in developing countries. This, according to him, stems from an inadequacy of materials either in the finished or raw form and their associated high cost. In an earlier research study, Ololube et al. (2007) point out that almost all sub-Saharan countries of which Nigeria is one, are poor and indebted thereby, exacerbating an inability to make use of ICT products especially those related to educational technology. Stone (2008) adds, that given the financial and family status of students' access to the internet may be non-existent at home and only available in school. Lin (2008) also adds, that the inability of students accessing internet-based materials owing to their financial status would put students at a disadvantage relative to their peers.

With regards to research into the models of blended learning, Means et al. (2013) observe that most of the research studies focused on the post-secondary model of blended instruction and fail to evaluate the models of blended learning in secondary education. Considering this obvious gap in blended learning research at secondary school level, writers (Halverson et al., 2012; Christensen et al., 2013; Drysdale et al., 2013) advocate the need for further research that properly evaluates secondary models performance in the implementation of blended learning models in secondary schools.

Having discussed the models of blended learning, the next section will discuss the global perception of blended learning from both teachers' and administrators' perspectives.

3.3 Blended Learning Advantage and Effectiveness

Evidence abounds in the literature, that blended learning is effective in terms of student achievement, perceptions, and satisfaction (McCutcheon et al., 2015; Powell et al., 2015; Ho et al., 2016). In the literature, attempts have been made by scholars (Gutierrez and Russo, 2005; Dalsgaard and Godsk, 2007; Means et al., 2013) to compare blended learning to online

or face-to-face learning along the lines of student attitude, motivation, performance, satisfaction and preference.

Benson, Anderson and Ooms (2011) noted that the persistent attention from researchers on blending technology with traditional delivery is borne out of the practitioners' perception that technology leads to a greater level of effectiveness in teaching and learning. Benson, Anderson and Ooms (2011) further assert that technology has had a significant influence on the way students interact with their peers, faculty and transformed learning and teaching inside and outside of the traditional classroom. A research study carried out by Garrison, Anderson and Archer (2003) suggests that information and communication technology can assist in removing geographical and situational learning barriers, as well as offering better opportunities for learner and instructor interaction.

A study conducted by Means et al. (2013) aimed at evaluating evidence-based practices in online learning through a meta-analysis. It revealed that the advantages derived when instruction was based on a combination of online and face-to-face elements than when it was either purely face-to-face or online instruction. Similarly, the findings of the research revealed that students learning outcomes from purely online instruction and purely face-to-face instruction was statistically equivalent. Equally significant were the findings from a study that contrasted blended and purely online conditions, student learning is usually comparable across the two conditions.

Whereas the findings of the studies carried out by Means et al. (2013) determined outcomes in blended and online courses to be equivalent, findings from research by Gutierrez and Russo (2005), which was aimed at comparing the performance and SET scores of students participating in three Introduction to Business courses delivered face-to-face, online, and in hybrid formats, respectively revealed contrasting results in the sense that Gutierrez and Russo (2005) found student performance to be higher in blended learning environments over both face-to-face and online environments.

Similarly, in research carried out by Dalsgaard and Godsk (2007), the authors presented their experiences and the challenges identified while transforming traditional lecture-based modules at a university into problem-based learning within a social constructivist approach. The major motivation for the experiment was the need to meet new curriculum requirements

by reducing the lecture time in a graduate course. The results indicate that it is possible to transform traditional modules into problem-based blended learning using a social constructivist approach and moreover, reduce lecturing time, support repetition and support educational differentiation

A table summarising the advantages of blended learning gleaned from the literature is provided in Table 3.1 below:

Table 3.1 : Blended Learning Advantage and Effectiveness from the Literature

	Advantages of Blended Learning	Authors
1	Support collaboration	Aborisade, 2013; Longo, 2016; Adekola et al., 2017
2	Support face-to-face teaching approach	McCutcheon et al., 2015; Powell et al., 2015; Ho et al., 2016
3	Assist in effective communication	Leung et al., 2008; Stacey, 2009; Wang et al., 2009; Chan et al., 2016
4	Makes lesson materials more accessible	Aborisade, 2013; Khan and Iqbal, 2016
5	Reduce class time	Bonk and Graham, 2012; Graham et al., 2013; Porter and Graham, 2016
6	Create interesting and effective lessons	Pearcy, 2009; Sale, 2015
7	Supports the development of independent learning skills	Stacey, 2009; Aborisade, 2013; Avgerinou and Gialamas, 2016
8	Create individually tailored solutions	Mullamaa, 2010; Bonk and Graham, 2012
9	Brings about flexibility in terms of learning time and location	Aborisade, 2013; Cheung et al., 2017
10	Create a student-centred learning environment	Delialioglu and Yildirim, 2007; Vernadakis et al., 2011

11	Create motivating learning environment	Lim and Morris, 2009; Eydelman, 2013; Cheung et al., 2017
12	Building connection for students to their future college careers	Picciano, Seaman, and Day, (2015)

Given that blended learning has proven to be effective and advantageous, it is important that administrators are supportive of the use of blended learning. It therefore, becomes critical to gauge the perception of teachers and administrators of blended learning, ascertain the level of success of blended learning implementation, as well as the critical issues, debates and dilemmas in the implementation of blended learning in Unity Secondary Schools in Kogi State, Nigeria.

3.4 Challenges of a Blended Learning Instructional Approach in the Education Sector in Nigeria

As seen in section 1.2, even though the Nigerian government agrees that the development of the Nigerian educational sector, especially at the secondary school level, is hinged on innovative and effective teaching approaches and strategies especially those strategies that aims to integrate ICT into secondary school curriculum. It appears that the successful implementation of the Blended Learning Model (BLM) in Nigerian Secondary School classrooms faces many questions and challenges. It is germane that the Nigerian government puts in place strategies that will help meet these BLM implementation challenges. When these challenges are addressed, it could lead to meaningful strategic teaching and learning processes for staff and students in Unity Secondary Schools in Nigeria.

Proponents of Blended learning implementation, for example, Morgan (2002) and Collins (2003), are of the opinion that addressing the challenges of blended learning has the potential of bringing about robust outcomes. Blended learning brings about a shift from a more teacher-centred approach to a learner-centred focus, with more emphasis on peer-to-peer learning and a paradigm shift in the way and manner teachers allocate time, giving room for an increase in mentoring for individual students. In this section, effort is made to discuss some of the challenges to the successful implementation of BLM in Nigerian classrooms, especially at the Unity Secondary School level.

3.4.1. Inadequate ICT Infrastructure

Scholars for example Olelewe (2014) and Eze, Chinedu-Eze and Bello (2018), have identified limited availability of infrastructure, notably telecommunication networks and services as the bane of BLM implementation in the Nigerian educational system. An Organisation for Economic Co-operation and Development study carried out by Peña-López (2016) titled *Innovating Education and Educating for Innovation. The Power of Digital Technologies and Skills* emphasised the need for adequate infrastructure – equipping schools with more and better ICT resources as a critical element in the successful implementation of blended learning in schools. Specifically, Adeosun (2010) notes that basic infrastructures in school- buildings, furniture, books, libraries, computer laboratories which require substantial computers and internet resources. Adequate classrooms- are still a big challenge which may make blending education and technology, especially at lower levels of education in Nigeria difficult.

Equally allied to the challenge of inadequate infrastructure is the inability of the Nigerian Government to provide stable and reliable power supply to power ICT infrastructure and hardware such as servers, computers, data centres, switches, hubs and routers, and other equipment. As noted by Yetano Roche et al, (2020), despite Nigeria’s position as Africa’s largest economy, it is on record that 77 million Nigerians or 40% of the population have no access to affordable, reliable, and sustainable electricity. The multiplier effect of this is that in practice, diesel- and petrol-powered backup generators supply the vast majority of electricity in Nigeria. The situation is so bad in Nigeria that no part of the country can boast of 24 hours a day power supply.

It is common knowledge that ICT infrastructures require adequate and stable power supply to function optimally. The Internet service providers (ISP) and Web services in Nigeria have suffered so much loss as a result of irregular supply of electricity as their data centres and other equipment require constant uninterrupted electrical energy to function optimally so that they can provide the expected services to their subscribers. The lack of stable electricity supply in both urban and rural areas has compounded the challenge of accessibility to the Internet. As noted by Agbeboaye, Akpojedje, and Ogbe, (2019) the typical firm operating ICT business in Nigeria experiences power failure or voltage fluctuations about seven times per week, each lasting for about two or more hours without any prior warning. They assert that given the epileptic nature of the power supply in Nigeria, it is practically impossible to

keep hi-tech computers, server systems, multimedia etc. functioning at an optimal level with gross implications for BLM implementation.

3.4.2. Limited Access to Internet Facilities

In Nigeria, the acquisition, installation, and maintenance of internet services in public secondary schools are quite large and they can only be acquired by government. However, the Nigerian government according to the Nigeria Digital Economy Diagnostic Report (World Bank Group, 2019) does not appear to have a national backbone network that will enable access to internet facilities in the nation's educational system. The report notes that despite the growth in Fiber optic installation in Nigeria, national fixed-line infrastructure is still poor. The report further notes that fixed broadband penetration in Nigeria is very low, with a household penetration rate of 0.04% at the end of 2018, below the African regional average (0.6%), and well below the world average (13.6%). The limited access to internet facilities in secondary schools in Nigeria constitute an issue to the implementation of important learning approaches like blended learning, cloud computing, M- Learning etc. Owing to the limited access to internet facilities, students have had to resort to cybercafés for Internet access with most customers who use cybercafé in Nigeria being students (Adomi, and Kpangban, 2010).

3.4.3. Cost of Internet Data and Electronic Services

As a corollary to the above, one other notable challenge to the implementation of the BL instruction approach is the high cost of internet data and electronic services, which according to Etor, Mbon, and Ekanem, (2020) fundamentally constitute the determinant of ICT usage and value in secondary schools in Nigeria. Internet data and electronic services have made it easy for teachers around the globe to exchange knowledge and skills on various area of specialisation and interest, and also enables learners and educators to communicate both locally and internationally, yet the cost of accessing internet data remains very high in developing countries like Nigeria.

The high cost of internet data and fast tariffs are set by internet providers and most of them are international communication companies doing business in Nigeria, which apparently affect the deployment and full utilisation of BL interventions in Nigeria (Makinde and Bolaji, 2019). Commenting further, Makinde and Bolaji note that even where these foreign investors provide Internet gateway services to Nigerians, a majority of them provide sub-

standard services to customers who are often manipulated and defrauded and the few known companies, which provide sensible services, are not affordable. Up till this moment, almost two decades after the approval of the Nigerian Information Technology Policy in 2001, Nigeria still faces the problem of how to launch reliable and low-cost Internet connectivity in Nigeria.

3.4.4. Lack of attention to the Professional Development of Teachers to Support BL in Secondary Schools

The World Bank's World Development Report (2018), which focuses on school education, provides a stark picture of learning in low and middle-income countries of which Nigeria is one. The report describes the shockingly poor learning outcomes that students in many low- and middle-income countries achieve and attributes these poor learning outcomes to the lack of attention to the professional development of teachers in the areas of technology mediated teaching and learning. Based on a study carried out in India and from African countries, the report notes that evidence suggests that long-term teacher mentoring, and coaching can result in 'sizable learning effects.'

Despite the emphasis placed on teacher's professional development that facilitate the adoption of BL in education globally, it seems that Nigeria remains discounted from this global momentum. The situation in Nigeria is such that most teachers are not prepared for the BL experience and the Federal Government appear to not be strategic enough in their quest to provide teachers and administrators the professional development that will make them knowledgeable of current trends and approaches that support student learning (Chiroma and Yaduma, 2019).

Corroborating, Bonk and Graham (2012) submit that the pitfall that could endanger blended learning are if the teachers/faculties are not prepared for the experience. Specifically, they noted that teachers need to be able to understand the process and how blended learning serves different needs as well as to provide clear direction to the students.

In Nigeria, even though the National Policy On Education (NPE, 2013) makes mention of the need to attend to the issue of the professional development of teachers in secondary schools thus; "government shall provide necessary infrastructure and training for the

integration of ICT in the school system in recognition of the role of ICT in advancing knowledge and skills in the modern world” (Section 5, sub-section 30, paragraph f), almost two decades after this provision in the National Policy on Education, there seems to not be any streamlined programme or strategy for a teachers professional development policy framework for secondary schools in Nigeria. Thus, many decades since the coming into place of the NPE, there remains a severe shortage of teachers with adequate skills in ICT to facilitate BL interventions in secondary schools in Nigeria (Makinde and Bolaji, 2019).

3.4.5. Insufficient allocation of funds to education

Finance is considered a sine-qua-non in the effective administration of secondary schools in Nigeria and also serves as a major driver in the actualisation of the National Information and Communication policy in secondary schools. The National Policy on Education which is the document for the effective administration, management and implementation of education at all levels in Nigeria states that since education is an expensive social service, there is need for adequate provision of funds from the government for successful implementation of government projects, programmes and policies at all levels of education in Nigeria (NPE, 2013). The majority of funds available to Unity Secondary Schools in Nigeria are allocated by the Federal Government of Nigeria (FGN) which are often not released in full. For instance, in the year 2016, the Minister of Education, Mallam Adamu Adamu noted that out of the N13.7 billion appropriated to the 104 Unity Schools in Nigeria, only N5 billion was released to them making it practically impossible for Unity Schools to meet their obligations (Premium Times Newspapers, February 20, 2017).

A report produced by BudgIT titled: *Education Financing: Analysis and Recommendations* (2018) noted that many years after the establishment of the Unity Schools in Nigeria, the story is different as the schools have been neglected by the government. The report submits that the neglect is manifest through the dearth of infrastructure, lack of proper funding, insecurity as well as poor management. The budget provision for Unity Schools in the 2018 budget, N49.24bn was allocated to the schools while there was an increase of N3.4bn in the budget as adjusted by The National Assembly. Since there are 104 Unity Schools in Nigeria, a total budget of N52.61bn is relatively small when 74% (N38.79bn) of the amount is targeted at recurrent expenditure with a paltry N13.82bn left for capital expenditure. If divided among 104 schools, each school is left with an average of N132.8 million to spend on capital projects, which is relatively small.

Although the Federal Government, as the proprietor of Unity Secondary Schools appears set to tackle the challenges of funding the 104 Unity Schools, however, in concrete terms, the real value of the funding as it stands is lower than expected for optimum performance of Unity Secondary Schools in Nigeria.

3.4.6. Lack of synergy and harmonious working relationship between agencies of government in Nigeria

In Nigeria, the administration and management system in the secondary education sub-sector is such that the Federal Ministry of Education (FME) is statutorily required to collaborate with the Federal Ministry of Information and Digital Economy, in order to ensure the deployment of information and communication technology in teaching and learning at the various levels of education in Nigeria. The Federal Ministry of Education (FME) is the organ of Government charged with policy formulation, monitoring of implementation, setting, and maintenance of standards within the nation's education sector. While the Federal Ministry of Information and Digital Economy, among others has the mandate of promoting the utilisation of ICT in all spheres of life to optimise the communications infrastructure – digital content creation, domestic software applications and the delivery of private and public services over the internet.

The level of synergy and collaboration between these agencies of government are considered a critical determinant of the success or otherwise of the implementation of ICT policy for secondary schools in Nigeria. The need for synergy in ICT policy in education is aptly amplified by Zhang, Van Donk, and Jayaram (2020) who note that recognising the different inter-organisational patterns of relationship in policy implementation, inducing cooperation, and perhaps even coordination, among interdependent actors is one step towards effective implementation of ICT policy in education. Continuing, they emphasise the need for skillful implementation managers to find ways of working together towards policy success.

Yet, Fafunwa (2018) noted that the failure of most education programmes and policies in Nigeria is due to the absence of inter-agency as well as governmental collaboration. Corroboratively, the Federal Government document titled “*4 Year Strategic Plan for the development of the education sector 2011-2015*” (FME 2012:5) stated unequivocally that “it

appears that the education sector faces the challenge of inadequate communication between the Federal Ministry of Education, its parastatal and stakeholders”. To address the challenge of programme and policy failures due to lack of inter-agency collaboration, Oyedeji (2016) submits that the effective implementation of policies and programme requires proper coordination, integration, and cooperation among the stakeholders of education.

3.4.7. Lack of/ Poor Perception of ICT among Teachers and Administrators

Teachers and educational administrators are considered critical agents of educational innovation; therefore, ICT skill among secondary school teachers and administrators remain a catalyst for rapid teaching and learning procedures in the secondary education sub-sector in Nigeria. Despite the important role teachers and administrators play in the teaching and learning process, Oni, Haruna and Amugo (2017) note that a lack of qualified teachers to teach ICT and teachers’ anxiety over being replaced by technology are the major factors affecting teachers’ readiness and effective use of ICT in secondary schools. Olokooba et al. (2015) note that rather than ICT being seen as a tool for personal and national development, teachers are however, not aware of the potentials that ICT offers in pedagogy. A study carried out by Ifinedo et al. (2020) revealed that secondary school teachers lack proficiency skill in ICT as a pedagogy tool in teaching and learning and this has impacted negatively on the implementation of blended learning interventions in secondary schools.

Another central issue to ICT policy implementation is that which relates to the availability of policy resources. No matter how well crafted a policy is, the availability of policy resources is critical to effective ICT policy implementation. Rana, Greenwood, and Fox-Turnbull (2020), submit that successful implementation of ICT in education relies partly on the availability of finances and other resources. Agreeing, Hudson, Hunter, and Peckham (2019) assert that where implementation orders are clear, consistent and accurately transmitted, the absence of adequate policy resources will result in implementation problems. They list policy resources as including both human and material, such as adequate number of staff who are well equipped to carry out the implementation. Commenting further, they note that relevant and adequate information on implementation process, the authority to ensure that policies are carried out as they are intended, and facilities such as land, equipment, buildings, etc. are necessary ingredients for successful implementation.

Having reviewed the literature on the areas considered critical in meeting the aim and objectives of this research work, the next section will explicate Davis’s (1986) Technology

Acceptance Model (TAM) which the research work used as a theoretical framework to penetrate issues, challenges, tensions, and dilemmas in the implementation of blended learning in Unity Secondary Schools in Nigeria.

3.5 Theoretical Framework

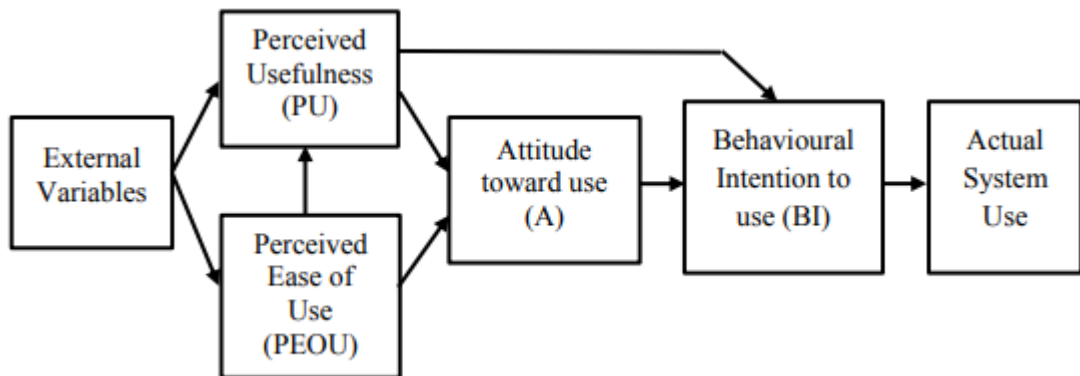
Issues relating to information and communication technology, including diffusion, acceptance, adoption, and adaption, have been the focus of research in many disciplines including ICT in education. Using computers to help individuals perform their jobs better is one of the most important actions we take when implementing technology effectively. However, the critical question is: what motivates individuals to use computer technology in organisations? Even though it is acknowledged that computers bring benefits for individuals and organisations, there is still some measure of resistance that is noticeable in the use of computer technology in workplaces and private life. User technology acceptance is considered a critical factor for IT adoption and many studies have predicted this using the Technology Acceptance Model (TAM).

It is against this background that the researcher intends to rest the analysis of this study on Davis's (1986) Technology Acceptance Model (TAM). TAM has evolved to become the key model in understanding predictors of human behaviour towards potential acceptance or rejection of the technology. The TAM Model is confirmed by numerous studies underlining its broad applicability to a diverse set of technologies and users (Venkatesh, Morris, Davis & Davis, 2003).

3.6 Overview of Technology Acceptance Model (TAM)

After a careful review of a range of literature on technology adoption aimed at identifying the belief structure for a person's attitude towards using technology in a range of organisational environments, Davis (1986) proposed the Technology Acceptance Model (TAM). The TAM takes its root from the the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1980). The TRA is a model which shows how attitude impacts behaviour generally and posits that the most significant determinant of an individual's behaviour is behavioural intention to perform a certain task. The models also holds that this intention to

perform behaviour is influenced by an attitude towards the behaviour and subjective norms. The TRA has been found to be useful in various studies including the adoption of technology (Davis, Bogozzi, and Warshaw, 1989; Lai, 2017; Pal and Vanijja., 2020). The Technology Acceptance Model by Davis (1989) is an extension to the TRA, and was developed to examine and predict office users' acceptance of computers. Davis et al., (1989:985) maintained that "a key purpose of TAM is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes and intentions".



Technology Acceptance Model (TAM) by Davis (1989).

Under TAM, Davis (1986) suggested that users' attitudes toward specific systems are a function of two main beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Davis (1989:320) defined PU as "the degree to which a person believes that using a particular system would enhance his or her job performance". He asserts that individuals view a system positively (an attitude), if they think it improves their job performance (where they perceive its usefulness). Once this happens, they develop a positive attitude and increase their readiness to engage (a behaviour intention) in the usage of the system. On the other hand, Davis (1989:320) defined PEOU as "the degree to which a person believes that using a particular system would be free of effort". Attitude refers to the degree of evaluative effect (Fishbein & Ajzen, 1975) that an individual associates with using the target system (Davis, 1986).

Davis et al., (1989) noted that a system which is easy to use will have a positive impact on people's feelings toward it. Davis (1986) expressed the view that PEOU has a significant effect on PU, as a system that is easier to use and will result in the increase of job performance. As expressed in the above diagram, these two beliefs are nourished by the

person's response to external factors, which are associated with the features of the system in question and the environment surrounding it.

Davis et al. (1989) in the TAM model suggest that computer usage is determined by behavioral intention to use (BI), which itself is in turn jointly determined by a person's attitude (A) and PU. According to Davis et al., (1989) what this means is that people formulate their intention to use a computer system when they find that it increases their job performance, despite their feelings (Attitude) toward it. According to Davis et al. (1989), enhanced performance is instrumental to achieving various rewards, such as increased pay and promotions, although such a view is difficult to distinguish from a person's attitude, as it is still developing deep within the person's mind.

A substantial and growing body of researchers has confirmed the usefulness of TAM and various extensions and revisions as a tool for investigating and predicting user information technology acceptance behaviour (Al-Gahtani, 2016; Hidayanto, Febriawan, Sucahyo & Purwandari, 2014; Tarhini, Hone & Liu, 2014; Wu & Zhang, 2014).

Similarly, Davis (1989) conducted several experiments with a view to validating TAM by using PEOU and PU as two independent variables while system usage remained the dependent variable. TAM's value lie in its parsimony - the model is strongly grounded in existing psychological theory, yet it is easy (and thus, cost-effective) to apply. Additionally, it makes explicit links to the concept of usability via the ease-of-use construct.

3.7 Determinants of TAM

Davis (1989) identified two key predictors of TAM, perceived usefulness, and perceived ease of use, which represent the individual's view of how technology may affect their job performance. Collectively, perceived usefulness and perceived ease of use define whether a person is more willing to make a change through use of technology or maintain status quo. The individual's perception of the change may vary over time, increasing their acceptance of the change or rejection. Organisations desirous of pushing change through use of technology would want to mitigate the issues associated with low perceptions in order to increase usage. The first key predictor of TAM is perceived usefulness (PU). PU is defined as the extent a user believes that using the new technology will add benefit to their job

(Davis, 1989). For instance, a teacher is introduced to email as a way of communicating to co-workers, administrators, and parents. The use of email promises to increase the timeliness of receiving and responding to information. To gain the benefit from using email, they would need to add the steps of logging in more frequently. This is a change of practice which may discourage teachers to use email in the first place. Based on the foregoing, in this study which investigates the perception of blended learning implementation, it could be said that the extent that the teachers believe that using blended learning will benefit their teaching may change their intentions to be receptive in using it.

Researchers in TAM research studies have carried out a variety of research work and in the process have identified and studied an array of variables that influences PU. For example, Segars and Grover (1993) included six variables (work more quickly, makes job easier, useful, increase productivity, effectiveness, and job performance) in their factor analysis of the TAM framework. Van Horne et al. (2017) in their research into student adoption of e-textbooks focused on how the e-textbook was in completing major class assignments, preparation for exams and in developing a deeper understanding of course content. Similarly, Behrend, Wiebe, London, and Johnson (2011) utilized accessibility, ease of travel, technology anxiety and reliability as determinants for PU in their study. More recent studies that used TAM as an analytical framework are those carried out by Alfadda and Mahdi (2021), measuring students' use of the Zoom application in a language course based on the Technology Acceptance Model (TAM) and that of Mavroudi, Papadakis, and Ioannou (2021), which looked at teachers' views regarding learning analytics usage based on the Technology Acceptance Model.

The second key predictor of TAM is perceived ease of use (PEOU). Davis (1989) defined PEOU as the belief that a user has the technology or that the process will be free of effort or relatively simple to learn. The two key predictors of users' behavior in TAM are interrelated. Vankatesh (2000:343) states that "TAM posits that PU will be influenced by PEOU because, other things being equal, the easier a technology is to use, the more useful it can be". In other words, the adoption of the technology is more likely to take place if it is perceived to be easy to use.

Personal experiences may dictate the adoption rate of a user towards the new technology. It is in this light that Venkatesh & Bala, (2008:279) observed that "perceived ease of use has

been theorised to be closely associated with individual's self-efficacy, beliefs and procedural knowledge, which requires hands-on experience and execution of skills". For example, a teacher who is exposed to ICT and who willingly uses technology in various aspects of their life (banking, communications, health care, etc.) may find fewer difficulties with adopting another technology.

External variables may affect a user's intention to use. External variables are those influences outside of the user and more related to the environment, such as professional development or training, accessibility to the technology, stability of the technology, support, adequacy of ICT infrastructure and quality of the systems. A user's experience with the technology would also be considered to be a PEOU variable. These variables are considerations as to whether the users believe that the technology is user-friendly and would not be a trouble to use. This view is amplified by Means (2010: 287), who submits that "most educators will expend the effort needed to integrate technology into instruction when, and only when, they are convinced that there will be significant payoffs in terms of student learning outcomes".

TAM has been widely criticised by several scholars. Criticisms of TAM as a "theory" include its lack of falsifiability, questionable heuristic value, limited explanatory and predictive power, triviality, and lack of practical value (Chuttur, 2009). Independent attempts by several researchers to expand TAM to adapt it to the dynamic IT environments have led to a "state of theoretical chaos and confusion" (Benbasat & Barki, 2007). Despite these criticisms, TAM has been continually used as a theoretical framework for predicting technology adoption. It has, however, gone through numerous studies as well as redevelopments.

3.8 Placing TAM in a Secondary Education Context

It has been shown that over the years, TAM has emerged as a leading scientific paradigm for investigating acceptance of learning technology by students, teachers, and other stakeholders (Davis, 2011). In the field of education, Park, Lee and Cheong (2008) and Farahat (2012), for example, have tested application of the original TAM in educational settings. In this study, teachers' and administrators' perceptions of blended learning intervention will be evaluated against the backdrop of PU and PEOU.

An understanding of how technology and the resulting instructional practices are incorporated by teachers and administrators in Unity Secondary Schools would assist in organisational planning and design for user acceptance and usage of new technologies. As noted by Ertmer and Ottenbriet-Leftwich (2013), “although teachers may believe that technology helps them accomplish professional and/or personal tasks more efficiently, they are reluctant to incorporate the same tools into the classroom for a variety of reason including lack of relevant knowledge”. The new technology is the use of blended learning strategies in Unity Secondary School classes.

The Technology Acceptance Model (TAM) (Davis, 1989) was employed in this study to gain a better understanding of barriers and perceptions around the adoption of blended learning as well as to explore the perceptions of teachers and administrators that affect the adoption of blended learning in selected Unity Secondary Schools in Nigeria.

Following on from Davis’s (1986) Technology Acceptance Model, the external variables that this study will adopt as measurements to determine the extent of implementation of blended learning in Unity Secondary Schools include: professional development or training, accessibility to the technology, stability of the technology, support, adequacy of ICT infrastructure and quality of the systems. Also, to be used as a basis of analysis are the two main Users' Beliefs Toward Technology: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU).

3.9 Summary

In summary, this literature review chapter discussed various issues central to the achievement of the objectives of this study, such as the definition of blended learning, models of blended learning, blended learning advantages and effectiveness, and the challenges of blended learning instructional approach in the education sector in Nigeria. The chapter has also related the theoretical framework of the study which is based on Davis’s (1986) Technology Acceptance Model (TAM). The theoretical framework outlined has critically examined the relevance of TAM in understanding issues and challenges, debates, and current concerns for the implementation of blended learning in Unity Secondary Schools in Nigeria.

The next chapter will discuss in detail the methodology utilised in this study, as well as highlighting the measures developed based on Davis's (1986) Technology Acceptance Model (TAM) in order to determine the extent of implementation of blended learning in Unity Secondary Schools, as well as to address the research questions posed in this study.

Chapter Four

Research Methodology

4.0 Introduction

The previous chapter provided a review of the literature relating to teacher and administrator perceptions of blended learning in Nigeria. The literature review took into cognisance five focal areas considered critical to this research work. These focal areas are: the definition of the concept of perception, global teacher perception research, global administrator perception research, the definition of blended learning as well as blended learning advantage and effectiveness. This section is dedicated to the explication of a detailed description of the research approach, data collection methods, and the research design of the study.

Based on a careful examination of the research literature regarding the teacher and administrator perception of blended learning which this study is set to investigate, the researcher decided that the most appropriate method to conduct this study was to use qualitative interpretive approach to penetrate issues, challenges and dilemmas relating to teacher and administrator perception of blended learning in the selected Unity Secondary Schools in Kogi State. Data collection methods will include the use of the literature study, semi-structured interviews with purposefully sampled teachers and principals, as well as focus group discussions with teachers in the selected Unity Secondary Schools. The researcher equally employed an analysis of written documents considered critical to this research work.

4.1 Research Framework

‘Research framework’ refers to a guiding principle which researchers follow while conducting a piece of research work. Researchers take into consideration several vital phases which are systematically followed when carrying out a piece of research work. These vital phases include selecting the appropriate research methods, collecting relevant data, analysing data and writing-up the report (Collis and Hussey, 2013; Bryman and Bell, 2015). Alluding to the works of Saunders et al. (2007), Collis and Hussey (2013), and Bryman and Bell (2015)), a detailed research framework showing the critical phases in this research study is provided below.

4.2 Key Phases of Research Framework

1. Formulation and Clarification of the Research Topic

As with any type of educational research, the researcher looked at current issues in the Nigerian educational context that currently lie at the heart of the education reform policy in Nigeria. With this in mind, the researcher considered those issues that were critical to the research topic and have a clear link with educational theory. Afterwards, the research questions which the study wished to answer were formulated.

2. Critical Review of the Literature

At this stage, a comprehensive review of the literature addressing five focal areas was carried out. These focal areas are: the definition of the concept of perception, global teacher perception research, global administrator perception research, the definition of blended learning as well as blended learning advantage and effectiveness. While carrying out the literature review, three gaps were identified. First, even though there have been studies on the perceptions of teachers and administrators in the context of developed countries, few studies have been carried out in the context of developing countries with copious attention paid to the perceptions of teachers and administrators in the higher education context and not the secondary education sub-sector in Nigeria. Secondly, little work has been published in the context of developing countries on the definition of blended learning, its advantages and effectiveness as well as the challenges of implementing blended learning in teaching and learning in the secondary education sub-sector. Thirdly, blended learning methods are still quite vague and remain a challenging task for most teachers in developing countries. The literature review carried out by the researcher has facilitated the development of the research objectives of this study.

3. Understanding the Research Approach for the Study

Much like research in other fields, research in education uses two basic types of reasoning: inductive reasoning and deductive reasoning (Lodico, Spaulding, and Voegtle, 2010). The use of the inductive approach can be treated both as an underlying philosophy and a specific mode of analysis. The inductive approach as a philosophical approach to human understanding provides the philosophical grounding for interpretivism. As a method of analysis, it advocates a way of understanding textual data.

In this study, the inductive approach refers to an approach that employed the use of detailed reading of raw data with a view to deriving concepts, themes, and models, through the researcher's interpretations of the raw data. The researcher made use of the inductive approach for the following principal reasons:

- To create clear links between the objectives of the research and the results from the raw data and make those links clear to others and how those links fulfill the research objectives.
- Choosing an inductive approach through thematic analysis (a 'data driven' approach), as the objective of the study is to obtain an understanding of a phenomenon, rather than to test a hypothesis.

4. Formulating the Research Design

Here, the researcher attempts to classify this research work based in relation to the research (data collection) technique used which is either quantitative or qualitative. Since this study carried out an investigation into an area that is currently under-researched. The researcher also determined to understand the perception of teachers and administrators as to the definition, implementation and the challenges associated with blended learning, the research is framed in an interpretivist perspective in the context of qualitative research.

5. Addressing Ethical Issues in the Research

During the data collection process, the researcher ensured that informed consent was obtained from all the research participants, each participant was provided with detailed information on the research study. The semi-structured interviews were conducted with anonymity and confidentiality. Ethical approval was sought and obtained from the ethics committee of the University of Bolton.

6. Data Collection

For this study, the interview participants were recruited from two Unity Secondary Schools in Kogi State, North-Central, Nigeria. The respondents comprise of teachers and administrators in the selected Unity Secondary Schools.

7. Analysis of Data and Interpretation of the Results

To achieve the research objectives, an inductive qualitative research methodology based upon interpretive paradigms was adopted to investigate teacher and administrator perceptions of blended learning in two selected Unity Secondary Schools in Kogi State. The data for this research work was collected through semi-structured interview and focus group discussion with teachers. The researcher equally made use of document reviews to verify

data collected. Specifically, data analysis for the semi-structured interview and focus group segments was based upon Miles et al.'s (2014) interactive model and interpretivism was used to interpret the findings of the research.

4.3 Research Methodology

This section looks at the definition of research methodology as well as the types of research with a view to explicating why a specific type of research was chosen for this study.

4.3.1. Definition of Research Methodology

There is no commonly agreed conventional definition of research, perhaps because there is more than one kind (Connaway and Powell, 2010). According to Sekaran and Bougie (2016: 5), research can be defined as "...simply the process of finding solutions to a problem after a thorough study and analysis of the situational factors". Frankfort-Nachmias and Nachmias, (2008:12) define methodology as "a system of explicit rules and procedures" that "provides the foundations for conducting research and evaluating claims for knowledge". Looking at these definitions, common themes indicate that research methodology is a collection of principles which is used to guide a study. Babbie and Mouton (2010) maintained that research methodology focuses on the way the research was planned, structured and executed in order to comply with scientific criteria. Even though the term methodology and methods are often used interchangeably in the research methodology literature, they are not the same. According to Jennings (2001) the method is the actual tools, instruments and techniques utilised in gathering empirical evidence and analysis of the data. Methodology according to Collis and Hussey (2013), is the general approach to the research process, from the theoretical underpinning to the collection and analysis of the data. In this section, the researcher therefore, considers the research methodology, in order to carry out an exploration of the rigour and validity of the research process.

4.3.2 Types of research

Research has been classified in various ways, for example, by method, by area of academic discipline (sociological, psychological, anthropological, etc.), by type of data collection procedure (e.g. psychological test, observation, questionnaire and so on) or by purpose (whether contributing to knowledge or having policy implications) (Khilnani et al.,2005).

On the other hand, Collis, and Hussey (2015:3) classify research based on four different criteria as follows:

Purpose of the research: why was the research conducted?

Process of the research: how was the data collected and analysed?

Logic of the research: does the research logic move from the general to specific or from specific to general?

Outcome of the research: is the expected outcome the solution to a particular problem or a more general contribution to knowledge (2015:3).

Table 4.1 below shows the classification of the main types of research according to Collis and Hussey (2015).

Table 4.1 Classification of The Main Types of Research

Types of Research	Basis of Classification
Exploratory, descriptive, analytical or predictive research	Purpose of the research
Quantitative or qualitative research	Process of the research
Applied or basic research	Outcome of the research
Deductive or inductive research	Logic of the research

Adapted from: Collis and Hussey (2015)

Collis and Hussey (2015:4) also observe that if research is to be classified based on the purpose of the research, then the types of research identifiable can be classed into four categories as stated below:

- **Exploratory research:** this type of research is conducted to examine a problem or issue when the research is unique, or few studies have been conducted on the topic, which can be referred to for information. In this research study, few studies have

been conducted on the perception of teachers and administrators on the definition, implementation, and challenges of blended learning in secondary schools in the context of a developing country.

- **Descriptive research:** this type of research describes phenomena as they exist, and it is usually common with quantitative and statistical studies.

- **Predictive research:** the main purpose of this type of research is to generalise from the analysis by predicting certain phenomena based on hypothesised general relationships.

- **Analytical or explanatory research:** this approach seeks to analyse and explain reasons behind descriptive research with its focus on answering the ‘why’ and ‘how’ questions. As it concerns this study, this approach was used to analyse why and how blended learning is implemented in Unity Secondary Schools in Kogi State, Nigeria.

This research work is an exploratory qualitative research, which is aimed at gauging the perceptions of teachers and administrators of how blended learning is implemented, as well as the challenges faced with implementation in Unity Secondary Schools in Nigeria. The research also adopts an analytical/explanatory approach as it seeks to give meaning to why Unity Secondary School teachers use blended learning to improve students’ learning.

4.4 Research Paradigm

Creswell and Creswell (2017:6) define paradigm as a “basic set of beliefs or assumptions that guide action”. Somekh and Lewin (2005) maintain that a paradigm is nothing more or less than a conceptual framework which provides a model from which springs a particular coherent tradition of scientific research. It is instructive for a researcher to be well-informed of the various paradigms before the commencement of any research work, to an extent that enough knowledge would have been acquired that would enable the researcher to form their own opinion as to the paradigm to be employed for a particular piece of research. In other words, the selection of an appropriate research paradigm precedes the selection of a suitable methodology.

The field of educational research offers many different paradigms which vary in terms of their underlying philosophical assumptions. What this means is that it is necessary to understand the assumptions for each paradigm to determine the suitability for an intended research study. Some authors (for example, Guba and Lincoln, 1988; Neuman, 2003; Creswell and Plano Clark, 2007) identify the basic philosophical assumptions as ontology, epistemology, and methodology. Guba and Lincoln (1998) and Burrell and Morgan (2017), refer to ontology as the nature of reality and what can be known about it; epistemology as the relationship between the knower and what can be known about phenomena; and methodology as the research methods employed to obtain knowledge. In this research work, three relevant paradigms: positivism, pragmatism and interpretivism were reviewed.

4.4.1 The Positivist Paradigm

According to Collis and Hussey (2013) positivism stems from natural science and it is often referred to by some authors as the scientific method. Several views exist as to what positivism is in a research setting, some of which are difficult to understand. Easterby-Smith, Thorpe, Jackson and Lowe (2002:28) offered an explanation of positivist research, saying: “the social world exists externally, and that its properties can be measured through objective methods rather than being inferred subjectively through sensation, reflection or intuition”. Neuman (2011) submits that positivists use exact, precise, and objective measures such as surveys, experiments, and statistics in research. Positivists function by using experimental and quantitative methods to test hypotheses (Collis and Hussey, 2013; Burrell and Morgan, 2017). The researcher does not consider this paradigm as applicable to this research as the issues being investigated are rooted in the complex real-life social experiences, which are prone to several subjectivities. In these situations, objective reality may be non-existent.

4.4.2 Pragmatism Paradigm

Many social scientists have attempted to create a middle ground between positivism and interpretivism. Howe (1988) suggests that pragmatism may be used to counter the link between epistemology and method, and that pragmatism assumes compatibility between quantitative and qualitative methods. Tashakkori and Teddlie (2010) note that the view of pragmatism is that the research question is more important than either the methodology approach or the paradigmatic assumptions which underlie the method. Commenting further,

they emphasise that both quantitative and qualitative methods are useful, but that preference, however, depends on the research question.

From the earlier previews, the researcher has concluded that interpretivism is the most suitable and adopted paradigm for this study. Lincoln and Guba (2000) note that the qualitative method is used in context-specific settings through the inductive understanding of human experience. The research study will employ semi-structured interviews, focus group discussion and documentary evidence. The insights gained from interactions with teachers and administrators helped to explain their perception of blended learning as well as the issues, challenges, and dilemmas in the implementation of blended learning in the selected Unity Secondary Schools in Nigeria.

4.4.3 Interpretivist Paradigm

Interpretivism which is famously associated with Ronald Dworkin, who developed the position in a number of publications spanning 45 years, disagrees with the position of the positivist that the world is one (Guest, 2012). According to Onwuegbuzie (2004), the interpretivist believes that reality is socially constructed, and that all human knowledge is developed, transmitted, and maintain a social reality. Interpretivists believe that people are not meant to be studied out of context or reduced to variables as positivists do. According to Mackenzie and Knipe (2006), the presumption under the interpretivist paradigm is that all the participants in a study, that is, both the researcher and the interviewees, bring in different interpretations to the understanding based on their separate world views. Consequently, a qualitative methodology was employed, which created a platform to generate in-depth personal information on the subject under study. This approach was considered more appropriate considering the intention to capture a broad mix of teachers' and administrators' experiences and perceptions on the implementation of blended learning in two selected Unity Secondary Schools.

Interpretivism however, has a downside which stems from the fact that it fails to allow for generalisations, since the study is often based on a small amount of data that does not apply to the whole population (Huff, 2009). Authors (Leitch, Hill, and Harrison, 2010; Kelliher, 2011; Idowu, 2017) have put forward strong arguments that studies based on the

interpretivist paradigm allow researchers a great deal of insight into the phenomenon which would not have been so without in-depth enquiry.

For this research work, the interpretivist paradigm was more applicable going by the smallness of the number of Unity Secondary Schools being investigated. While also based on the fact that it is a study determining perceptions of teachers and administrators on the implementation of blended learning, meaning that the different participants could suggest different interpretations of the situation.

4.5 Research methodology (quantitative, qualitative and mixed-methods process)

Research methodology is imperative to the process of undertaking educational research as it provides a systematic means and strategy by which an enquiry is based on or undertaken in answering research questions (Walt and Potgieter, 2012). However, what matters most is not the label that is attached to a particular strategy but its appropriateness for the research objectives and question(s) (Saunders *et al*, 2007:91). There are three main research approaches that can be employed when carrying out educational research; these can be quantitative, qualitative, or mixed methods (Christensen, and Johnson, 2016:30).

Quantitative research emphasises quantification in data collection (such as questionnaire) or analysis procedure, which entails a deductive approach centred on the relationship between research and theories (Bryman and Bell, 2015:28). This approach to research owes much to the scientific model and positivism in collecting data on the social environment through the use of theories or hypotheses (Saunders *et al*, 2007:113), by which generalisations are made to explain human social behavior in an environment (Easterby-Smith *et al*, 2008:57). Positivism makes use of a quantitative and experimental approach in testing hypothetical-deductive generalisations for subsequent testing by searching for causal explanations to facilitate analysis (Amaratunga *et al*, 2002:18; Saunders *et al*, 2007:114).

This research study revolves around the perceptions of teachers and administrators, and their responses to the issue of blended learning implementation, which the researcher considers as hard to precisely quantify. For this reason, the quantitative approach was not selected for this study.

A qualitative research approach on the other hand, lays emphasis on the generalisation of theories and the various ways individuals view and interpret their social environment or world (Saunders *et al*, 2007:126; Bryman and Bell, 2015:28). It entails data collection techniques (such as interviews), or data analysis procedures that generate or use non-numerical data (Saunders *et al*, 2007:151). It usually seeks in-depth answers to questions by providing contextual descriptions of human behavior using defined procedures to collect evidence and produce findings.

In this research study, the qualitative approach was selected because the research investigates the perceptions of teachers and administrators on both the ‘how’ and ‘why’ of blended learning implementation in Unity Secondary Schools in Nigeria. This is because this research work demanded that a personal interaction be established with the research participants in order to better understand the social reality required to deliver knowledge through blended learning implementation.

Different terms have been used to describe a mixed-methods approach such as convergent methodology, multi-method, multi-trait, synthesis, etc. Mixed methods is a research approach where the quantitative and qualitative approaches are combined. According to Creswell (2003), the origin of the mixed methods approach dates back to the 1959 Campbell and Fiske validity study of psychological traits using multiple methods. The precise definition of the approach is subject of much debate among researchers (Creswell *et al.*, 2013; Al-Dossary, 2008). Bryman (2008:15) describes mixed methods as research “that represents the mixing of research methods that cross the quantitative-qualitative research divide”. Johnson and Onwueghuzie (2004) note that the key essence of the mixed methods approach is to reduce the weaknesses associated with qualitative and quantitative approaches. Authors (Greene, *et al.*, 1989; Al-Dossary 2008) note that the major purposes of the mixed methods approach are five, namely: (a) triangulation, (b) complementarity (c) initiation, (d) development, and (e) expansion. In this research, the researcher did not consider the use of mixed methods because the interpretivist/constructivist paradigm, which relies on qualitative data collected through semi-structured interviews, was considered more appropriate.

4.6 Research Design

This research is purely a qualitative research and the researcher adopted qualitative research approach as methodology for this study. The researcher's decision to select a qualitative research approach derived from the fact that the characteristics of this approach are appropriate with the present study in terms of study procedure, data collection methods, sampling, research questions, the study objectives and the type of research approach (qualitative). The characteristics of the qualitative research approach made this strategy the most suitable to be applied when carrying out an investigation on teachers' and administrators' perception of blended learning in Unity Secondary Schools in Kogi State, Nigeria.

4.7 Construction of the Data Collection Instruments

According to Guest et al., (2013) the three most used qualitative research methods are in-depth interviews, focus group discussions (FGDs) and observation. In this study, both the semi-structured interviews, focus group discussions as well as analysis of written documents were used to examine the issues, challenges, and dilemmas in blended learning implementation in two selected Unity Secondary Schools.

4.7.1. Qualitative interviews

Byrne (2004) holds the view that qualitative interviews are a form of communication that seeks to extract different forms of information from individuals and groups. More specifically, according to Byrne (2004: 180) "the interactive nature of their practice means that interviewing is a highly flexible, but also somewhat unpredictable form of social research". Byrne (2004: 180) further notes that many different variables affect the outcome of interviews, while suggesting that as researchers, there is a need to take cognisance of such factors including "who is doing the interviewing, who is being interviewed, the location in which the interview takes place and the form of questioning". If for example, the researcher makes use of research assistants, there is the probability that discrepancies between the understanding of the researcher and the actual interviewing process could abound. On the other hand, the choice of interview location (who chooses and what place is chosen) is not just a technical matter of convenience and comfort. It should be examined within the social context of the study being conducted and analysed as an integral part of the interpretation of the findings (Herzog, 2005).

Cresswell (2013) maintained that in doing qualitative interviews, the researcher may conduct face-to-face interviews with participants, interview participants by telephone, or engage in focus group interviews with a group of six to eight interviewees. According to Creswell (2013:276) “these interviews involve unstructured and generally open-ended questions that are few in number and intended to elicit views and opinions from the participants”.

Bless, Higson-Smith and Kagee (2000:104-109) put forward the following as the advantages of qualitative interviews:

- Qualitative interviews actively involve the respondents in the research process thereby, empowering the respondents.
- They allow free interaction between the interviewer and the interviewee.
- They allow opportunities for clarification so that relevant data is captured.
- They maximise description and discovery.
- They offer researchers access to people’s ideas, thoughts, and memories in their own words, rather than in the words of the researcher.

The researcher acknowledges that the semi-structured interview has limitations, and they are discussed below:

- The semi-structured interview took a lengthier time and financial resources in terms of travelling in between the two Unity Secondary Schools to conduct.
- The meanings derivable from semi-structured interviews are harder to analyse than some measure of frequency because meaning is central to the research, and it is important to understand the content and complexity of that meaning.
- Due to the face-to-face nature of the semi-structured interview, there may be bias and distortion. For instance, when sensitive questions are posed to the interviewee, the responses may not have been reliable or realistic.

In this study, the researcher conducted one-on-one semi-structured interviews with purposefully sampled teachers in the selected Unity Secondary Schools. In Nigeria, secondary schools are divided into junior secondary school phase and the senior secondary school phase. The junior secondary phase consists of the first three years of secondary

education. Students fully get involved with ICT at the senior secondary school level. There are a total of 19 subject teachers teaching at the senior secondary school level in Federal Government Girls College, Kabba. Out of the 19 teachers, 13 of them with at least two years' experience teaching in a classroom that incorporated blended learning, were approached and all agreed to participate in the semi-structured interview. In Federal Government College Ugwolawo, there is a total of 23 subject teachers teaching at the senior secondary level. Using the baseline of at least two years teaching experience, 15 teachers were identified and agreed to participate in the semi-structured interview. Experience sampling within purposive sampling involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Cresswell and Plano Clark, 2013).

The choice of these teachers is predicated on the fact that, firstly, they had relevant information as to what this study aimed to find, and secondly, they are the most appropriate source of information regarding how blended learning is implemented having had more than two years' experience teaching in a classroom environment that incorporated blended learning, which the researcher considered as adequate as having in depth knowledge of blended learning: a technique known as purposive sampling (Yin, 2013). The importance of experience sampling in this research is that it helped the researcher make contact with only respondents who have relevant information on the issue being investigated, thereby helping the researcher make good use of time.

The researcher equally interviewed principals of the two Unity Secondary Schools. The researcher considered principals as "Key persons" in the sense that the management of the Unity Secondary Schools is vested in the principals as well as the vice-principals. Similarly, principals carry out the critical role of interpreting and implementing various policies and programmes handed down to them by the Federal Ministry of Education. They also implement and assess teaching-learning outcomes, while at the same time providing performance-based reports to the Federal Ministry of Education.

Principals as "Key Persons" for the interview were considered appropriate for participation based on their attributes or "expert" knowledge and skills about issues relating to the secondary school education sub-sector. According to Babbie and Rubbin (2010:127), preference was given to key informants as they are presumed to have special knowledge

about the target population's problems and needs, and might include administrators of institutions that are in close contact with the target population and that have special knowledge of its problems.

The principal who acts as Chief Administrator and five vice-principals responsible for specific departments totaling six in each of the Unity Secondary Schools were approached to be interviewed and all of them obliged and were interviewed.

4.7.1.1 Rationale for the interviews

The interviews with the teachers and principals were meant to get their own perceptions about blended implementation. The one-on-one interviews were also aimed at establishing their personal profiles, their current knowledge and skills in a blended learning approach to teaching. The information gleaned from this, it was hoped would prove valuable for this research work.

4.7.1.2 Format of the interviews

The timing for the interviews were based on what was convenient for the interviewees in the selected Unity Secondary Schools. The researcher first approached the interviewees and asked them for a convenient time for the interview.

In general, the interview lasted between 30-45 minutes. All the interviews were conducted in the interviewees' school, but an effort was made to ensure that the interviewees were interviewed in an environment that was comfortable and devoid of noise and distractions.

In determining issues to be considered during the interview process, the researcher depended heavily on issues raised by Walsham (1995:79) who detailed issues to be reported upon when conducting interviews. These issues are as paraphrased as follows:

- the characteristics of the research environments selected and the reasons for this selection.
- the number of participants that were interviewed.
- positions that the interviewees were employed in.
- the manner in which the data was recorded.

- the manner in which the data was analysed.
- the manner in which the iterative process between data analysis and theory generation functioned.

The researcher compiled some questions to serve as an interview guide with the mind-set that the question could be asked in no specific order. The researcher explained to the participants the recording procedure as well as the purpose of the study. Since consent forms were provided, the researcher allowed the interview participant ample time to go through the details of the consent form and for them to decide whether to continue with the interview or not. The researcher assured the participants of anonymity and confidentiality and that the participants could withdraw from the interview at any point in time. As Oates (2006:188) notes, a researcher must be “professional, polite, punctual, receptive and neutral” during the conduct of an interview and this was strictly adhered to during the interview. Most interviews were recorded with a voice recorder, except for a few interviewees who indicated reservations about being recorded. After recording, the audio was transcribed using the Express Scribe Transcription Software (<http://www.nch.com.au/scribe/index.html>). The software enabled the researcher to transcribe the recorded interviews onto their laptop.

On a general note, the researcher believes the interviewees had significant knowledge of the research subject, as was displayed in the responses to the interview questions. The interviewees had experience on the job ranging from 3 years to 25 years, which the researcher considered adequate to use their experience to add to the validity of the research work.

A total of 40 interviews were conducted in the two selected Unity Secondary Schools as shown in the table 4.2 of interview participants provided below:

Table 4.2: Interview Participants

Name and Location of Unity Secondary School	Position of Interviewees	Referred in the findings with the following Pseudonyms
1. Federal Government Girl's College, Kabba, Kogi State, Nigeria	Administrators (Principals): 1. Principal – (Chief Administrator) 2. Vice Principal, Administration 3. Vice Principal, Academics I 4. Vice Principal, Academics II 5. Vice Principal, Special Duties 6. Vice Principal, Students' Affairs	OJONUBA IDOKO NICK CHRISTIAN OJOCHEGBE UMORU
	Teachers: 13 teachers were interviewed Federal Government Girl's College, Kabba, Kogi State, Nigeria	1. VICTORIA 2. KELVIN 3. TREVOR 4. SAM 5. BLESSING 6. DARLINGTON 7. SASKIA 8. ESTHER 9. DANIEL 10. JOAN 11. LINDA 12. FRED 13. FIDELIS

1. Federal Government College, Ugwolawo, Kogi State, Nigeria	1. Principal – (Chief Administrator) 2. Vice Principal, Administration 3. Vice Principal, Academics I 4. Vice Principal, Academics II 5. Vice Principal, Special Duties 6. Vice Principal, Students' Affairs	ISAAC DANIEL DAVID CHARLES IKANABA JOEL
	Teachers: 15 teachers were interviewed in Federal Government College, Ugwolawo, Kogi State, Nigeria	1. MICHEAL 2. JAMES 3. CATHERINE 4. OKPANACH I 5. UDALOR 6. ALI 7. TOBI 8. ENIOLA 9. SALEM 10. TOVIA 11. EMMANUEL 12. LINDA 13. GAIUS 14. COLLINS 15. MARTHA
A total of 6 Administrators (Principals) from each selected Unity Secondary schools totaling 12 Principals were interviewed and 28 teachers in all were interviewed in the two Unity Secondary schools		

4.7.2 Focus Group Discussion

Tobias et al (2018) observed that focus group discussion is regularly used as a qualitative approach to enable researchers the ability to gain an in-depth understanding of social issues. They note that this method aims to obtain data from a purposely selected group of individuals rather than from a statistically representative sample of a broader population. Similarly,

Kitzinger (2005) submits that focus group is a commonly used instrument to explore perception, experiences and understanding.

Parker and Tritter (2006) note that researchers sometimes view focus group discussion as synonymous with interviews, especially the semi-structured “one-to-one” and “group interviews”. However, Smithson (2000) notes that the role of the researcher and the relationship with the participants points to a fundamental difference between the two techniques. Whereas, interviews involve a one-to-one, qualitative, and in-depth discussion where the researcher takes up the role of an “investigator”, in a focus group discussion, the researchers adopt the role of a “facilitator” or a “moderator.” Futhermore, in interviews, it is the researcher that asks questions and engages a specific interviewee at a time. In contrast, in focus group discussion, the researcher facilitates or moderates a group discussion between participants and not between the researcher and the participants (Bloor, Frankland, Thomas, and Robson, 2001).

A focus group is considered an interview method and therefore, shares the same advantages of semi-structured interviews as mentioned before.

It is however, important to add that in terms of management, a focus group provides access to several teachers at the same time, while in a semi-structured interview it is only one teacher that can be interviewed per interview (Morgan, 2008).

In addition to the limitations of any other interview type, such as costs of time and money, focus group discussion has its own limitations. One major drawback, according to Robson (2011), relates to the moderation of the interview and this has to do with the fact that if the interviewer is not well trained, a number of issues could arise. Unskilled facilitators may lead to bias, as 2 or 3 teachers could dominate the interview, while others with contrasting views may remain silent (Bryman, 2008). There is equally a possibility that some teachers might deviate from the main subject, so an untrained interviewer may not be able to collect relevant data. Also, it is more cumbersome, time consuming, and complicated transcribing data from focus groups compared to individual interviews. These limitations were considered from the start and the various seminars attended at the University of Bolton and experiences gleaned from research carried out at the undergraduate level where the

researcher used focus group discussion for data collection helped to enhance their moderating skills.

In this research, after the semi-structured interviews, a focus-group discussion was also held in the selected Unity Secondary Schools with teachers who volunteered to be a part of the discussion. The researcher embarked on the focus group discussion with teachers in the Unity Secondary Schools after conducting a semi-structured interview with the same teachers with the aim of cross checking the information earlier elicited on an individual basis from the teachers and administrators during the semi-structured interview, and to give teachers the opportunity as a group to express their views and opinions on issues relating to the implementation of blended learning. Similarly, it enabled the researcher to take note of contrasting views that could be expressed by the teachers during the focus group discussion.

The teachers that volunteered for the focus group had participated earlier in the semi-structured interviews conducted. Since all the teachers who participated in the semi-structured interviews were the teachers who qualified based on the criteria of experience of at least two years in the adoption of blended learning in the classroom, the researcher had no choice but to approach the same set of teachers for the focus group. Doing otherwise would mean recruiting from the teachers who did not meet the experience threshold, and this could have affected the data collected. Some of the teachers told the researcher that they volunteered to be part of the focus group discussion from their curiosity in the topic and wanted to engage further.

The focus group discussion was meant to elicit information from the teachers on the issues, challenges, and dilemma around the implementation of blended learning and the way forward for effective implementation in the selected Unity Secondary Schools. The questions posed to the participants in the focus group discussion were gleaned from the literature on factors that affect the adoption of ICT (Keržič et al., 2019; Fatkhulloh, 2020; Pucer, Vičič, and Žvanut, 2020). The questions for the focus group also aligned with two main variables: the perceived ease of use (PEOU) and the perceived usefulness (PU) of the classical TAM theory (Davis, 1986).

This method of analysis employed in the focus group discussion was predicated on the position held by writers (Duggleby, 2005; Nili, Tate, and Johnstone, 2017) who asserted that

a researcher should base the decision on the appropriate level of analysis to utilise for focus group discussion on the relevant data to the research topic and the level of their contribution to the research questions (i.e., the concept of theoretical sensitivity). According to Birks and Mills (2011:176), theoretical sensitivity is “the ability to recognise and extract from the data elements that have relevance for the emerging theory”.

4.7.3 Justification for using Semi-Structured Interview and Focus group Discussion

The semi -structured interviews and focus group discussion were chosen over questionnaires because of the limitations associated with data generated from questionnaires and others related to their administration. There is the claim that data generated from questionnaires are not deep due to the simple way in which the questions are developed (Dörnyei and Taguchi, 2009). Furthermore, in questionnaires, it is not possible for respondents to ask for clarification (Gray, 2004). Bryman (2008) also notes that with questionnaires, the researcher does not have the opportunity to seek clarifications from respondents of the answers provided. Considering these limitations, the use of semi-structured interviews and focus group discussion on this research will make up for this limitation.

4.7.4 Designing of both Interview (Individual and Focus Group) Guide

The questions for the semi-structured interviews for teachers and administrators were the same and were developed based on the research questions. During the interviews, every participant was asked the same set of questions, but the questions were not always asked in the same-order. Furthermore, the interview questions were also designed based on the purpose of this research (Bryman, 2008). In terms of the purpose of the research, this research work is an exploratory study on critical issues, dilemmas and challenges associated with the implementation of a blended learning instructional approach in the secondary education sub-sector from the context of a developing country. The focus group discussion questions, which were anchored on six topic areas, were gleaned from the literature on factors that affect the adoption of ICT (Keržič et al., 2019; Fatkhulloh, 2020; Pucer, Vičič, and Žvanut, 2020) and the questions for the focus group aligned with two main variables; the perceived ease of use (PEOU) and the perceived usefulness (PU) of the classical TAM theory (Davis, 1986). (See semi-structured interviews questions for teachers and administrators in appendix 1 and focus group questions appendix 2).

4.7.5 Analysis of Written Documents

Document analysis is generally regarded as an unobtrusive research method of data collection that is readily available (Jakowski and Jensen 2002:243) and it is particularly appropriate for educational research of this kind. Unobtrusive research techniques involve studying social behaviour without affecting it (Babbie, Halley and Zaino 2000). Unobtrusive research methods of data collection counteract, or completely eliminate, bias and also promote conceptual and contextual analysis (Huysamen 1994:136) and since this research work is concerned with the understanding of the concept of blended learning, an analysis of these documents would promote the understanding of the concept of blended learning within the context of Nigerian secondary education, hence the choice of this methodology.

The researcher had access to the following documents from the Federal Government of Nigeria which were analysed in the research work:

- National Policy on Education
- National Policy on ICT in Education
- Circulars
- Reports

Analysis of written documents permitted a comparison and contrast of texts produced in the distinct contexts of the research work, as well as an authentic, illustrative source of triangulation for data collected during the qualitative interviews.

4.8 Sampling technique

The whole essence of choosing the study sample is to obtain information about the study population. Therefore, it is important that the sample be representative of the study population. Gentles et al. (2015:11) define sampling as “the selection of specific data sources from which data are collected to address the research objectives”. Generally, there are two types of sampling methods: probability sampling and non-probability sampling. According to Vickers and Offredy (2010: 134) “the difference between non- probability and probability

sampling is that the former does not involve random selection whilst probability sampling does”.

In terms of the purpose of this study, the researcher believed that non-probability sampling was the appropriate method for selecting the sample members. Scholars (Rao, 2011; Terry, 2011 and Uprichard, 2013) indicate that non- probability sampling is divided into three main types: convenience sampling, quota sampling and purposive or deliberate sampling.

In this study experience sampling within purposive sampling was chosen as the sampling approach. The researcher deliberately selected a particular section of the wider population to include in the sample (Uprichard, 2013). The current study was conducted with teachers who were selected using experience sampling within purposive sampling from the two selected Unity Secondary Schools. This was because they had relevant information on what the study aimed to find, and secondly, they were considered the most appropriate source of information regarding how blended learning is implemented (Yin, 2015). The researcher only interviewed teachers who had worked for at least two years in the Unity Secondary Schools and were directly involved in the implementation of the blended learning approach to teaching. The researcher considered two years as significant enough to have sufficient knowledge of issues and challenges in the Unity Secondary Schools to be able to give a significant level of sophistication and depth in their responses to the interview questions posed to them.

Out of a total of 19 subject teachers that teach at the senior secondary school level in Federal Government Girls College, Kabba, 13 subject teachers with at least two years’ experience teaching in a classroom that incorporated blended learning were sampled with none declining. In Federal Government College Ugwolawo, a total of 23 subject teachers, teach at the senior secondary level. Using the baseline of at least two years teaching experience, 15 teachers were identified and agreed to participate in the semi-structured interview with none declining. The researcher considered this sample size adequate, as there is evidence to suggest that the total sample size of 12 principals (6 from each of the schools selected for the research) and 28 teachers in all for a qualitative study can be considered as suitable. Morse (1994, cited in Guest et al., 2006) recommended a minimum of six participants. Also, as observed by 14 qualitative research experts which was collated by Baker et al. (2012), in a qualitative study, the sample size varies and is dependent on the number of participants

who are considered to be sufficient to provide evidence on the issue been researched; some of the experts argue that one interview is sometimes sufficient (p. 16; 24), while some other experts suggest a minimum sample size of 12 (p. 11; 19).

4.9 Data Analysis

The qualitative data obtained from teachers and principals during the semi-structured interview transcripts was transcribed by the researcher in real time. Thereafter, iterative thematic analysis was used by the researcher to analyse the semi-structured interviews (Guest et al., 2011). According to Guest et al. (2011), thematic analysis entails a description of the perceptions and experiences of participants through inductive, iterative, content-driven analysis searching for themes. Rubin and Rubin (2011:202) assert that “when you are done interviewing, you then examine all the interviews together to pull out coherent and consistent descriptions, themes, and theories that speak to your research questions”.

The researcher made use of the voice of teachers and principals to describe their perceptions of blended learning as well as other critical issues relating to its implementation in the selected Unity Secondary Schools. During the analysis of the data from the semi-structured interviews, the researcher identified important themes while searching for common threads and underlying ideas and focusing on the meaning of interviewees and commonalities and diversities of experiences and perception. The data collected from the documents reviewed was analysed using content analysis.

4.9.1 Analytical Procedure followed by the researcher

The analytical procedure followed by the researcher for the semi-structured interviews as well as focus group discussion drew heavily on the works of Clarke and Braun (2013) and Seidman (2013), as shown in Table 4.3 below, which shows a summary of the analytical procedure followed by the researcher. The analysis of written documents for this research work on the other hand was carried out through content analysis.

Table 4.3 Summary of The Analytical Procedure Followed by The Researcher

Steps to be followed	Procedure	Activity
1	Filing of the consent form in a safe place (Seidman, 2013).	The researcher filed the consent form in a place that was put under lock and key such that the data collected from the field could only be assessed by the researcher.
2	The interviews will be audio recorded and the notes transcribed from this audio will be converted into written record (Seidman, 2013).	The notes from the transcribed audio were converted into some form of written record.
3	Getting familiar with the data collected. (Clarke and Braun, 2013)	The researcher transcribed data from the audio interview, listened to the audio interview repeatedly to ensure that no specific details were left out, afterwards the transcribed notes were read several times to enable the researcher to take note of analytical observations.
4	Coding (Clarke and Braun, 2013).	As soon as the researcher got familiar with the data after reading through several times, interesting features of the data were coded in a systematic fashion by generating labels that were related to the research questions. Every data item was coded and thereafter, all the codes and relevant data extracted across the entire data set was put together.
5	Carrying out search for emerging themes (Clarke and Braun, 2013).	Here, the researcher searched for similarities amongst the codes generated from the data collected, from this process, the researcher constructed themes and collated all coded data that were deemed relevant to the themes generated.

6	Reviewing the themes generated from the interview data (Clarke and Braun, 2013).	The researcher checked to ensure that the themes generated matched with the full data set and codes earlier developed. Afterwards, the researcher reflected on the themes to ensure that they were really telling the story.
7	Definition and naming of themes (Clarke and Braun, 2013).	At this point, the researcher made attempts to get a story out of each theme developed. This enabled the researcher to name themes accordingly.
8	Writing up (Clarke and Braun, 2013).	This marked the last opportunity for the researcher to carry out an analysis of the data. Here the researcher wove together all analytical narratives and pulled together all abstracts in a coherent form to be able to tell a convincing story that will relate to the research question and literature review.

Source: Clarke and Braun, 2013; Seidman, 2013.

4.10 Reliability, Validity and Generalisability

4.10.1 Reliability

Bryman and Bell (2015) assert that reliability has to do with the question of whether research conducted by another researcher in a similar context will produce the same results. In a nutshell, reliability looks at the consistency of a research process. Easterby-Smith et al. (2012) identify three critical questions that researchers can use to check the reliability of a research process. These questions are as follows:

- Whether the measures provide the same results in other instances?
- Can similar observations be attained or made by another researcher?
- Is there clarity in how sense was made or reached from the data?

Easterby-Smith et al. (2012) argue further, that if the answers to these critical questions are affirmative, then it means that the data collection and the research process were highly

reliable. It is important to note that two types of errors and biases (observer and participant) generally impact on reliability. In order to reduce participant errors, Saunders et al. (2012) encourage researchers to ask the same questions of all the interview respondents and equally make sure that the respondents use the same response categories.

In this research, to ensure reliability, the researcher made sure that the respondents understood the question posed to them and maintained the use of the same language (English) with all the participants. Similarly, issues relating to confidentiality and anonymity were re-echoed to forestall the participants from giving biased responses. Researcher bias was reduced by selecting appropriate data collection methods and triangulation. In this research, data collection was conducted by semi-structured interviews and focus group discussion triangulated by analysis of official documents. Equally, a detailed discussion of the research methods, data collection and the procedure for eliciting respondents' feedback regarding interview transcript has been highlighted in this research work with a view to overcoming researcher bias.

4.10.2 Validity

According to Collis and Hussey (2015), the main thrust of research validity is whether research findings truly represent what is really and happening in an actual context or situation. Commenting further, Saunders et al. (2012) assert that validity concerns itself with whether the findings of a piece of research are about what they seem to be about or not. Table 4.4 presents types of validity described by various researchers in the literature.

Table 4.4: Types of validity

Types of validity	Description
Internal validity	Internal validity has to do with whether the researcher has shown a cause between two factors or what is determined as a cause actually produces what is interpreted as the effect, by demonstrating that other plausible factors cannot explain the relationship.
External validity	External validity describes the extent to which research findings can be generalised beyond the immediate context in which the research was conducted.

Construct validity	Construct validity shows the extent to which the measurement in question operationalises the concepts being studied (blended learning) or actually measures the presence of the construct it is intended to measure.
Face Validity	Face validity shows the extent to which a measure clearly reflects the content of the concept in question and is valid for the participants themselves.

Source: Saunders et al. (2012), Collis and Hussey (2015), Yin (2015), and Bryman and Bell (2015).

There is a consensus among the researchers quoted above, that it is a difficult feat for any given research to satisfy all the validity criteria mentioned above. While some research methods appear strong in one type, they may be weak in others. For instance, a quantitative research that employs the survey method may be strong in external validity but weak in internal validity. Whereas, a qualitative research could be strong in internal validity it could be weak when it comes to external validity. These writers recommend the use of multiple methods of data collection as it is the case in this research to reduce validity limitations.

Considering the nature of this research, which is qualitative, it was germane to ensure that the research met internal and face validity. It is in cognisance of the need to meet this validity quality criteria that the researcher included both teachers and administrators as participants in this research work. The researcher equally ensured that all the questions posed in the interview guide were relevant to the subject of this research. It should be noted here that considering the qualitative nature of this research, it is not possible to achieve complete external validity and generalisability; therefore, this study would only be valid for the participants in Unity Secondary Schools in Nigeria.

4.10.3 Generalisability

In any given research, it is pertinent to address issues of reliability, generalisability, and validity. Leung (2015) asserts that generalisability has to do with the extent to which findings from a given research can be applied to other research that shares common theories, as well as models which are comparable in nature. Validity on the other hand has to do with how suitable the tools, data, and processes employed are. Leung (2015) emphasises the need for

appropriate design for the methodology, a suitable sampling, and data analysis as well as the outcome and conclusions as necessary ingredients for good research.

In the case of reliability, Leung (2015) maintains that it entails how the results and processes obtained can be repeated. In terms of reliability, the test is the steadiness that is capable of being obtained in the research work even though in research, a margin of reliability is often accepted if there is consistency in methodology and also if the epistemology produces data that are comparable even though contradictory in terms of richness and quality within similar scope. Considering the importance of validity, reliability and generalisability, these concepts were applied in this research in order to ensure the robustness of the findings of this research work.

Then again, to check against accidental circumstances of the research, strategies like cross-referencing were applied and incorporated throughout the processes in the study design, data collection and interpretation, data analysis and in presenting the findings.

The researcher wishes to state that this research does not lay claim to generalisation beyond the two selected Unity Secondary Schools investigated in the research. However, considering the fact that a description of the selected Unity Secondary Schools has been provided, it is the researcher's expectation that some of the interpretations, results and conclusions generated in this research work will prove useful in other comparable contexts.

4.11 Ethical Considerations

Johnson and Christensen (2008:99) maintain that research ethics are “the principles and guidelines that help us to uphold the things we value”. Issues relating to freedom of information, data protection and the rights of privacy of individuals are equally considered here. In this section, the researcher addressed several aspects of the ethical considerations related to the present study, such as informed consent, electronic consent, participant withdrawal, confidentiality, and privacy.

4.11.1 *Informed consent*

As part of the research, ethical considerations in this study, the researcher applied for and received ethics approval from the University of Bolton Research Ethics Committee. All

participants in the semi-structured interview for this research work were given an information letter stating the purpose of the research and informing them of every right they possessed. They were also given informed consent forms to sign, which stated their understanding of their rights as participants. The respondents were informed that they would be completely anonymous in the write-up and as a result their personal responses were guaranteed complete confidentiality.

4.11.2 Confidentiality

Tolich (2004) maintains that deductive disclosure occurs when the traits of individuals or groups makes them recognisable in research work. In qualitative research, a description of study participants is involved, thereby creating issues relating to the breach of confidentiality as a result of deductive disclosures of particular importance. In order to address the issues of disclosure that may arise in the course of this research work, the researcher took the following steps:

First, the researcher addressed the issues of confidentiality at the time of data collection. At this point, the researcher took necessary steps to change statements relating to the occupation, location and ethnic background of the participants which might lead to them being identified based on their responses (Crow et al., 2006).

Second, the researcher equally took necessary steps to protect confidential information by removing “personal identifiers” like names during the research process (Kaiser, 2009). Where during the research process the participants provided addresses, they were deleted from the file as soon as the research process was completed, as they were no longer needed. Using the find and replace tool in Microsoft word, the researcher found and replaced all names with pseudonyms.

Finally, the researcher provided a detailed consent form which contained statements guaranteeing anonymity and confidentiality and also stated that the research participant could withdraw from participating in the research at any point in time that was deemed necessary without any obligation to state reasons. There was however, no case of any participant withdrawing from the research.

Since this study involved interviewing research participants, interviews were recorded with a voice recorder, except where an interviewee indicated reservations about being recorded.

The recorded interview was saved on to the researcher's computer and password protected and the researcher took adequate steps to ensure that the flash drives were securely kept so that no other person, aside the researcher had access to it.

The researcher recognises that while carrying out this research, there could be exchange of text messages (text messages as to scheduling or rescheduling interviews) between the researcher and the interview participants. While the researcher notes that communication through short messaging service (SMS) is neither private nor secure (Neher and Sandin, 2015), the researcher took necessary precautions like using a password on the phone to protect the privacy of the participants.

In terms of encryption, PGP encryption software was installed on the researcher's laptop to ensure that files used in the course of this research were encrypted and only an authorised recipient could decrypt them (<https://www.symantec.com/en/ca/pgp/>).

Generally, the research was guided by all the rules related to data protection as applied by the University of Bolton

(<http://www.bolton.ac.uk/AboutUs/Resources/DataProtectionAct.pdf>).

4.11.3 *Electronic Consent*

To give the participants a choice on how they could give their informed consent, the researcher equally deemed it appropriate to email the consent form to the research participants through their personal emails, as some of them found it more appropriate than completing the hardcopy of the consent form.

The advantage of electronic consent is that the participants are under less pressure to review the hardcopy of the consent form immediately, but could sign it at a time when it is convenient to go through the form in more detail. Similarly, participants could take their time to understand the details of the research before making an informed decision whether to sign the consent form or not.

One challenge of electronic consent relates to the issue of verification, and this has to do with ascertaining the legitimacy of the electronic consent form and whether it is from the participant. To address this challenge, for those participants who requested that an electronic consent form be sent to them, the researcher maintained a register of emails and requested

the participants to enter their email in capital letters to ensure that the email goes to them personally and not to any other person. The request for the use of capital letters for the email was to ensure that the emails are legible.

4.11.4 *Participants' Withdrawal*

There is a consensus in the literature (Edward, 2005; Schaefer and Wertheimer, 2010; Thackray, 2018) that research participants reserve the right to withdraw from a research study to which they have earlier given consent without giving any reason whatsoever. There was a provision stating the right of withdrawal which helped to frame the relationship between the researcher and participant. In this research, the researcher stated clearly in the informed consent form that the participants were at liberty to withdraw from participating in the research at any given time without giving their consent.

4.11.5 *Privacy*

Generally, the protection of the rights to privacy requires respect for the autonomy of research participants including the right to self-determination as well as their general welfare.

According to Lounsbury et al., (2007), the need for privacy is predicated on the generally accepted social norms of the expectations of individuals about what information about oneself should or should not be brought to the knowledge of others.

In this research, to prevent disclosures when analysing the semi-structured interviews, aspects that might reveal the identities of the interviewees were removed and pseudonyms were used to protect the identities of the participants.

Also, it should be mentioned that privacy is a major prerequisite to good interviewing and an important component of safeguarding the freedom of participants is to protect them from distracting intrusions. In order to achieve this, interviews were conducted in an environment where intrusion of people or the use of mobile phones was avoided as much as possible.

4.11.6 *Interview Transcript Review*

Interviewee transcript review (ITR) as an aspect of ethics in qualitative research is a technique that is used for improving the rigour of interview based, qualitative research. Under ITR, the researcher is expected to provide the interview participants with the verbatim

transcript of the interview so that the participants will be afforded the opportunity to verify accuracy, correct errors and provide clarifications. ITR is widely used by qualitative researchers even though there is a limited methodological guidance on it (Mero-Jaffe, 2011).

It was in cognisance of the foregoing that the researcher requested if the interviewees needed the transcript, but the interviewees told the researcher that the school was getting into a very busy examination period and that even if they were sent, they will not be able to look at it. The researcher left mobile and email contact if any of the participants had a change of mind and needed to see the interview transcript however, none of the participants contacted the researcher.

4.11.7 Positionality of the Researcher

Social scientists pay great attention to the practical importance of research ethics and professional codes of conduct when undertaking studies with human participants, especially around sensitive topics. They emphasise the need for research participants to feel safe, respected, and heard when participating in research (Shaw et al., 2020).

As in this research, semi structured interviewing often requires the participant to reveal sensitive and personal information directly to the interviewer, therefore, it is important to consider the power imbalance between the researcher and the participant so as to ensure that the research participants feel safe when participating in the research. Even though the researcher is a quality assurance officer for primary schools directly under the Kogi State Universal Primary Education Board (SUBEB), this position did not in any way interfere with the inalienable right of the participant to feel safe while participating in the research. This is due to the researcher being under the supervision of the Universal Basic Education Commission (UBEC), which has nothing to do with the interview participants. The interview participants are from Federal Unity Secondary Schools which are higher in hierarchy and under the National Commission for Secondary Education (NCSS) established to take responsibility for the regulation of upper secondary education in Nigeria.

4.12 Summary

In this work, the researcher has given a detailed description of the research methodologies used in this study. Likewise, a detailed description of the ethical issues, including informed consent, withdrawal of participants, confidentiality and privacy and electronic consent was discussed. The approach of the present study is qualitative which includes the use of qualitative interviews, focus group discussion and document analysis. The next chapter is dedicated to the presentation of the findings of this research work.

Chapter Five

Research Findings

5.0 Introduction

In this chapter, findings from the semi-structured and focus-group interviews in the Federal Government of Nigerian Unity Schools (The Federal Government College Ugwolawo and The Federal Government Girls College, Kabba) as well as the analysis of documents will be presented. The researcher used the transcribed manuscript from the interviews conducted in order to analyse comments from the interviewees with a view to providing answers to the research questions. In this chapter, the researcher provided the findings from the interview participants in a narrative and descriptive form. In other words, the researcher presented the results in the form of a verbal description of the emerging trends and themes, while presenting verbatim quotes from the transcribed audio interviews.

A qualitative semi-structured interview and focus group discussion was undertaken in two selected Federal Government Colleges. The researcher took cognisance of the background information of each of the selected Unity Secondary Schools with a view to giving a clearer insight into the context of the data collected. It is worthy to note that while presenting the findings of this study, the Federal Government Girls College, Kabba is referred to as “School A” while Federal Government College Ugwolawo is referred to as “School B”.

The findings from the interviews of teaching staff, as well as focus group discussion with teachers that volunteered to be part of the focus group discussion will be presented together in this chapter.

5.1 Discussion of Themes

Theme identification is considered by Mihos (2019) as one of the most fundamental tasks in qualitative research. In this section, the researcher will discuss each of the six themes presented in greater detail. While discussing each of these themes, the researcher will use evidence from the data obtained from the fieldwork in the form of verbatim quotes from the semi-structured interviews. While presenting this data, in order to maintain anonymity and confidentiality, the researcher will make use of pseudonyms.

5.1.1 Theme One: Amorphous Definition

The instructional strategies associated with blended learning have been subjected to a varying description. The focus of this research work was to explore the various understanding of the concept of blended learning from the perceptions of the teachers and administrators of the selected Unity Secondary Schools with a view to comparing and contrasting the various definitions provided. While it could be said that the concept of blended learning has evolved for well over two decades (Smith and Hill, 2019), it is evident from the context of this study that the concept of blended learning had not been commonly understood among teachers and administrators.

The theme of amorphous definition emerged from the views expressed by teachers and administrators on what they generally understood by blended learning. The word “amorphous” was the coinage of one of the respondents and was used to underscore the unstructured nature of the definition of blended learning as expressed by the interview participants. The interview for teachers and administrators generally began with the question “how would you define the term blended learning?”. Most of the responses to these questions were based on personal understanding of what blended learning is. Words like “to me”, “from my own understanding”, “my perception” and “from my personal experience” to mention just a few, were used to signify that their understanding of blended learning was based on their personal experiences. Victoria, one of the teachers from the Federal Government Girls College, Kabba (School A) for instance responded to the question: What is blended learning in the following words:

Blended learning to me is combining the traditional way of teaching and the modern way of transferring information from a teacher to a student.

Another teacher (Trevor), from School A attempted a definition of blended learning as follows:

Well, I perceive blended learning to be an educational approach whereby we utilise the usual traditional teaching method while we take advantage of technology, talking about online materials in the classroom. I think that is what blended learning is.

Some other participants who made attempts at defining blended learning were prodded further to provide insight on how they applied blended learning while teaching. In this

regard, Darlington from the Federal Government College, Ugwolawo (School B) attempted a definition of blended learning in the following words:

Blended learning is a type of learning in which students learn via electronics and media and combining them with the traditional face-to-face teaching. So, it involves more of a computer mediated activity. They have a more enhanced mixed model instruction that facilitates learning.

On the application of blended learning in the classroom, Darlington provided an insight as follows:

Personally, in the classroom, it is a mixed blend of activities. I introduce the use of videos to illustrate my points whenever I am in the classroom. I discover that the students really get excited at this. Also, I get the pupils into clusters to work online together and brainstorm and come up with solutions to whatever exercise that I place before them. Sometimes, I allow them to go home and carry out the exercises at their spare time and post whatever results they have on the blog.

Another teacher (Saskia) from School B expressed her opinion on what she thinks blended learning is in these words:

Blended learning to me is an educational approach where we combine online educational materials with the traditional face-to-face classroom-based methods.

Saskia went ahead to state that she tries to look at the technology-based learning materials available in her school and then works her way around how she can design her lesson plan, making use of these technology-based materials for the benefit of her students. Particularly she said:

I do much around available technology-based materials to stimulate teaching and learning in class. I give you an example. I am not sure if you have heard of Edu-Mobile. Edumobile is a mobile learning programme developed locally in Nigeria that integrates a typical school environment into an App so students and teachers have round-the-clock, real-time access to learning. I use this application a lot to help my students learn better in addition to face to face learning. I bet you, the result has been fantastic.

Daniel (School A) was another teacher who showed serious enthusiasm when he read through the information sheet and discovered the purpose of the research. According to him, his area of interest was on technology-mediated learning and blended learning was an area of interest to him. When asked how he could define blended learning, he said:

Well, blended learning is a kind of study system whereby students learn through electronic and online media, along with traditional face-to-face method of teaching. In other words, it is the combination of computer-based learning as well as traditional mode of learning.

On the application of blended learning in the classroom, Daniel maintained that the use of the computers provided by the Federal Government Girls College Kabba, came in handy in that respect. He stated specifically that he incorporated the use of projection technology. Expatiating, he submitted:

I use this projection technology (projectors) because it is beneficial to teachers as well as students. For the teacher for instance, it allows us to better interact with our students and for the students, because it is more entertaining, I discover they listen with rapt attention and then seem to respond to my lessons better than in a traditional classroom setting.

Some of the teachers and administrators interviewed in the two selected secondary schools sometimes were not too sure of their understanding of what blended learning is and, during the interview, maintained eye contact with the interviewer hoping to get a nod from her if what they were saying really made sense. A nod from the interviewer in such cases was reassuring and made them continue with the opinion being expressed. Two scenarios will be highlighted.

On the question regarding the definition of blended learning, Daniel was a bit hesitant, but the interviewer assured him saying there were no right or wrong answers and that he could just go ahead and express his understanding of the definition of blended learning. At that point he said:

I do know what blended learning is, but I cannot be really categorical about the definition...but I will hazard a definition. To me, blended learning has to do with the use of iPad, computers, mobile phones to teach students in addition to the face-to-face classroom situation.

An administrator (Isaac from School B) maintained that he could advance what he refers to as a “layman’s” definition of blended learning. When asked by the interviewer to define blended learning, he had this to say:

I cannot lay claim to any particularity in the definition of blended learning. Yea, I do have an idea and would attempt what I want to refer to as a layman’s definition. From my

perspective, blended learning is the combination of teaching and learning with the use of online resources.

5.1.2 Theme Two: Blended Learning Implementation and Challenges

There is a general consensus in the opinions expressed by participants in the semi-structured interviews that a number of benefits are derivable from the adoption of a blended learning instructional approach in Unity Secondary Schools in Kogi State however, the implementation of blended learning is beset with a plethora of challenges. The semi-structured interview participants list a number of implementation challenges which include: lack of ICT Infrastructure; poor electricity supply; increasing enrolment of students not matched with improvement in internet access; poor or ill-equipped ICT laboratories; poor internet access; issues with poor familiarity with ICT devices; under-funding; policy implementation challenges; and lack of a conducive environment for learning.

For the purpose of clarity of the data presentation and to put the opinions expressed in the right perspectives, these challenges will be addressed one after the other.

5.1.2.1 Lack of ICT Infrastructure

There is a consensus among the participants in the semi-structured interviews that both building and network infrastructure in Unity Secondary Schools were grossly inadequate. They asserted that the successful implementation of blended learning was dependent on the adequacy of the technical and support infrastructure. The majority of the semi-structured interviews submitted that the technical and support infrastructure was the missing link in blended learning infrastructure. Ojonuba (an administrator in School A) chronicled the infrastructural challenge in the following words:

In the Nigerian environment, you know that there are a lot of shortages of infrastructure: we don't have electricity constantly and when we talk about blended learning, you must have power all the time. You know, in our environment here, we don't have electricity constantly and this is one of the challenges we are facing. Even hardware, software and the necessary human resources with the relevant knowledge and of course the regulatory framework are some of the challenges we have in this institution along with shortages of funds. You know that blended learning implementation is capital intensive, and the Nigerian education system has a

problem of funding and that has limited the effective implementation of blended learning in our institution. In a nutshell, there are certain technical and support infrastructure that is lacking and yet the funding to put them in place is lacking which accounts for the challenges we experience now.

Another teacher (Joan from School A), re-echoed the views expressed by Ojonuba above. She maintained that students and teachers were not able to benefit from blended learning interventions in the school owing to unavailability of infrastructural facilities. When asked to mention the specifics, she stated the challenges of accessing up to date software and hardware in the form of computers and servers with enough/correct capacity. She mentioned that in the supply of this equipment, due diligence in procurement was not duly adhered to. Most of the ICT equipment supplied she maintained, did not have the correct configurations that would deliver seamless access especially when many students were accessing the internet at the same time. All this she summarised in the following words:

Well, in this environment, I think electricity is the major challenge because you need power to use the internet. Another challenge is funding, because without funds, you cannot buy equipment, you cannot buy computers and projectors, that you use in the class. Also, accessibility to internet, this is not easily accessible here, and when you get them, they are expensive, these are our major challenge here. Another challenge is infrastructure, when you don't have buildings and equipment that are set for such purposes, it becomes a major challenge to blended learning. The servers and hardware supplied are below capacity. No due diligence in purchase. Suppliers cut corners when supplying and this is a big negative.

Another teacher, Catherine from the Federal Government College Ugwolawo (School B), mentioned the absence of technology-enabled classrooms. She lamented that even though she had been trained on the use of some of the technology-enabled devices, her knowledge had not been put to use due to the lack of technology-enabled classrooms. She summed up the challenges of infrastructure as follows:

One of such critical challenges are robustness of IT, lack of infrastructure, power; power is a major challenge, even if the infrastructure is there, there is usually no power for these technical infrastructures to be put to good use. Again, the whole world is talking about technology-enabled classrooms, but this is not available here and it is a huge challenge. Some of us have had training on the use of some of this technology enabled devices like electronic whiteboards, projectors,

desktop and laptops, but this basic infrastructure is either in short supply or not available at all.

Tovia, from the same school as Catherine, mentioned the need to equip the computer laboratories with baseline computing hardware. She mentioned that the school computing hardware was on the decline, owing to long usage and the lack of funding to replace or carry out repairs as the case may be. She asserted that the robustness of the computer lab was a prerequisite for effective implementation of blended learning. Sadly, she noted that not much had been achieved in the implementation of blended learning in her secondary school, due to the lack of a robust computer lab. She submitted that even though the school currently could boast of a computer laboratory, the one available was averagely equipped and in most cases, students brought in their own computers to school to complement what the Federal Government had provided. On the need to provide more computer laboratories, she said:

“... because the population is growing though not up to a thousand but I think we are close to a thousand and in such an environment where we have just one or two computer labs I think we need more laboratories, maybe like if we have up to four computer laboratories it will go a long way and the issue of internet access needs to be addressed, if we have up to four laboratories, we can discourage students bringing in their personal computers to complement what government provides”.

Generally, on the challenge of infrastructure, it was clear from the opinion expressed that implementing blended learning without the establishment of the enabling infrastructure was counterproductive.

5.1.2.2 Poor Internet Access

The interview participants generally considered poor or slow internet speed or limited internet access as a massive challenge, inhibiting the effective implementation of blended learning in Unity Secondary Schools. Linda specifically noted that slow internet connectivity was a big issue in Nigeria. She mentioned that even though internet penetration in Nigeria appeared encouraging, the connectivity was slow and therefore, inhibited teachers from being innovative in their implementation of blended learning. When asked to shed more light on what she meant by being “innovative”, she said:

...what I mean is that at times, to enrich my teaching, I upload videos, and it gets frustrating that at the point of trying to

download the video in class situation, the internet is slow or goes off intermittently especially when it begins to rain. So, we are limited in a way.

Catherine, Okpanachi, Udakor and Ali shared the same perspective on the challenge of slow internet access. Udakor specifically mentioned that in some cases, the school found it difficult to pay the subscription for internet access to the service providers and when the school gets disconnected, the school would have to go on without internet access until outstanding monies owed were paid. When asked how students and teachers cope in such a circumstance, he said:

Well, when this became a recurring challenge, some students being aware of this challenge began to provide their own hotspot using their phones. I consider students providing hotspot for themselves an aberration, but the students find the blending of technology with face-to-face teaching interesting and would not accept a break.

The interviewees were unanimous in their submissions that for the successful implementation of blended learning, the Federal Government must be ready to invest massively in internet infrastructure as the current situation is obtainable in the Unity schools and are incapable of supporting the much-needed innovation in teaching and learning.

5.1.2.3 Issues with Poor Familiarity with ICT Devices

Even though the semi-structured interview participants agreed that they had a relatively fair knowledge of making use of some IT tools and do make use of them for teaching and learning, they still insisted that there was room for improvement. Some stated that they were not familiar with the modern apps that enable effective teaching and learning. Specifically, Gaius said:

We need to open up on some of these issues that affect us. Now let's call a spade a spade. Some of our teachers are poor in the related knowledge of ICT and this affects their delivery in the classroom. For instance, when educational apps are introduced, we are just given introductory lectures on how to use them by the government consultants and they leave us to find our way around it. We end up not being grounded on the use. This is a big challenge to us.

On the way forward, there was a general belief that teachers needed more refresher training, formal and informal training as well as hands-on learning to use technological devices and tools to teach in the classroom.

5.1.2.4 Poor Electricity Supply

The participants in the semi-structured interview listed poor electricity supply as a critical impeding factor in the implementation of blended learning in Unity Secondary Schools. They asserted that there was a link between electricity and educational attainments in the sense that adequate and consistent electricity supply allowed for the maximum use of technology-enabled devices. The general consensus was that adequate electricity supply in Unity Secondary Schools increases the amount of time students were willing to spend at school and that overall, there was a correlation between improved electricity supply and improvement in students' and teachers' experience in the teaching and learning process.

Isaac (an administrator in School B), painted a grim picture of the electricity challenge faced in his school and noted that unstable power supply remained a blight in the educational attainments in the Federal Government College Ugwolawo. He said:

The electricity situation in the school is terrible. We hardly have electricity in the school. If my memory serves me right, we normally have electricity supply once in about 6-8 weeks. The school basically runs on generator and this you know is expensive. In a month our bill for diesel is outrageous. We need electricity to run the IT systems very well. So, in the end, we put on electricity at 9am in the morning and by 1pm in the afternoon it will go off. Then in the evening, we run the generator for another three hours. How do we implement blended learning efficiently and effectively given this scenario?

The challenge of electricity supply was equally bad as expressed by teachers and administrators at the Federal Government Girls College, Kabba (School A). The teachers advocated the need for an alternative energy supply. Even at that, they maintained that the Federal Government being the proprietor of the school lacked the political will to provide this alternative source of energy. The teachers noted that electricity supply had impeded teachers' and students' experience in blended learning interventions.

5.1.2.5 Under-Funding

The majority of the participants in the semi-structured interview mentioned adequate funding as a critical element in the implementation of blended learning. They submitted that

for effective implementation of blended learning, there was a need to put in place adequate technical infrastructure, as well as the deployment of the necessary software that would aid teaching and learning. This, they noted could only be provided when funding was provided. However, the administrators noted that underfunding had been a critical challenge in the implementation process. They noted that in concrete terms, the funding of Unity Secondary Schools was lower than expected for optimal performance of this all-important education sub-sector. They asserted that the issue of underfunding was worsened by the recurring incidence of shortfalls in budgetary allocations, a trend that had continued unabated for a very long time with concomitant negative impact on students' and teachers' experience.

Idoko (Administrator from School A) noted that no matter how prepared and committed teachers and administrators were to the implementation of blended learning, they were limited in several ways from performing effectively due to the resources available being either obsolete or non-functional, owing to the paucity of funds to get more modern ones or even the outright replacement of obsolete ones. He submitted that:

...issues around underfunding are considered a challenge to the implementation of blended learning. I have a group of dedicated staff, some trained in the use of ICT in the classrooms. Unfortunately, the equipment are either outdated or non-functional...what magic can we perform in the circumstance? The only way to turn the tide now is for government to address this issue of underfunding but I wonder when that will be!

Another administrator (David) from School B, noted that the situation of under-funding was not peculiar to his own secondary school, but cut across all Unity Secondary Schools. He noted that at the forum of heads of Unity Schools, the issues of underfunding had always been on the front burner. He noted that the government was aware and always promised an improvement, which did not always come to pass. He said:

Underfunding is not just peculiar to my own school. You will notice that since you came in, we have not had electricity. The reason is that we are operating a tight budget and a lot of things competing for our attention financially. At the meeting of all heads of Unity Schools in Nigeria, issues around underfunding is always discussed. Now government gives us listening ear but government appears to be facing hard economic realities too. Don't get me wrong here, I am not holding brief for them but sadly, it is the truth. We are just hoping that the situation will improve. So, coming down to blended learning implementation, because of the recurring

issues of underfunding, we are not able to implement as it should.

Continuing, Ojonuba (an administrator in School A) appeared to be re-echoing the views expressed above by David. He noted that the issue of underfunding was compounded by the present economic realities in Nigeria. He noted that Nigeria being a mono-economy (dependent mainly on crude oil), had seen her fortunes reduced lately owing to the slump in the global oil prices. This he argued left little in terms of revenue for the federal government. Since budgetary allocations he noted are a consequence of the revenue generated, it then meant that less funding would be allocated to the critical sector of the economy. The education sub-sector he observed was at the receiving end.

5.1.2.6 Policy Implementation Challenges

The interview participants often made mention of the National ICT policy and how it was meant to leverage the deployment of ICT in Unity Secondary Schools. Sadly, they noted that irrespective of the fact that the policy as enunciated appeared robust, there had been implementation challenges which stemmed from a seeming lack of political will to implement the policy, paucity of funds and a general lack of synergy between the Ministry of Science and Technology and the Ministry of Education.

Kelvin summed up the challenge of effective ICT policy implementation in the following words:

No matter how well intentioned the crafters of a policy are, if the necessary variables like funding, adequate electricity supply, availability of internet, robust ICT support and technical infrastructure to mention just a few are not put in place, then the policy is bound to fail.

On a general note, the responses on ICT policy implementation showed that effective ICT policy implementation remained a critical factor in achieving optimal experiences for teachers' and students' in blended learning interventions. On this note, Udolor accused the government of paying lip service to the development of ICT in the secondary schools and cautioned that the current situation if not addressed would seriously affect the fortunes of secondary school students. He noted that while secondary schools in other developed countries were making modest improvements in their teaching and learning process through targeted blended learning interventions, Nigeria appeared to be discounted from this global reality. Micheal further noted that even though the implementation of blended learning is being emphasised especially in the light of the National ICT policy, he faulted the

mechanism for the monitoring and implementation of this all-important policy as poor. He emphasised the need to put in place robust ICT policy implementation mechanisms to monitor the extent to which this policy was implemented in the respective Unity Secondary Schools.

Eniola mentioned the lack of an enabling ICT policy environment as an issue that had also impinged on the implementation of blended learning interventions. When asked to give further explanation on what she meant by ‘enabling policy environment’, she had this to say:

You know the ICT policy environment could either be enabling or that which constrains the implementation of ICT policy. In our own case, the ICT policy environment is disabling or constraining owing to a number of factors some of which I have mentioned earlier. For example, lack of funding, obsolete equipment, lack of internet access, problem of electricity and what have you.

To achieve significant progress in the implementation of the National ICT policy, the interviewee noted that there was a need to commit to the implementation of the policy through improved synergy, funding, and the putting in place of a robust monitoring mechanism that would ensure that achievable goals were set and achieved.

5.1.3 Theme Three: Blended Learning benefits

The question posed to teachers and administrators in the two selected secondary schools were asked whether they considered the blended learning instructional approach as beneficial to students, eliciting the following responses.

Ojonuba (an administrator in School A) noted that if blended learning was properly designed and an enabling environment provided, a blended learning instructional approach held a lot of benefits for students as the instructional approach had the tendency to give students the leverage to take control of their pace of learning, as well as the learning environment well suited for their study. Specifically, he asserted:

In terms of the benefits of blended learning, I will say they are a lot for the teachers as well as students. I will start by saying that for the students, if the right environment is made available, they are able to take charge of the pace at which they learn. I had spoken earlier about environmental challenges and I did maintain that the environment in the secondary school education sub-sector is not enabling. That to an extent will not allow the students to enjoy much of the

desired benefits. In our own school here, we have tried to create that environment and our students are better for it.

Commenting further on the benefits of blended learning instruction for teachers, Ojonuba noted that teachers had benefitted immensely in terms of engagement with students. He noted that with the emphasis on STEM (Science, Technology, Engineering and Mathematics), teachers had evolved learning strategies that were built around game-based learning (Baek, 2017). These game-based learning strategies had assisted in making the learning of mathematics and other science-based subjects interactive and enabled students to have fun while learning. He noted that in his school during the management and teachers' monthly interactive sessions, teachers had generally expressed the fact that there had been significant improvement in terms of student engagement with teachers with the use of the blended learning instructional approach. Expanding further, he had this to say:

The Federal Ministry of Education and the Federal Ministry of Science and Technology, Nigeria are collaborating to improve the teaching of STEM in secondary schools especially the rural based ones. Several programmes have been put in place by these Ministries to assist teachers in ensuring that students benefit from the STEM programme and we have sent our teachers on such training programmes. With the knowledge acquired in such training programmes, our teachers have developed home grown strategies that make the teaching of STEM subjects informative. The STEM Nigeria website is very rich and educative.

Catherine (a teacher in School B) submitted that a blended learning instructional approach afforded teachers the flexibility that came with the individual subjects taught. She noted that with blended learning, she could now typically combine the traditional classroom-based methods with elements of online learning. She noted that access to an Edublog in the school would support teachers' and students' learning as it could give room for collaboration and cross-fertilisation of ideas.

The interviewees were unanimous in their submissions that blended learning offered the opportunity for improved teaching. They asserted that the blend of traditional classroom teaching with technology had improved students' grades significantly. Specifically, Martha (a teacher in School B) said:

I think it comes to quick and easy teaching and learning, it's one of the major benefits, because you discover your students learn quickly, they learn fast and it's easier for them to learn

and it's easier also for the teachers to explain some things. It is also easier for the students to recall what they have learn, because they can associate some of these lessons with objects they have seen, with charts they have seen.

Corroborating the views held by Martha, Esther (a teacher in School A) asserted that with the introduction of blended learning in her school where students use a combination of online and face-to-face learning, there had been significant improvement in the learning process especially in terms of access to materials and introduction to various learning activities. She equally noted that blended learning enhanced the experiences of students and their immediate and external social environment. She had this to say of the benefits of blended learning:

I think the children also get exposed to things, to knowledge and to ideas out there, they get to hear and see the world where they have not been to and get exposed to knowledge out there and understand what the other environment looks like and the general exposure.

One other area which the interviewees focused on was the fact that the use of blended learning as an instructional approach offered opportunity for professional development. Some of the interviewees had training or the other either in-house or external, which were either funded by Federal Government or jointly between the Federal Government and donor agencies, especially UNESCO.

Darlington (a teacher in School A) particularly mentioned that he attended a UNESCO workshop, which was among other things, aimed at enlightening teachers on the ICT Competency Framework for Teachers (ICT-CFT) in member countries.

For me personally, the introduction of blended learning has afforded me the opportunity to embark on training programmes. I also do some online to keep abreast of current trends in ICT education. One training programme that I cannot forget was the one organised by UNESCO in collaboration with the Federal Government of Nigeria. As you may know, UNESCO is determined about this ICT in Education programme and have not relaxed in her bid to get us teachers trained. The training programme taught us a lot. More especially on the ICT Competency Framework for Teachers (ICT-CFT) in member countries. It is a programme I cannot forget in a hurry.

The interviewees in the two selected secondary schools equally attested to the benefits of the blended learning instructional approach for students. Students according to the data obtained benefit significantly through student-student interaction, which was made possible as a result of meaningful interaction with peers while online. In this regard, Fred (a teacher from School A) asserted that:

From that approach the interaction between the students and other students improve tremendously. You know that unlike in our own time in school when we were not really exposed to technology, we always met in the library and in classrooms and interact. These days, student have this global cyberspace where they can interact with their peers.

Fred equally submitted that blended learning enabled interaction across national boundaries. With the advent of globalisation of education, students through the use of online medium could interact with their peers, who may not ordinarily be a resident in their locality. This cross-national interaction did give room for cross-fertilisation of ideas and collaborative learning, which could enhance the learning outcomes of students.

This social interaction should not be taken lightly as they (students) collaborate irrespective of distance on how to solve problems and sharpen themselves intellectually. What I am trying to say is that this student-student interaction leads to significant learning outcomes.

Udalor (a teacher in School B) corroboratively maintained that the participation of students in class and online increased as a result of blended learning. He had this to say about what he considered to be the benefit of blended learning instruction for students:

Students' participation in class and online increase as a result of blended learning. The peer-to-peer interaction online increases their motivation to learn and even sustain their interest in some courses. Let me tell you one thing madam, we cannot take this interaction lightly as it gives students a great sense of community and enthusiasm which may ultimately translate to improvement in their grades in school. So, this is one of the ways I think blended learning benefits our students.

Other areas that teachers and administrators mentioned during the semi-structured interviews where students appeared to benefit from the blended learning instructional approach, were that it afforded flexibility and access to learning at the students' convenience, improved performance in examination and also offered the students the opportunity to manage their time. In the area of time management for instance, Collins (a teacher in School A) maintained that:

In the area of time management for students, I think blended learning comes handy. As a computer scientist, I give students estimated time for their self-paced lessons. This self-paced lesson makes it possible for students to learn at their own pace and in the end helps them manage their time in the appropriate manner.

5.1.4 Theme Four: Teachers' professional learning and instructional support

The researcher asked the interviewees questions about the professional development that they believed would be supportive of blended learning implementation. The teachers unanimously maintained that professional development remained a critical factor in the successful implementation of blended learning.

Teachers generally expressed the view that even though the Federal Government of Nigeria, in collaboration with other donor agencies, had put in place some training programmes on ICT and tools for effective implementation of blended learning. However, “these professional development programmes were not as frequent as it ought to be” (Collins, a teacher in School A). The multiplier effect of the Nigerian governments' attitude to professional development of teachers, was a scenario in which a significant number of teachers had only gained a basic knowledge of ICT. On the need for teachers' professional development and the government's effort so far, Idoko (administrator in School A) had this to say:

In terms of teacher's professional development in the area of ICT, I must say that the Federal Government of Nigeria and other International Agencies for example UNESCO have done significantly well in the face of dwindling financial fortunes of the country. Government realises that ICT competence is a major imperative for teacher in secondary schools and has put in place various in-house and external seminars on ICT to leverage skills and aptitude of our teachers. All said, if one looks at what has been achieved against what ought to be, then I will say there is still a huge ICT skills gap for our teachers that needed to be filled.

Some teachers interviewed agreed with the opinion expressed above, however, argued that the government must up its game in terms of teachers' professional development, especially in the areas of ICT ability if the much-needed blended learning intervention was to be achieved. One of the teachers maintained that what the Federal Government was providing as funding for teachers' professional development was insufficient for secondary schools,

which remained a critical sub-sector of the nation's education sector. In this light, Sam (a teacher from School A) stated that:

Even though the Federal Ministry of Education (Secondary) has put in place training programme (in-house and external) to improve the fortunes of teachers in secondary schools in the areas of ICT, funding for teacher's professional development appears to be skewed in favour of other education sub-sector particularly the tertiary education sub-sector. This imbalance in provision for teacher's professional development will not result in the much-expected success we would want seen in blended learning intervention in secondary schools.

This position was re-echoed by Tobi (a teacher in School B), in what he referred to as “deliberate under funding for training and development of teachers and a lack of prioritisation of allocation of funds” in the following words:

In as much as one will agree that the Federal government have made some resource funds available for the development of secondary education, what appear worrying is the deliberate underfunding for teacher training and development. In this school, we have been invited to several training programmes which we have not been able to attend. The usual Cliché at the end of the day is this: government realises the need for this training but as it is, you cannot proceed on the training you have applied to for lack of funds. The sad aspect is that from time to time, you notice that funds are provided for physical development, and this brings me to the issue of lack of prioritisation of funds. To achieve something significant, government needs to strike a balance between the provision of physical infrastructure and the training and development of teachers if success is to be achieved in blended learning instructional approach.

Generally, the opinion expressed by teachers and administrators showed a general gap in the training and development of teachers in the much-needed ICT competencies, resulting in a strain on the effective implementation of blended learning interventions in the selected Unity Secondary Schools.

5.1.5 Theme Five: Current Blended Learning Instructional Approaches implemented

This theme was generated out of the questions which sought to elicit information from the interviewees on the blended learning instructional approaches that were currently in place within the classroom, and what other instructional approaches, if not present, needed to be brought on board. The questions posed elicited some of the following quotes from the

interviewees. The interviewees could not state specifically the blended learning model adopted but based on the description, one could situate it within the relevant model. The model adopted by Blessing below fitted into the Lab Rotation Model.:

In the school here, we ensure that at the beginning of each term, the timetable officer ensures that a specific time is allocated as computer lab time into the timetable. You were just taken to the computer lab and you saw some students there during their own lab time which is rotational depending on the subjects. During this lab time, what takes place most of the time is online learning and that is one blended learning approach that we have developed in this school.

In School B, the instructional model described by Salem was the flipped classroom model:

This is a tricky question, but I will relate my experience. What I do here is to break away from the traditional classroom experience by flipping experiences. What do I mean by this? Rather than teaching students directly, what I would normally teach in class is given to students as a video to watch and review most times in the computer laboratory. In the process, students could take down notes and come up with questions. This approach allows for learning through computer lab-based activity with the support of teachers. We do this mostly with students in the senior secondary school.

Another teacher (Fidelis) in School A utilised a model that was quite different from that of Blessing above. His description fitted well with the Station Rotation Model:

In my maths class for instance, I get students into clusters to work on certain activities in the computer lab where we have computers readily available for students with pre-installed maths programmes. Once a particular activity is completed, the students are asked to rotate in between the computer stations where they meet different sets of activities. I am usually present to look at these activities and give them the necessary support. This has proven to be of immense benefit to my students.

During the semi-structured interview, the teachers highlighted some strategies used in the classroom to leverage teaching and learning. Trevor from School A said he has tried that along with textbooks, he attempts to make use of free resources from the internet for example, those from www.mobileclassroom.com.ng Khan academy, online discussion groups using WhatsApp and other home-grown teaching resources and West African Examination Councils online examination preparation materials.

Micheal (Teacher from School B) said he makes use of technology to re-enforce his teaching where he thinks that textbook alone will not enable better understanding. He incorporates

the use of videos in his class, for instance to show how the respiratory system and the circulatory system works. He said that Youtube comes in handy in this respect. After the video, he gets the students to deliberate what they have discussed among themselves on the class WhatsApp group.

Linda (Teacher in School B) makes use of role playing as a blended learning strategy. When asked to explain, she said:

In role playing, I allow students to take up roles in a novel and dramatise while the role-playing session is recorded. Subsequently, the video is played back, and students are made to carry out a critique of the video. With this, students can get valuable feedback.

From the following responses, it appeared that even though the teachers could not clearly identify and relate with the blended learning model/strategies they were using in class, one could identify that the interviewees were making use of the Lab Rotation model, the flipped classroom model and the Station Rotation Model.

5.1.6 Theme Six: ICT policy implementation in education

ICT policy implementation in education evolved as a theme based on the questions posed to teachers and administrators on their experience of the implementation of the ICT policy in education, in Unity Secondary Schools in Nigeria.

There was a general consensus among teachers and administrators in the two selected institutions, that even though the government had taken the modest step of enunciating an ICT policy which they believed was a reasonable first step, the ICT policy they asserted suffered from implementation challenges which impacted negatively on blended learning interventions. Trevor (School A) accused the government of paying lip service to the implementation of the national ICT Policy. Trevor stated that:

The lopsided budgetary provision made for the development of the nation's ICT sector reflects governments' lack of preparedness to develop this critical sector and this has had a concomitant negative effect on ICT in our secondary schools. This lack of attention to the implementation of the nation's ICT policy has impacted negatively on blended learning interventions and shows that government lacks clear-cut priorities for the nations ICT development.

Darlington (School A) mentioned a lack of synergy among the various ministries that should work towards the effective implementation of the Nigerian ICT Policy. Specifically, he mentioned that “what we see is a glaring lack of synergy between the Federal Ministry of Education, Federal Ministry of Science and Technology and the Ministry of Information and Communications”. These ministries, he asserted needed to collaborate effectively for the much-needed success in the implementation of blended learning in the Unity Secondary Schools.

Udalor (School B) mentioned that there appeared to be no robust strategy in place for the monitoring and evaluation of the nation’s ICT policies and this had impacted negatively on the implementation of blended learning interventions. He maintained that even though there was a monitoring and evaluation department in the Federal Ministry of Education, rarely did they come on monitoring and inspection visits to ensure compliance with standards. To ensure the effective implementation of the nation’s ICT policies through blended learning interventions, the Federal Ministry of Education must change their ICT policy implementation monitoring mechanism.

From the interviews conducted with teachers and administrators, the unanimous view was that funding constituted the major challenge in the implementation of the nation’s ICT policy through blended learning intervention. They asserted that funding was necessary to put in place the critical ICT infrastructure, pay for bandwidth and maintain the infrastructure. They noted regrettably, that poor funding remained an issue to the successful implementation of blended learning interventions in Unity Secondary Schools in Nigeria.

Table 5.1 below gives a summary of the key findings from the semi-structured interviews with teachers and administrators, in relation to the research questions posed in the two selected Unity Secondary Schools in Kogi State, Nigeria.

Table 5.1 Summary of the Key Findings from the Semi-Structured Interviews Carried Out in the Selected Unity Secondary Schools

Research Questions	Key Findings
<p>1. What are the instructional approaches that teachers and administrators in unity schools in Nigeria believe define the concept of blended learning?</p>	<ul style="list-style-type: none"> • The semi-structured interview participants shared varied understanding of what blended learning is, as well as what they perceive to be the components of blended learning. Based on the obtaining data, there is an agreement that the application of technological tools remains a critical component of blended learning. • Again, as much as teachers could not specifically mention the approaches/strategies/models in place, the data obtained from the field point to the fact that the teachers were implicitly adopting the Lab Rotation model, Flipped Classroom model and the Station Rotation model. • The interviewees considered effective implementation of the National ICT Policy a critical element in the implementation of blended learning instructional approach to improve teaching and learning. They however, identified key issues hindering effective implementation of the National ICT policy to include: <ul style="list-style-type: none"> ➤ Government lackluster attitude to policy implementation. ➤ Lack of synergy among Federal Government Ministries. ➤ Lack of appropriate policy monitoring and evaluation mechanism. ➤ Issues of underfunding.

<p>2. What are the perception of teachers regarding the impacts of the implementation of the blended learning approach?</p>	<p>There is a general consensus among teachers and administrators in the two selected Unity Schools that blended learning is beneficial to teachers. The benefits enumerated for the teachers are as follows:</p> <ul style="list-style-type: none"> ➤ It leads to improved engagement in the teaching and learning process. ➤ It brings about flexibility with the subjects taught. ➤ Offers opportunity for improved teaching. ➤ Offers opportunity for teachers’ professional development in the areas of ICT. <p>For the students, the obtaining data signifies that blended learning is beneficial for the following reasons</p> <ul style="list-style-type: none"> ➤ Blended learning results in significant student-student interaction. ➤ Flexibility and access to learning at the student’s convenience. ➤ Improved performance in examinations ➤ It affords the students the opportunity to manage their time. <p>Even though the obtained data points to the fact that teachers and students benefit from blended learning interventions, the general consensus is that the full benefits of blended learning appear unsustainable which suggest a link to a plethora of challenges, which based on the findings are mentioned below:</p> <ul style="list-style-type: none"> • Lack of ICT Infrastructure: generally, there is a lack of adequate computer systems as well as a lack of fundamental software components that support blended learning. • Poor electricity supply: electricity supply is very erratic and most times, the school need to power the generator for students to utilise the computer Laboratory. Even then, the Unity Schools are barely able to provide alternative power between 3-4 hours a day.
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	<ul style="list-style-type: none">• Increasing enrolment of students not matched with improvement in corresponding ICT infrastructure to match this increment.• Poor internet access: there is a palpable challenge of unreliable internet connectivity and low internet bandwidth.• Poor or ill-equipped ICT Laboratories• Poor familiarity of teachers and students with some ICT devices and software.• Issues of under-funding.• ICT policy implementation challenges.• Lack of conducive environment for learning.
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<p>3. What are the perceptions of teachers and administrators about the aspect of blended learning professional development that is best supportive of the implementation of blended learning in Unity Secondary Schools in Nigeria?</p>	<p>The findings from the semi-structured interview with teachers and administrators reveal that the government has good intentions for the professional development of teachers however, this intention has not been translated into something significant that could leverage teacher's aptitude, skills and knowledge. Some of the impediments to teacher's professional development which is supportive of the implementation of blended learning identified were:</p> <ul style="list-style-type: none"> • Inadequate financial provision for teacher's professional development • Lack of prioritisation of funds: funds for capital projects takes precedence over funding for teachers training and development. • Funding of education that appears skewed in favor of the tertiary education sub-sector against the secondary education sub-sector.
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Source: Researcher, 2020

Having presented the findings from the semi-structured interviews, the next section will be dedicated to a presentation of the findings from the focus group discussion.

5.2 Focus Group Guided Discussion

The final stage of the data collection process for this study was a focus group discussion with teachers from the two selected institutions. The focus group discussion was mainly centred on the issues, challenges, and dilemmas around the implementation of blended learning and the way forward for effective implementation. The researcher began the focus group discussion by a mutual introduction of the participants, as well as a brief overview of the purpose of the study. The researcher reminded the participants that the information provided would be kept confidential and that pseudonyms will be used when reporting the findings.

The focus group discussion was anchored on six topic areas which were gleaned from the literature on factors that affect the adoption of ICT (Keržič et al., 2019; Fatkhulloh, 2020;

Pucer, Vičič, and Žvanut, 2020). The information elicited from these topic areas were combined with those elicited from the semi-structured interview and documentary evidence would help answer the research questions posed in the study.

The six topic areas are as follows:

1. ***External factors that affect blended learning implementation:*** this is intended to gauge the perception of teachers on those obstacles that are extrinsic to them, that affect blended learning implementation.
2. ***Internal factors that affect blended learning implementation:*** to find out from teachers, factors that are intrinsic to them that affect blended learning implementation.
3. ***Usefulness of blended learning:*** to discuss the benefits of blended learning implementation in the classroom.
4. ***Ease of use:*** to elicit information on the ease or otherwise of using blended learning technology tools.
5. ***Implication of blended learning for teachers' professional development:*** to find the implications of the implementation of blended learning for teachers' professional development and whether the teachers have access to these professional development opportunities or not.
6. ***Suggestions for effective implementation of blended learning:*** this is intended to seek the suggestion of the teachers on what can be done to improve blended learning in the classroom.

The information elicited from the focus group discussions will be presented based on the above outlined topic areas.

5.2.1 External factors that affect blended learning implementation

In this focal area, the focus group discussion at the Federal Government Girls College began with participants being asked whether the college had an enabling structure for blended learning implementation. Trevor took the lead by stating that he considered that the school had some structures being implemented, but whether the structures were enabling, remained contestable. Specifically, he mentioned that no college could achieve the required level of

rigor in teaching and learning without adequate equipment or technology tools and that these tools, for instance computers and associated software, were grossly inadequate.

Esther argued that the physical environment of the classroom was another disabling factor. She said:

It is sad that the classroom is not even fit to apply technology in the teaching of students. I will give an example. I brought a projector to class one day to show a video only to discover that the sockets in the class are broken. The enthusiasm of the students who were looking forward to the video that day was punctured because of this environmental factor.

Eniola, from the Federal Government College Ugwolawo, mentioned that the recent intervention by the alumni of the school had grossly improved the implementation of blended learning in the school but added that the availability of equipment without technical support affected student learning. She asserted that the constant power outage in Nigeria, as well as the incidence of voltage fluctuations had left several computers damaged. She emphasised the need for adequate technical support as the school could not boast of a computer technician and might not be able to employ one soon due to the cap on employment in Unity Secondary Schools. Collins noted that for blended learning implementation to succeed, there was the need for peer support, but that peer support was only feasible when a significant number of teachers are computer literate. He said:

I am not trying to bring any teacher down here, but we really need to up our game. Some teachers here are still lagging in their knowledge of the application of technology in the classroom. With this deficiency, how do we give peer support when the knowledge is not even there?

Collins noted that peer support was a critical factor in blended learning implementation and that this was lacking in the school as currently constituted.

Overall, teachers during the focus group discussions stressed the need for a conducive environment, availability of adequate technology tools, need for technical support and peer support as those extrinsic factors that would positively impart the implementation of blended learning.

5.2.2 Internal factors that affect blended learning implementation

On a question that sought to find out the factors that hindered teachers from engaging in blended learning in the classroom, Darlington from the Federal Government Girl's College Kabba, mentioned that he had a degree in computer science and had been adequately

exposed to the gains of blended learning implementation, but pointed out that it may not be so with other teachers. He mentioned that some teachers were averse to change and still held tenaciously to the view that the traditional method of teaching was more beneficial. This belief he noted was counterproductive and blotted out the benefit derivable from blended learning interventions. Saskia was also quick to point out that aside the belief in the traditional method, some teachers had negative beliefs about computers, and this affected the integration of technology in the classroom.

A discussion centered around this focal area at the Federal Government College Ugwolawo, also had Catherine submitting that because some teachers were unable to make use of ICT learning components, which was as a result of insufficient skills and experience in computer and internet applications, the success of blended learning intervention in the school failed to achieve its desired goals of improving teaching and learning. Linda also from Federal Government College Ugwolawo, noted that some teachers no matter the incentives for engaging in blended learning were unwilling to deviate from their established classroom practices. She noted that:

Even when some of these teachers have the requisite ICT skills, they still shy away from technology mediated learning and keep holding tenaciously to their established classroom practices of delivering lessons via the marker and board and then dictating notes depending on the class they teach.

What could be gleaned from the discussions on this focal area was that some of the teachers who participated in the focus group discussions, that did not grow up with technology and did not really experience the use of technology in their educational career like Blessing, Catherine, Daniel, said that they are often hesitant to use technology in their teaching. Given this finding, it is important to highlight the attitude of some of the teachers who participated in the semi-structured interview who were hesitant and the reasons why they were resistant to use technology in teaching.

5.2.2.1 Teachers' resistant attitudes towards technology

Some of the teachers interviewed voiced that they had the fear of using technology and were not comfortable with the use of technology in the classroom. Those who were not comfortable with the use of technology related it to their personal experiences. Daniel, for instance, said he was not exposed to the use of technology in primary and secondary school

but only did computer application as a module in the university, which was mostly theoretical. He said:

I am a bit skeptical when it comes to the use of technology in the classroom. My fear boils down to the fact that I was not exposed to the use of technology in our time at the primary and secondary school levels. It was only when I went on in-service training for my bachelor's degree in Education that we took a computer appreciation course which was mostly theoretical at that time. So, the little I do in the classroom is through the support of my colleagues who are well versed in computer applications and always willing to assist.

Other participating teachers like Joan, Fidelis and Linda were exposed to the use of ICT much earlier in their educational career and had received training on how to integrate technology in teaching. In all, most of the participating teachers acknowledged that they appear fixated in their teaching approaches and are hesitant to change their ways. Gaius spoke on why some teachers are hesitant to incorporate technology in teaching and learning and all others appeared to agree with his position. He said:

How do we gravitate towards the incorporation of technology in teaching and learning when government does not seem to be ready to place premium on in-service teachers training? If we are asked individually how many have had the privilege of been sent on in-service training in this school, very few teachers here will answer in the affirmative. That is the situation we have found ourselves.

Commenting further, Gaius noted that if the lackadaisical attitude of the government towards teacher training is not addressed, the multiplier effect on teachers and students will be negative, he maintained:

Teachers can only give what they have and what they have in terms of the knowledge of technology may not be sufficient because of government's lack of attention and support for teachers.

Darlington continued that for effective integration of technology into teaching and learning, the government should place emphasis on carefully planned technology integration training and constant support for teachers, creation of an atmosphere for teachers to share their experiences, encourage mentoring and coaching and also muster and encourage external support.

5.2.3 Usefulness of Blended Learning

The discussions with teachers in the two selected Unity Secondary Schools on the usefulness of blended learning in the classroom were quite engaging, all the participants affirmed that blended learning was useful for students. They were unanimous in the view that the benefits of blended learning could be optimised if the challenges with implementation were adequately addressed. Commenting on the key benefits of blended learning, Fidelis from the Federal Government Girls College, catalogued several benefits. He said “Blended learning brings about flexibility. What I mean by flexibility is that blended learning allows us to teach the complex aspects of our subjects in the class and then the less-complex ones are treated online.” He also added that “blended learning has brought about considerable improvement in the performance of our students”. Daniel from the same institution looked at the benefits of blended learning from the angle of the school. He observed that for almost a decade now, funding for education had been on a steady decline and most organisations gravitate towards strategies that would reduce cost. He pointed out forcefully that “...blended learning implementation is a cost-saving strategy”.

At the Federal Government College Ugwolawo, the focus group participants unanimously agreed that blended learning held a lot of promise for students, teachers, and administrators. To this end, Udolor maintained that blended learning allowed students to take up studies in their own stride. Also, Catherine from the same school mentioned that blended learning had the advantage of promoting deeper learning and that students who benefitted from blended learning had shown a reduction in stress and improved level of satisfaction. Eniola said “blended learning enables active collaboration between students especially when they are given a joint project...I am telling you, it’s only then you know how intelligent some of these students are.”

5.2.4 Ease of using blended learning technology

The response to the question which sought to elicit information on the ease or otherwise of using blended learning technology tools received varied responses. The responses were analysed based on the ease of use of blended learning tools by teachers on the one hand and the ease of use on the part of students on the other hand.

Generally, while some teachers responded that they were versatile in the use of blended learning tools, others responded that the use of some of the tools were somewhat challenging. Those who expressed versatility in the use of blended learning tools had earlier been exposed to one form of training or the other on the application of technology in the classroom. Teachers generally expressed satisfaction in the use of Google Application for Education (GAFE). The Google Application for Education is a cloud-based Google application that is packaged to support educational services, and this is provided free of charge. GAFE is a set of online apps that can be used on any device and platform to enhance teacher and student eLearning opportunities. It is used by teachers to communicate with students, collaborate, organise and manage students' assignments.

On the part of students, teachers expressed satisfaction in the use of blended learning tools with minimal difficulty in the use of very sophisticated ones. The teachers however stated that the ease of use was generally affected by very slow internet connections which they described as a critical challenge in Nigeria. Teachers equally reported that poor internet connectivity affected the ability of students to engage in online discussions and was a constant cause of frustration for students whenever they had practical sessions in the computer laboratory.

5.2.5 Implication of blended learning for teachers' professional development

Trevor took the lead by stating that teachers' professional development was a key element in the successful implementation of blended learning education at the secondary school level. He submitted that there was a critical need for continuous professional development of teachers for them to get up-to-date on the facts. He noted the fast-changing trends in blended learning resources for teachers. When asked to expatiate on these resources, he said "there exist several resources for teachers like the Google classroom, Kiddon, Blackboard, Schoology, Edmodo. No teacher can just jump into the use of these resources without some measure of training." Esther from the same school stated she did not have a computer related degree, but that she had the opportunity of doing a pre-service computer science immersion programme which had assisted her over the years in the implementation of blended learning. She however, added that she did not consider her knowledge deep enough to maximise the function in a blended learning class, hence the need for continuous professional development. She specifically said "...even though I stated earlier that I had an immersion

certificate in computer science, during the blended learning class, I still find it difficult to find my way around some software when in the computer laboratory with my students, so I do need some more training on the job”.

On the frequency of professional development, Linda from the Federal Government College, Ugwolawo made a very interesting contribution:

“...one will realise that in order to implement blended learning and get maximum benefits, teachers’ professional development is key. The mandate of the current principal on blended learning is very clear and even though he tries to fulfil this mandate with vigour, professional development in this critical area is still poor. The infrequent nature of teacher’s professional development is not the making of the principal if I must say but majorly because of lack of funding. Secondary education is not well funded and if this trend is not checked, it will certainly have a colossal effect on teaching and learning.”

Generally, the teachers emphasised the need for continuous professional development for teachers and advised on the need for the Federal Government of Nigeria to commit to the development of education at all levels.

5.2.6 Suggestions for effective implementation of blended learning

Several insights on how to improve blended learning experience in the secondary schools were advanced during the focus group discussions and will be presented as verbatim quotes.

Daniels said “blended learning interventions involves serious funding. The government needs to move away from budgeting without cash backing. Timely release of funds for the development of the secondary education sub-sector is important”.

Darlington emphasised the need for continuous teachers’ professional development. According to him, “...there is a need to put in place a teachers’ professional development framework that will constantly identify learning opportunities for individual teachers. With this framework in place, the whole teaching and learning process will be greatly enhanced”.

On the way forward for effective implementation of blended learning, Collins from the Federal Government College Ugwolawo stressed the need for inter-agency collaborations. He mentioned the need for synergy between the Federal Ministry of Education and the

Federal Ministries of Information and Communication, as well as other foreign partners committed to the delivery of education. He said:

While I acknowledge that underfunding is the bane in blended learning implementation, there is a need for effective collaboration between the Federal Ministry of Education on the one hand and the Federal Ministries of Information and Communication, international agencies like UNESCO and other International Development partners in the country as well as non-governmental organisations that could assist not just in funding but also contribute to teachers professional development.

Udalor submitted that there was a need to improve on the parlous state of ICT infrastructure in the secondary schools. He maintained that the Federal Government should commit to the provision of a conducive environment for learning as a way forward for the effective implementation of blended learning in Unity Secondary Schools.

Below in Table 5.2 are the key findings of the Focus Group Discussion in the two selected Unity Secondary Schools.

Table 5.2 Summary of the Key Findings from the Focus Group Discussion Carried Out in the Selected Unity Secondary Schools:

Topical Areas	Key Findings
<p>1. <i>External Factors that affect blended learning implementation:</i> this is intended to gauge the perception of teachers on those obstacles that are extrinsic to them that affect blended learning implementation.</p>	<ul style="list-style-type: none"> • The participants generally agreed that there is a structure for blended learning implementation on the ground, but whether the structure on the ground is enabling remains questionable. • Participants in the focus group discussion argued that no Unity School can achieve the required level of rigor in teaching and learning without adequate equipment or technology tools and that these tools, for instance computers and associated software are grossly inadequate and therefore, impact on the effective implementation of blended learning. • Generally, participants mentioned the following as external factors that affect blended learning implementation: <ul style="list-style-type: none"> ➤ Constant power outages in Nigeria. ➤ The incidence of voltage fluctuations that have left several computers damaged. ➤ Lack of peer support for effective blended learning implementation.

<p>2. Internal Factors that affect blended learning implementation: to find out from teachers factors that are intrinsic to them that affect blended learning implementation.</p>	<p>The participants in the focus group discussion mentioned the following internal factors that affect blended learning implementation:</p> <ul style="list-style-type: none"> ➤ Some teachers are averse to change and still hold tenaciously to the view that the traditional method of teaching is more beneficial. ➤ Some teachers have negative beliefs about computers, and this affects the integration of technology in the classroom. ➤ Some teachers are unable to make use of ICT learning components which is as a result of insufficient skills and experience in computer and internet applications.
<p>3. Usefulness of Blended Learning: to discuss the benefits of blended learning implementation in the classroom.</p>	<p>Findings from the focus group revealed the following benefits:</p> <ul style="list-style-type: none"> • Blended learning brings about flexibility. • Blended learning has brought about considerable improvement in the performance of students. • Blended learning implementation is a cost saving strategy. • Blended learning allows students to take up studies in their own stride. • Blended learning has the advantage of promoting deeper learning and that students who benefit from blended learning have shown a reduction in stress and improved level of satisfaction.

<p>4. <i>Ease of Use:</i> To elicit information on the ease or otherwise of using blended learning technology tools.</p>	<p>Focus group discussion revealed varied opinion on the ease of use on the part of teachers, which range from those who are very versatile and those who experienced minimal challenge in the use of blended learning technology tools. Generally, teachers mentioned they were comfortable with the use of Google Application for Education (GAFE).</p> <p>On the part of students, teachers were unanimous in their opinion that students easily adapted to the use of blended learning tools but had difficulty with the use of more sophisticated ones. The teachers expressed the opinion that the ease of using blended learning tools by students were affected by several factors which include:</p> <ul style="list-style-type: none"> • Very slow internet connection. • Poor internet connectivity affected the ability of students to engage in online discussions and was a constant cause of frustration for students.
<p>5. <i>Implication of Blended Learning for teacher's Professional development:</i> to find out the implications of the implementation of blended learning for teachers' professional development and whether the teachers have access to these professional development opportunities or not.</p>	<p>The findings from the Focus Group Discussion with teachers on teacher's professional development, revealed that even though the continuous development of teachers remain a critical element in successful blended learning implementation, the attitude of the government to teachers Continuous Professional Development (CPD) is poor. The teachers argued on the need for the Federal Government of Nigeria to leverage on teachers CPD for effective blended learning implementation.</p>

<p>6. <i>Suggestions for effective implementation of blended learning:</i> this is meant to seek the suggestion of the teachers on what can be done to improve blended learning in the classroom.</p>	<p>Several suggestions for effective implementation of blended learning interventions were advanced by teachers during the focus group discussions. They are as follows:</p> <ul style="list-style-type: none"> • Timely release of funds for the development of the secondary education sub-sector. • The need to put in place a teacher’s professional development framework that will constantly identify learning opportunities for individual teachers. • The need for inter-agency collaborations to facilitate the implementation of blended learning in secondary schools. • The need to improve on the parlous state of ICT infrastructure in the Unity Secondary Schools. • The Federal Government should commit to the provision of a conducive environment for learning as a way forward for the effective implementation of blended learning in Unity Secondary Schools.
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Source: Researcher 2020

5.3 Document Analysis

This section deals with the analysis of documents that are regarded as frameworks for blended learning implementation in the secondary education sub-sector in Nigeria. It is important to mention here that there is a dearth of research on the perception of teachers and administrators on blended learning implementation in secondary schools in Nigeria, but this does not remove the need to look at the documents that have a more general bearing. To proceed, it is important to restate the research questions in this study as follows:

1. What are the instructional approaches that teachers and administrators in Unity Secondary Schools in Nigeria believe define the concept of blended learning?

2. What are the perception of teachers regarding the impacts of the implementation of the blended learning approach in Unity Secondary Schools in Nigeria?
3. What are the perception of teachers and administrators about the aspect of blended learning professional development that best supports the implementation of blended learning in Unity Secondary Schools in Nigeria?

These research questions underscore the aim of investigating the perceptions of teachers and administrators on blended learning implementation and must consequently take into consideration various policy documents that are considered relevant to blended learning implementation, they are also aimed at leveraging the secondary education sub-sector in Nigeria. The researcher believed that systematic analysis of the content of policy documents relating to blended learning has the potential of achieving theoretical advances, as the accounts analysed would help in clarifying the blended learning activities and processes as well as providing a contextual synopsis of the critical factors that impede blended learning in Nigeria and more specifically in the selected Unity Secondary Schools.

Also, the use of document analysis could contribute to the frontiers of knowledge as the systematic analysis of these documents through the employment of standard scientific techniques of sampling, systematic coding and analysis can lead to rapid gains in knowledge about blended learning within the context of a developing country.

The documents deal with a few issues considered germane and related in every respect to blended learning implementation namely:

- The role of ICT in education.
- The challenges of ICT and by extension blended learning in post-basic education (secondary education).

5.3.1 Analysis of Documents

Documents are written texts that serve as pieces of evidence or records of an event or fact, and they have an important position in our societies (Wolff, 2004:285). Documents are considered important because they give force to operations in any given sphere of life or operations and in this case the implementation of blended learning in Unity Secondary Schools. Similarly, documents exist that are relevant to the questions and a failure to analyse them would create a hole in the research work. The National Policy on Education (2014) for instance, sets and monitors the minimum standards for education at all levels including

secondary education and lays a framework for the implementation of all approved curricula to ensure it complies with the provisions of the National Policy on Education. The teachers are then able to give their perception as stated in research question two, regarding the impacts of the implementation of the blended learning approach by stating their opinions as to whether the blended learning complies with the minimum standards as rightly stated in the National Policy document. In this light, Wolff (2004: 284) states categorically that documents are standardised artefacts, as they may appear in notes, case reports, policies and so on. Earlier work by Scott (2000), corroboratively notes that policy documents can be read as texts and can be interpreted in a variety of ways.

To carry out the analysis of relevant documents, the researcher adopted the text-driven approach in order to understand and interpret a number of policy documents, notably the National Policy on Education (2014), the National Teacher Education Policy (2014), the Nigerian Education Sector Report (2010), the National Policy on Information and Communication Technology (2012), and finally the National Policy on Information and Communication Technologies (NPICT) in Education (2019), in terms of their application to practical or real situations. The text-driven approach focusses on the process of deriving meaning and establishing a coherent model of what a text is about. According to McKeown, Beck and Blake (2009), with the text-driven approach, the focus of the researcher is what can be done with the text information to represent it and integrate it into a coherent whole.

5.4 Challenges of Adopting Blended Learning in Nigeria

The documents analysed have brought up several challenges to blended learning implementation which will be presented in turn.

5.4.1 Internet and broadband connectivity

Internet and broadband connectivity is considered a critical element in the implementation of blended learning in secondary schools in Nigeria. To sustain a well-integrated and functional blended learning system, it is important that ICT facilities, application and services for example computers, fast internet connection and alternative power supply, to mention just a few, are put in place. The National Information and Communication Technology (NPICT) Policy (2009), underscored the importance of internet and broadband connectivity in the following words:

“Internet and Broadband have been globally acknowledged as the foundation for transformation to a knowledge-based economy. It is also widely acknowledged that broadband infrastructure is an enabler for economic and social growth in the digital economy. Broadband has the potential of enabling entire new industries and introducing significant efficiencies into education delivery... “(Section 7.3)

The Nigerian government being mindful of the need to have robust internet broadband network has put in place a strategic framework aimed at improving internet connectivity. However, it appears that these policy pronouncements aimed at addressing these challenges of internet and broadband connectivity have not translated into concrete results, as the situation on ground appears to be markedly different from expected results. In this context, the ICT Policy (2009) notes that:

“Although there are some initiatives aimed at deploying broadband in Nigeria, many challenges remain, especially with the deployment of a national fibre optic-based network to distribute approximately 10 terabytes of capacity already delivered to landing points in Nigeria. Therefore, there is an urgent need to accelerate the pace of ongoing efforts, and also to introduce new initiatives to address this challenge” (Section 7.3.1 of the ICT Policy, 2007).

The foregoing challenges are equally identified by the Nigerian Education Sector Report (2010). The report notes in clear terms that it is globally recognised that ICT has the potentials of fostering sustainable national development generally, and quality education delivery in particular and that:

“Concerted efforts have been made, especially at the policy level, to ensure the inculcation of ICT skills into pupils from the Basic and Post-Basic Education level. Unfortunately, the implementation of the policies is plagued by lack of requisite ICT infrastructure, institutional weaknesses such as dearth of qualified ICT teachers and other personnel, as well as low capacity of ICT teachers at the Basic and Post-Basic Education level.” (Section 4.8.2 of the Nigerian Education Sector Report, 2010)

Even though the Nigerian Education Sector Report (2010), under Section 4.8.2 makes mention of the fact that “concerted efforts have been made, especially at the policy level, to ensure the inculcation of ICT skills into pupils from the Basic and Post-Basic Education level”, the question of interpreting what “concerted efforts” and how remains unclear as

there appears to not to be any carefully streamlined programme of action aimed at putting in place the much needed ICT infrastructure in the post-basic education sector for which this study is concerned. Thus, almost a decade after the government education sector diagnosis which culminated in the Nigerian Education Sector Report (2010), the Federal Ministry of Education, Nigeria is mooting the idea of declaring a state of emergency in the nation's education sector in April 2018, owing to a myriad of challenges which demand urgent attention (Premium Times Newspapers, 22nd March 2018).

5.4.2 Need for Teachers' Capacity Development

Information and Communication Technologies are regarded as critical factors shaping the way and manner the global economy operates. ICT has fundamentally changed the way people learn, communicate and do business, thus giving rise to new educational needs as well as teaching methods and strategies which teachers in Nigeria which are key in being able to adapt to the vagaries of the global knowledge economy. Despite the development in ICT globally and the benefits accruable, Nigeria appears to be discounted from the global momentum. Section 2 sub-section (a-e) of the National Teacher Education Policy (2014) described the situation of teacher education and listed the critical challenges faced by teachers in Nigeria as follows:

- a. the need for up-dating of recruitment, admission and graduation requirements.
- b. incentives and measures for attracting talents into the teaching profession.
- c. Pre-Service Teacher Education (PSTE) course content in National Certificate in Education (NCE) and university undergraduate programmes that fall below the requirements of today's knowledge economy.
- d. inadequate coverage and inadequate achievement of content knowledge in 'teaching subjects' especially in languages, science, mathematics and technology.
- e. the prevalence of memorisation-regurgitation due to the predominance of the lecture method of teaching.
- f. inadequacy and inappropriateness of teaching and learning materials.
- g. low levels of IT penetration and utilisation in an IT-dominated area (Section 2 sub-section (a-e) of the National Teacher Education Policy, 2014).

It is perhaps in recognition of the foregoing situation of teachers in Nigeria, as well as the prominent role of ICT in the modern world that the Federal Government of Nigeria, in the National Policy on Education (2014), states that government would provide basic infrastructure and training to teachers and that at the primary school and the junior secondary school levels, computer education would be a pre-vocational elective, and a vocational elective at the senior secondary school. Specifically, section 29 of the National Policy on Education, Nigeria states that:

“In recognition of the prominent role of Information Technology (IT) in advancing knowledge and skills necessary for effective functioning in a knowledge driven world, the government shall provide adequate infrastructure and develop capacity for effective utilisation of Information Technology (IT) to enhance the delivery of education in Nigeria.”

As a necessary step towards ensuring teachers’ capacity development, the National Teacher Education Policy (2014) emphasises ‘developing in teachers, the skills of teamwork and reflection, mastery and application of ICT, as well as action research’ (Section 50 sub-section d). The Policy further encourages the inclusion of Information Technologies (IT) in teaching where possible.

5.4.3 Funding

Finance is a very important aspect in the administration of secondary education and serves as a major driver in the implementation of ICT in education. The National Policy on Education (2014), states that since education is an expensive social service, there is need for adequate provision from the government for successful implementation of government projects, programmes and policies. Funding of Unity Secondary Schools in Nigeria is borne wholly by the Federal Government of Nigeria. Even though the Federal Government of Nigeria appears ready to tackle the challenges of funding its numerous Unity Secondary Schools, in concrete terms, the real value of the funding, as it stands is lower than expected for optimum integration of ICT into teaching and learning. The Federal Government acknowledging the need for adequate funding of education as a necessary step towards attaining its intended objectives. Section 9 of the National Teacher Education Policy (2014) notes:

“One sure way of ensuring that a teacher education policy serves its intended purpose and attains its intended objectives is the provision of financial resources for its implementation.

There is therefore the need for increased, well-targeted transparently and prudently managed funding for adequate and relevant personnel, resources, infrastructural facilities, ICT, and technical equipment, as input for quality teacher development programmes.”

5.5 Summary

The documents analysed in the document analysis so far are considered critical and relevant to the research work, and these documents have highlighted issues, challenges, and dilemmas in the implementation of blended learning in secondary schools in Nigeria. It is important to state here that the documents analysed are those readily available at the Federal Ministry of Education, Nigeria and those which the researcher could gain access to. The next chapter is dedicated to the discussion of findings of this research work.

Chapter Six

Discussion of Findings

6.0 Introduction

In this section, the researcher will discuss the findings from the semi-structured interview with teachers and administrators as well as the focus group discussion with teachers in the two selected Unity Secondary Schools in light of the literature reviewed. In the discussion section an effort will be made to bring to light the areas of convergence and divergence between what was expressed in the documents and literature and findings from the selected Unity Secondary Schools.

The findings from the semi-structured interview with teachers and administrators will be discussed based on the themes developed from the semi-structured interviews which were: (1) amorphous definition, (2) blended learning implementation and challenges, (3) blended learning benefits, (4) teachers' professional learning and instructional support, (5) current blended learning instructional approaches implemented, and (6) ICT policy implementation in education. These will be blended with the six topic areas from the findings of the focus group discussion in this discussion section. For clarity, the topic areas for the focus group discussion were: (1) external factors that affected blended learning implementation, (2) internal factors that affected blended learning implementation, (3) usefulness of blended learning, (4) ease of use, (5) implications of blended learning for teachers' professional development, and (6) suggestions for effective implementation of blended learning.

6.0.1 Theme One: Amorphous Definition

From the findings, even though it appeared that teachers and administrators understood blended learning as a form of teaching with technology, the concept appeared ill-defined, used inconsistently, and means different things to both the teachers and administrators. This lack of clarity in the understanding of what blended learning is led one of the respondents of the semi-structured interview to use the word "amorphous" to underscore the unstructured nature of the definition of blended learning, as expressed by the interview participants.

This lack of clarity in the definition of blended learning lends credence to the views expressed by Sharpe et al. (2006:18), who submit that scholars have difficulty in reaching a

consensus around the definition of blended learning. The findings also attested to the submissions of Heinze (2008:8) who argued that there is no single commonly accepted definition of blended learning. Significantly, the use of phrases like “to me”, “from my own understanding”, “my perception” and “from my personal experience” was suggestive of the fact that the definitions of blended learning advanced during the semi-structured interview were based on their personal teaching experiences.

Generally, even though interview participants within this study did not have a commonly agreed definition of blended learning, they discussed and identified specific instructional components with regards to defining the instructional approach to blended learning.

Summary of theme one and how it relates to research question one

Theme One, Amorphous Definition, was an offshoot of responses generated from the semi-structured interview with teachers and administrators. The theme Amorphous Definition was to underscore the unstructured nature of the definition of blended learning. The semi-structured interview participants shared varied understanding of what blended learning is as well as what they perceived to be the components of blended learning. The data obtained from the teachers on their understanding of blended learning was not significantly different from the views expressed during the semi-structured interviews with administrators as they shared common understanding of this instructional approach. What could be gleaned from the semi-structured interviews was that there is a general consensus that the application of technological tools remains a critical component of blended learning.

On the research question which states “What are the instructional approaches that teachers and administrators in unity schools in Nigeria believe define the concept of blended learning?” Data obtained from the two selected institutions was indicative of the fact that the respondents had their own understanding of blended learning and the components that underpinned this instructional approach. A number of interviewees in trying to define blended learning shared the components of blended learning.

6.0.2 Theme Two: Blended Learning Implementation and Challenges

One of the thrusts of this research work is to articulate, based on the views expressed by participants in the semi-structured as well as focus group discussion, a contextual synopsis of the issues, challenges, and dilemmas in the implementation of blended learning in Unity

Secondary Schools in Nigeria. The obtained data from the findings demonstrated a plethora of challenges.

The majority of the semi-structured interviews attested to the fact that technical and support infrastructure was the missing link in blended learning implementation in the Unity Secondary Schools. Findings pointed to issues relating to lack of access to up-to-date software, hardware in the form of computers and servers with enough/correct capacity. Significantly, there was the issue of unstable power supply to power blended learning infrastructure even if available.

The lack of infrastructure corroborated the views expressed by Adeosun (2010), who noted that basic infrastructures in schools - buildings, furniture, books, and libraries, computer laboratories which all require substantial computers and internet resources and adequate classrooms -were still big challenges, which might make blending education and technology especially at lower levels of education in Nigeria, seemingly unattainable.

The challenge of unstable electricity identified based on the findings was aptly supported by the views expressed by Yetano, Roche et al. (2019), who noted that despite Nigeria's position as Africa's largest economy, it was on record that 77 million Nigerians or 40% of the population have no access to affordable, reliable, and sustainable electricity. Agbeboaye, Akpojedje and Ogbe (2019), supporting this, submit that the typical firm operating ICT business in Nigeria experiences power failure or voltage fluctuations about seven times per week, each lasting for about two or more hours without any prior warning. They assert that given the episodic nature of power supply in Nigeria, it is practically impossible to keep hi-tech computers, server systems, multimedia and so on functioning at an optimal level with gross implications for blended learning implementation.

The challenge of infrastructure is equally corroborated by the Nigerian Education Sector Report (2010). The report notes in clear terms that:

“Concerted efforts have been made, especially at the policy level, to ensure the inculcation of ICT skills into pupils from the Basic and Post-Basic Education level. Unfortunately, the implementation of the policies is plagued by lack of requisite ICT infrastructure, institutional weaknesses such as dearth of

qualified ICT teachers and other personnel, as well as low capacity of ICT teachers at the Basic and Post-Basic Education level.” (Section 4.8.2 of the Nigerian Education Sector Report, 2010).

Corroborating the findings on the lack of ICT infrastructure, section 1.1.2 paragraph ii of the National Policy on Information and Communication Technologies (ICT) In Education (2019), noted that there is “inadequate ICT infrastructure for teaching, learning, research and educational administration in some institutions”.

Findings equally pointed to the challenge of poor internet access, which based on the opinions expressed by the participants in the semi-structured interviews and focus group discussion had served as a brake to the effective implementation of blended learning in Unity Secondary Schools. Despite the emphasis on the need for internet access as an enabler of effective blended learning implementation, the opinion generally expressed by the interview participants was that Nigeria appeared disconnected from the global drive for a seamless access to the internet, thereby giving credence to the views expressed in the Digital Economy Diagnostic Report (World Bank Group, 2019), which states that Nigeria does not appear to have a national backbone network that will enable access to internet facilities in the nation’s educational system.

Corroboratively, the Digital Economy Diagnostic Report (World Bank Group, 2019), further notes that despite the growth in fiber optic installation in Nigeria, national fixed-line infrastructure is still poor. The report further notes that fixed broadband penetration in Nigeria is very low. The report submits that the limited access to internet facilities in secondary schools in Nigeria constitutes as a limiting factor to the implementation of important learning approaches like blended learning, cloud computing, m-learning and so on.

On the challenge of issues with poor familiarity with ICT devices and the ease of use, in as much as the findings made a pointer to a general knowledge of ICT by teachers in secondary schools, the knowledge of ICT was mainly basic and not significant enough to drive the effective implementation of blended learning. Some teachers due to their basic knowledge, could not find it easy to integrate technology in the classroom. ICT knowledge and the ease with which teachers can integrate technology is critical to blended learning implementation.

When teachers find it challenging to use ICT tools in the classrooms, it could affect the perceived ease of use (PEOU) for teachers. This position is amplified by Davis (1989) who maintained that the second key predictor of TAM is perceived ease of use (PEOU). Davis(1989) defined PEOU as the belief that a user has the technology or process will be free of effort or relatively simple to learn. Corroborating, Vankatesh (2000:343) states that “TAM posits that PU will be influenced by PEOU because, other things being equal, the easier a technology is to use, the more useful it can be”.

Findings generally reflected the need for a strategic framework that would enable teachers to have access to regular training on and off the job. Regrettably, Makinde and Bolaji (2019) noted that many decades since the coming into place of the National Policy on Education, there has remained a severe shortage of teachers with adequate skills in ICT that will facilitate BL interventions in secondary schools in Nigeria.

Similarly, the findings supported the opinion expressed by Oni, Haruna and Amugo (2017) who note that a lack of qualified teachers to teach ICT and teachers’ anxiety over being replaced by technology are major factors influencing teachers’ readiness and effective use of ICT in secondary schools. Findings also agreed with a study carried out by Ifinedo et al., (2020) revealed that secondary school teachers lack proficiency skill in the use of ICT as a pedagogy tool in teaching and learning, and this had impacted negatively on the implementation of blended learning interventions in secondary schools.

The challenge of teachers with poor familiarity with ICT devices is corroborated by the provisions of Section 2 sub-section E of the National Policy on Education (2014), which notes that on the part of teachers, there is a glaring “low level of IT penetration and utilisation in an IT-dominated area”.

Furthermore, section 1.1.2 sub-section II of the National Policy on Information and Communication Technologies (ICT) In Education (2019), corroboratively notes that “although, capacity- building of teachers in ICT is being done, a good percentage of teachers are still not proficient in ICT. The report further notes that there is also, an insufficient pool of ICT professionals in the sector”.

On the issue of funding, the views expressed by the interviewees and the participants in the focus group discussions revealed that the Federal Government of Nigeria appeared to have failed to realise that the provision of adequate funding for blended learning implementation remained an education policy priority that must be given all the attention it deserved. These findings confirmed the position advanced by a report produced by BudgIT (a civic organisation that applies technology to intersect citizen engagement with institutional improvement, to facilitate societal change) titled: *Education Financing: Analysis and Recommendations* (2018), which notes that many years after the establishment of the unity schools in Nigeria, the situation is different, as the schools have been neglected by the government. The report submits that the neglect is manifest through the dearth of infrastructure, lack of proper funding, insecurity as well as poor management. This position is equally supported by the provisions of section 1.1.2 sub-section VIII of the National Policy on Information and Communication Technologies (NPIC) In Education (2019), which notes clearly that although funds are being provided for ICT in education, they are largely inadequate to provide the drive necessary to position the sector for the attainment of the national goals.

As a corollary to the above, the interview participants made several references to the robustness of the National ICT policy and how, if well implemented could leverage the effective deployment of ICT in Unity Secondary Schools. Sadly, they noted that there had been implementation challenges which stemmed from a seeming lack of political will to implement the policy, lack of funds and a general absence of synergy between the Ministry of Science and Technology and the Ministry of Education.

Interestingly, the most frequent challenges to blended learning policy implementation mentioned by teachers, administrators and participants in the focus group discussion were related to the issues of gross underfunding. The problem of funding and financing of secondary school education in Nigeria is now a protracted challenge and has often resulted in strike action and threats of strike action in the nation's Unity Secondary Schools. Generally, findings exposed the issues of underfunding manifested in two spheres, notably: misappropriation and misallocation of funds for teachers' professional development programmes in Unity Secondary Schools, and low budgetary allocation and insufficient allocation of funds.

The issue of underfunding as it relates to teachers' professional development supportive of blended learning interventions, as the findings revealed, corroborates the position expressed by the World Bank's *World Development Report* (2018), which asserts that learning outcomes in low and middle-income countries of which Nigeria is one are shockingly poor and attributes these poor learning outcomes to the lack of attention to the professional development of teachers in the areas of technology-mediated teaching and learning.

On the challenge of teachers' professional development that the findings revealed, Makinde and Bolaji (2019) note that the National Policy on Education (NPE, 2013) makes mention of the need to attend to the issue of the professional development of teachers in secondary schools thus; "government shall provide necessary infrastructure and training for the integration of ICT in the school system in recognition of the role of ICT in advancing knowledge and skills in the modern world" (Section 5, sub-section 30, paragraph f). Almost two decades after this provision in the National Policy on Education, there seemed not to be any streamlined programme or strategy for teachers' professional development policy framework for secondary schools in Nigeria. Thus, many decades since the coming into place of the NPE, there had remained a severe shortage of teachers with adequate skills in ICT that would facilitate BL interventions in secondary schools in Nigeria.

Generally, the lack of these basic ICT infrastructures has the potential of affecting teachers' perceived usefulness (PU). The less pronounced the implementation challenges, the higher the perceived usefulness. Conversely, the more pronounced the implementation challenges, the more it affects teachers' perceived usefulness (PU) of blended learning interventions in the selected Unity Secondary Schools. This aligns with the position of Davis et al. (1989) who noted that a system that is easy to use will have a positive impact on people's feelings toward it.

Summary of theme two and how it relates to research question two

Theme two, which focuses on blended learning implementation and challenges was arrived at from the totality of the responses to the interview question: What do you consider as the critical challenges in the implementation of blended learning instruction in the classroom? Generally, the interview participants agreed that blended learning implementation is beneficial to both students and teachers and did impact on teaching and learning positively.

On the research question which states: What is the perception of teachers and administrators regarding the impacts of the implementation of the blended learning approach? The interview participants were unanimous that blended learning implementation suffered from a myriad of challenges, the biggest amongst them were: lack of ICT infrastructure, poor electricity supply, increasing enrolment of students not matched with improvement in internet access, poor or ill-equipped ICT laboratories, poor internet access, poor familiarity with ICT devices, under-funding, policy implementation challenges, lack of teachers' professional development supportive of blended learning interventions and lack of conducive environment for learning. These challenges, according to the interviewees and participants in the focus group discussion negatively impacted on the implementation of the blended learning approach.

6.0.3 Theme Three: Blended Learning Benefits

Teachers and administrators during the semi-structured interviews unanimously agreed that blended learning is beneficial to students and teachers. As the teachers, benefit from the implementation of blended learning in the form of improved engagement in the teaching and learning process. This finding agreed with the position expressed by Bergmann and Sams (2012), who note that the new blended models being created in K-12 are leveraging the technology to increase student-teacher engagement by providing instruction online.

One other benefit that the findings revealed is the flexibility that comes with the subjects taught. This opinion expressed by the interviewees lent credence to the views expressed by Aborisade (2013) and Cheung et al. (2017), who expressed the views that blended learning brings about flexibility in terms of learning time and location.

Another benefit gleaned from the findings of the study was that blended learning offers opportunity for improved teaching. This finding supported various views expressed in the literature on the benefits of blended learning. Benson, Anderson and Ooms (2011) note, that the persistent attention from researchers to blending technology with traditional delivery is borne out of the practitioners' perception that technology leads to a greater level of effectiveness in teaching and learning. Benson, Anderson and Ooms (2011) further assert that technology has had a significant influence on the way students interact with their peers, faculty and transformed learning and teaching inside and outside of the traditional classroom. A research study carried out by Garrison, Anderson, and Archer (2003)

suggested, that information and communication technology could assist in removing geographical and situational learning barriers as well as offering better opportunities for learner and instructor interaction.

The teachers and administrators interviewed expressed the view that blended learning offers opportunity for teachers' professional development in the areas of ICT even though in Nigeria, much of these benefits have not been experienced owing to a seeming lack of political will in addressing the issues of teachers' professional development. Nevertheless, there were evidences in the literature that supported the findings that blended learning could support teachers' professional development. Mirriahi et al. (2015) in their study, explored a course which was developed to give support to teaching staff and their utilisation of a blended learning model to interact, mentor, and share knowledge with one another. Key findings from the study suggested the following which suggest that blended learning supports teachers' professional development:

- Blended learning provides participants an opportunity to gain understanding of theoretical rationale and practical applications.
- Hands-on experiences.
- Interaction amongst colleagues to gain knowledge of instructional practices.

For the students, teachers and administrators in the two selected Unity Secondary Schools revealed that blended learning brought about significant student-student interaction, which is made possible as a result of meaningful interaction with peers while online. This result tallied well with previous studies wherein Aycock et al. (2002), conducted a research study at the University of Wisconsin, Milwaukee, involving faculty members engaged in a blended learning pilot project. Findings from the research indicated that 100% of faculty involved indicated that their time was wisely invested in improving the learning environment and that blended learning enhanced interaction with students, increased student engagement in learning, flexibility of the teaching and learning environment and opportunities for continuous improvement.

A similar conclusion on blended learning improving student-student interaction was reached by scholars (Kumar 2009; Richardson and Ice 2010; Chan et al. 2016), who submitted that blended learning helps students increase their interaction with one another, increased

students' communication skills, self-confidence, self-awareness, as well as encouraging discussion and collaboration, not only with their teachers but also with their peer classmates.

The findings from the study equally revealed that blended learning offers flexibility and access to learning at the student's convenience, improved performance in examination, and finally that it affords the students the opportunity to manage their time. This is consistent with what has been found in previous studies conducted by Nganji and Nggada (2014) and Coverdale-Jones (2017), who observed that the advantages offered by technology-mediated learning include increased, enhanced and transparent synchronous and asynchronous communications between teacher and students, as well as between students; flexibility and convenience in teaching and learning without restriction to time and space (geographical location); increased and easier access to learning materials; increased student carrying capacities by institutions; and cost effectiveness among others.

Generally, findings from the study were indicative of the fact that for students, blended learning enables the integration of all tools in a way that suits desktop computing and mobile computing such that it can easily be within reach of the students. This way students, whether they are at home or out, can pick the individual matching tools they prefer to use. This can efficiently support learning outcomes and the time that students would ordinarily need to complete their studies. A similar pattern of results was obtained by Faris and Selber (2013) who conducted a study to examine iPad integration and use in a technical communication service course and its teacher-training course at Penn State. Findings from this study indicated that as part of an integration plan, it was more advantageous to utilise devices across the curriculum, rather than a single class setting.

Similarly, findings from the semi-structured interview with teachers and administrators indicated that blended learning offers the flexibility for the students in the sense that it provides a structure that gives students time frames and deadlines to manage their learning. With the consciousness of these structured time frames and deadlines, the students can better manage their time for an optimal learning experience. All these put together are indicative of the likelihood that blended learning enables independent learning skills, which corroborates the views held by writers (Stacey, 2009; Aborisade, 2013; Avgerinou and Gialamas, 2016) who submit that blended learning supports the development of independent learning skills.

The findings on the benefits of blended learning suggest that teachers and administrators believe that blended learning is beneficial to students and teachers, and these personal experiences of the perceived benefits will affect their acceptance of the integration of technology in the classroom. This position aligns with views held by Means (2010: 287) who submits that “Most educators will expend the effort needed to integrate technology into instruction when, and only when, they are convinced that there will be significant payoffs in terms of student learning outcomes”.

Summary of theme three and how it relates to research question two

Theme three concerns the benefits of blended learning. The findings from the fieldwork revealed that a blended learning instructional approach holds a number of benefits for both teachers and students which has been captured above.

On the research question which states: What is the perception of teachers and administrators regarding the impacts of the implementation of the blended learning approach? The interview participants unanimously agreed that blended learning is beneficial to teachers, as it leads to improved engagement in the teaching and learning process, brings about flexibility with the subjects taught, offers opportunity for improved teaching, as well as offering opportunity for teachers’ professional development in the areas of ICT. For the students, blended learning results in significant student-student interaction, flexibility, and access to learning at the student’s convenience, improved performance in examinations and it affords the students the opportunity to manage their time.

6.0.4 Theme Four: Teachers’ Professional Learning and Instructional Support

The continuing professional development of teachers is a critical element in blended learning implementation may support their roles working with students. The perception of teachers and administrators based on the semi-structured interview indicated that professional development of teachers increased overall teachers’ confidence as it relates to teaching and learning. Yet, finding indicated that not much has been achieved in the area of teachers’ professional development that would bring about the effective implementation of blended learning interventions in Unity Secondary Schools in Nigeria. Several factors were highlighted by the interview participants, ranging from lack of commitment to the issues of

teachers' professional development in secondary schools, underfunding and misappropriation and misallocation of funds.

The findings on professional development supportive of blended learning, as expressed by interviewees in the semi-structured interviews and participants in the focus group discussion made a suggestion to the government's lackadaisical approach to the issues of teachers' professional development, which had somewhat stifled the benefits derivable from blended learning interventions in Unity Secondary Schools in Nigeria. This seeming lack of attention to teachers' professional development is corroborated by the views expressed by Deji et al. (2019), who note that despite the emphasis placed on teachers' professional development to facilitate the adoption of BL in education globally, it seems that Nigeria remains disconnected from this global momentum. The situation in Nigeria according to Deji et al. (2019), is such that most teachers are not prepared for the BL experience and the Federal Government appears not to be strategic enough in their quest to provide teachers and administrators the professional development that will make them knowledgeable of current trends and approaches that support student learning.

Many of the interviewees identified the use of different policy standards when it relates to teachers' professional development as critical factors that impinge on blended learning intervention. Regardless of how many teachers interviewed agreed that they had been exposed to one training session, they questioned the relevance of the training and the timing of such training. Generally, the interview participants expressed the view that the provision of training funds was skewed in favor of the tertiary education sub-sector leaving, the basic and post-basic educational sub-sector starved of funds. These findings were amplified by the position expressed by the current Minister of Education, Mallam Adamu Adamu who, using 2016 as a base year for his submissions, notes that out of the N13.7 billion appropriated to the 104 Unity Schools in Nigeria, only N5 billion, which is just about one-third of the total sum budgeted, was released to them making it practically impossible for Unity Schools to meet their obligations (Premium Times Newspapers, February 20, 2017).

The issue of lack of adequate funds for teachers' professional development as the findings suggested, also gives credence to the views expressed in a report produced by BudgIT. BudgIT is a Nigerian civic organisation that applies technology for citizen engagement with institutional improvement to facilitate societal change. In the report titled: *Education*

Financing: Analysis and Recommendations (2018), it is observed that many years after the establishment of the Unity Schools in Nigeria, the story is different as the schools have been neglected by the government. The report submits that the neglect is manifest through the dearth of infrastructure, lack of proper funding, insecurity as well as poor management.

Summary of theme four and how it relates to research question three

Theme four was generated from the sum total of responses to questions which sought to offer answers to research question three, which relates to the perception of teachers and administrators about the aspect of blended learning professional development that is best supportive of the implementation of blended learning in Unity Secondary Schools in Nigeria. The findings from the semi-structured interview with teachers and administrators revealed that the government has good intentions for the professional development of teachers, but that this intention has not been translated into something significant that could leverage teachers' professional development. Some of the impediments to teachers' professional development which is supportive of the implementation of blended learning identified were the issue of funding, lack of prioritisation of funds and funding of education that appeared skewed in favor of the tertiary education sub-sector against the secondary education sub-sector.

6.0.5 Theme Five: Current Blended Learning Instructional Approaches Implemented

Generally, the questions put across to teachers were to elicit information on the activities in the classroom that related to the blended learning instructional approaches/strategies/models that were currently in place within the classroom. The conclusions from the responses of the teachers interviewed showed that in some cases, where blended learning interventions were already in place, a noticeable feature was that teachers were already implementing blended instructional approaches/strategies/models but were not aware of them. The researcher was, however, able to identify and relate with the blended learning instructional models they were using in class, which were the Lab Rotation model, the Flipped Classroom model and the Station Rotation model.

The inability of the teachers to state clearly the instructional approaches/models in place brings to attention the importance of teachers' professional development. In order to ensure a smooth transition from the traditional face to face instructional approach to a more flexible and inclusive approach that blended learning offers, there is need to provide access to proper

training that focuses on how to better integrate technology into teaching and learning. As it is, many teachers interviewed lacked critical information on the instructional approaches/models of blended learning. This lack of teachers' understanding of these approaches validates the position of Deji et al. (2019), who submit that in Nigeria most teachers are not prepared for the BL experience and the Federal Government appears not to be strategic enough in their quest to provide teachers and administrators the professional development that will make them knowledgeable of current trends and approaches that support student learning.

The findings of this research brought to the fore the need for teachers' professional development, as this has the potential to build their confidence and awareness of effective blended learning instructional approaches/strategies/models.

Summary of theme five and how it relates to research question one and three

Theme five was generated from the responses to questions which sought to elicit information on the activities in the classroom that relate to the blended learning instructional approaches/strategies/models, that were currently in place within the classroom. As much as the teachers could not specifically mention the approaches/strategies/models in place, the data obtained from the field points to the fact that the teachers were implicitly adopting the Lab Rotation model, Flipped Classroom model, and the Station Rotation model. The word "implicit" is used here to mean that the teachers were imparting knowledge using a process which was taking place naturally without any conscious operation, but which fitted into widely accepted models of blended learning.

The responses here relate to research question one, which seeks to ascertain the instructional approaches that teachers and administrators in Unity Schools in Nigeria believe define the concept of blended learning. The theme equally relates to research question three, which sought to gauge the perception of teachers and administrators about the aspect of blended learning professional development that is best supportive of the implementation of blended learning in Unity Secondary Schools in Nigeria. The findings here brought to attention the need for teachers' professional development that would improve awareness of teachers on the effective blended learning instructional approaches/strategies/models.

6.0.6 Theme Six: ICT Policy Implementation in Education

Findings from the semi-structured interviews with teachers and administrators indicated that the ICT policy in education in Nigeria is carefully outlined but suffers implementation challenges. The opinions gleaned from the interview participants, as well as the focus discussion indicated that there is a glaring challenge of inadequacy of policy implementation such as adequate funds for the provision of ICT infrastructure, timely release of funds for the purchase of critical ICT software that will facilitate blended learning, as well as the provision of well-equipped ICT laboratories in the selected Unity Secondary Schools.

The need for synergy and the presence of a defined pattern of inter-organisational communication between the various government agencies involved in the implementation of ICT policy in education was equally emphasised by the interview participants. One of the participants (Darlington), specifically mentioned that “what we see is a glaring lack of synergy between the Federal Ministry of Education, Federal Ministry of Science and Technology and the Ministry of Information and Communications”.

The findings on ICT policy implementation in education in Nigeria as it related to the availability of ICT policy implementation resources corroborates the views held by Rana, Greenwood and Fox-Turnbull (2020), who submit that successful implementation of ICT in education relies partly on the availability of financial and other resources. It also aligns with the views of Hudson, Hunter and Peckham (2019), who assert that were implementation orders are clearly, consistently and accurately transmitted, the absence of adequate policy resources will result in implementation problems as is generally the case in Nigeria as expressed by the interview and focus group discussion participants.

The findings as to the near lack of synergy among the implementation agencies in Nigeria validated the views expressed by Fafunwa (2018), who notes that the failure of most education programmes and policies in Nigeria is due to absence of inter-agency as well as governmental collaboration. The lack of inter-agency collaboration is equally expressed in the Federal Government document titled “4 Year Strategic Plan for the development of the education sector 2011-2015” (FME 2012:5), where it is stated unequivocally that “it appears that the education sector faces the challenge of inadequate communication between the Federal Ministry of Education, its parastatal and stakeholders”. To address the challenge of programme and policy failures due to lack of inter-agency collaboration, Oyedeji (2016)

submits that the effective implementation of policies and programme requires proper coordination, integration, and cooperation among the stakeholders of education.

It is important to note that conflicts and duplications in mandates of public sector actors is due to the lack of synergy among ministries, departments, and agencies of government in Nigeria. In real terms, a careful look at policy documents does not reveal any overlap of functions. Overlap of functions most times result from poor interpretations of the policy documents. All said, Synergy and cooperation between ministries, departments, and agencies of the government, particularly in the education sub-sector must be enhanced as it will help to improve teaching and education quality and thus, academic performance.

Synergy has the potential to affect schools positively through identifying the best strategies that can be implemented to develop the school outcomes. This synergy helps in avoiding any conflict, overlap of functions between the different educational stockholders in the nations education sub-sector. When ministries, departments and agencies cooperate and work in synergy, it helps educational administrators in the process of decision making, and positions them to play central roles in the process of planning and designing educational curriculum and activities.

Summary of theme six and how it relates to research question two

Theme six was generated from responses to the question that sought to gauge the perceptions of teachers regarding the impacts of the implementation of the blended learning approach. Even though the teachers interviewed agree that blended learning had a significant positive impact on teachers and students, they maintained that much would have been achieved if not for ineffective implementation of the Nigerian ICT Policy. The interviewees considered effective implementation as critical in the successful delivery of blended learning interventions. Key issues identified as a hindrance to the effective implementation of ICT policy mentioned by the interviewees include the governments' poor attitude to policy implementation, lack of synergy among ministries, lack of appropriate policy monitoring, evaluation mechanisms and the principal issue of underfunding. The responses here relate to research question two which seeks to gauge the perception of teachers regarding the impacts of the implementation of the blended learning approach. In answering this question, the teachers had related what they considered as struggles in the implementation of blended

learning which, among other issues identified, as the ineffective implementation of Nigeria's ICT policy.

6.1 Summary

In this chapter, the findings from the two selected Unity Secondary Schools were discussed in the light of the literature reviewed in chapter two. Several factors were identified that help explain the issues, challenges, and dilemmas in the implementation of blended learning interventions in the selected secondary schools. Issues of funding, lack of political will to implement ICT policy in education, lack of a robust strategic framework for teachers' professional development, lack of ICT policy implementation resources as well as lack of synergy among ICT implementation stakeholders in Nigeria amongst others were listed by the interview and focus group participants as accounting for ineffective blended learning interventions in Unity Secondary Schools in Nigeria. The next chapter is dedicated to the summary, conclusion, and recommendations for this research work.

Chapter Seven

Summary, Conclusions and Recommendations

7.0 Summary of the Research

The aim of this research was to gauge the perceptions of teachers and administrators of blended learning as an instructional approach, to identify key components of blended learning and to examine how these components may impact on students' learning.

Generally, the literature review addressed the definition of blended learning, models of blended learning, blended learning advantages and effectiveness, and challenges of a blended learning instructional approach in the education sector in Nigeria.

While carrying out the literature review, three gaps were identified. First, even though there had been studies on the perceptions of teachers and administrators in the context of developing countries, few studies had been carried out with much attention paid to the perceptions of teachers and administrators in higher education and not the secondary education sub-sector in Nigeria. Second, little work has been published in the context of developing countries on the definition of blended learning, its advantages and effectiveness as well as the challenges of implementing blended learning in teaching and learning in the secondary education sub-sector in Nigeria. Finally, blended learning methods are still quite vague and remain a challenging task for most teachers in developing countries. The literature review carried out by the researcher facilitated the development of the research objectives of this study. After presentation of the findings, the findings were discussed in the light of the literature to bring to the fore the areas of convergence and divergence between what is expressed in the literature and findings from the selected Unity Secondary Schools.

Chapter Four of the research work provided information regarding the participants from both the semi- structured interview sessions, the focus group guided discussion as well as the documentary evidences for this research. For this study, the researcher chose the interpretivist approach to address the following research questions:

1. What are the instructional approaches that teachers and administrators in Unity Secondary Schools in Nigeria believe define the concept of blended learning?

2. What are the perceptions of teachers regarding the impacts of the implementation of the blended learning approach in Unity Secondary Schools in Nigeria?
3. What are the perception of teachers and administrators about the aspects of blended learning professional development that best support the implementation of blended learning in Unity Secondary Schools in Nigeria?

The research was conducted using qualitative methods (semi-structured interviews with teachers and administrators as well as focus group discussion with teachers of the selected Unity Schools in Nigeria). Policy documents considered critical to the work were analysed to enable triangulation of data.

The interview participants were recruited from two Unity Secondary Schools in Kogi State, North-Central, Nigeria. The respondents comprised of teachers and administrators in the selected secondary schools. While carrying out this research, each interview session with teachers and administrators was enhanced using an interview guide that contained questions and procedures for the conduct of the semi-structured interviews.

In selecting participants for the study, purposive sampling was chosen as the sampling approach. The researcher had deliberately and purposely selected a particular section of the wider population to include in the sample (Cohen et al. 2010). The study was conducted with teachers who were selected using experience sampling within purposive sampling from the two selected Unity Secondary Schools. This was because they have relevant information as to what this study aimed to find, and secondly, they are the most appropriate source of information regarding how blended learning is implemented. The researcher interviewed teachers who have worked for at least two years or more in the Unity Secondary Schools and are directly involved in the implementation of blended learning approach to teaching. The researcher considered two years as significant enough to have sufficient knowledge of issues and challenges in the Unity Secondary Schools to be able to give a significant level of sophistication and depth in their responses to the interview questions posed to them.

In the Findings Chapter, the researcher used the transcribed manuscript from the interviews conducted to analyse opinions expressed by the interviewees with a view to providing answers to the research questions. The researcher presented the findings from the interview participants in a narrative and descriptive form.

In the discussion section, the findings from the semi-structured interview with teachers and administrators were discussed based on the themes developed from the semi-structured interviews which are: (1) amorphous definition, (2) blended learning implementation and challenges, (3) blended learning benefits, (4) teachers' professional learning and instructional support, (5) current blended learning instructional approaches implemented, and (6) ICT policy implementation in education. These were blended with the six topical areas from the findings from the focus group which are: (1) external factors that affect blended learning implementation, (2) internal factors that affect blended learning implementation, (3) usefulness of blended learning, (4) ease of use, (5) implications of blended learning for teacher's professional development: and (6) suggestions for effective implementation of blended learning.

7.1 Conclusion

The advantages offered by technology-mediated learning include increased, enhanced and transparent, synchronous and asynchronous communications between teachers and students, as well as amongst students, flexibility and convenience in teaching and learning without restriction to time and space (geographical location), increased and ease of access to learning materials, increased student carrying capacities by institutions, cost effectiveness among others have been noted (Nganji and Nggada,2014; Coverdale-Jones, 2017). However, in Nigeria, it seems that appropriate strategies to integrate ICT into secondary school curriculums are still lacking, with a great deal of instructional and administrative work in secondary schools in Nigeria as it is still carried out manually without the use of information technology (Aduwa-Ogiegbaen and Iyamu, 2005). There are a number of constraining factors, key among which are inadequate ICT infrastructure, limited access to internet facilities, cost of internet data and electronic services, lack of attention to the professional development of teachers to support blended learning in secondary schools, insufficient allocation of funds to education, lack of synergy and harmonious working relationship between agencies of government in Nigeria, and lack of or poor perception of ICT among teachers.

However, the changes taking place technologically in the global arena and the transition to a knowledge society places a crucial demand on the Federal Government of Nigeria to put in place robust strategies that will leverage the implementation of blended learning and

attenuate the lingering challenges that appear to impede the implementation of ICT education in the nation's education sector and more specifically the secondary education sub-sector.

Research findings from the semi- structured interviews and focus group discussions as well as document analysis of this work indicated the need:

- To revisit the issue of effective implementation of ICT in the Nigeria education policy.
- To put in place measures that will address the challenges with teachers' professional development.
- For the Federal Government of Nigeria to demonstrate the administrative and political will to implement the ICT in Education policy.
- To provide the needed leadership and resources both tangible and intangible, which if used synergistically can result in superior performance for the educational sector in Nigeria.

In conclusion, it may have to be said that effective professional development of teachers to support blended learning in Unity Secondary Schools should be in such a way that ICT policy in education and strategies for professional development are made adaptable to the needs of teachers such that they will position themselves to withstand the challenges of teaching and learning in a rapidly globalising world.

7.2 Achieving the Aim and Objectives of the Research

The aim of this research was "to gauge the perception of teachers and administrators of blended learning as an instructional approach, to consequently identify key components of blended learning as a social reality". The researcher has achieved the aim of this research by addressing the research objectives set out below.

The first objective was "To gauge the perception of teachers and administrators on the instructional approaches that best define the concept of blended learning in Unity Secondary Schools in Nigeria". This objective was achieved by conducting a thorough review of literature on teachers' and administrators' perception of blended learning and carrying out semi-structured interview with teachers and administrators in the two Unity Secondary Schools.

The understanding of the concept of blended learning by teachers and administrators was generally based on their personal teaching and administrative experiences. Teachers and administrators generally perceived blended learning as a form of teaching with technology, but on a general scale. The concept of blended learning from the findings appeared ill-defined, used inconsistently, and meant different things to both the teachers and administrators. Significantly, the use of phrases like “to me”, “from my own understanding”, “my perception” and “from my personal experience” by teachers and administrators is suggestive of the fact that the definition of blended learning was based on their personal experiences. It is observed that there is a need to carry out more studies relating to the perceptions of teachers and administrators on the instructional approaches that best define the concept of blended learning in developing countries, as such research is still scarce and even less attention is paid to Nigeria which is the specific research context.

The second objective was “To critically evaluate the impact of the implementation of the blended learning approach in Unity Secondary Schools in Nigeria.”. During the literature review, the researcher carried out a critical examination of issues, challenges, and dilemmas in the implementation of blended learning in Nigeria. The study further proceeded with semi-structured interviews with teachers and administrators to gauge their perception on the benefits of blended learning. Even though the findings of the study point to the fact that teachers and students benefit from blended learning interventions, the general consensus is that the full benefits of blended learning appear unachievable, which suggests a link to a plethora of challenges which were fully discussed in the literature review section as well as the discussion session of this research work.

The third objective was to “to identify the aspect of blended learning professional development that is best supportive of the implementation of blended learning in Unity Secondary Schools in Nigeria.” To meet this objective, like the first and second objective which was met, semi-structured interviews were carried out as well as focus group discussions with teachers to gauge their perception of what professional development is best supportive of the implementation of blended learning in their respective Unity Secondary Schools. Based on the data gathered, certain issues were identified which impinge on the professional development of teachers and these were reflected in the findings and discussion sections of this research work. Some issues that were identified were considered unique and therefore, add to the body of literature on issues that impede professional development of teachers within the Nigerian context.

Generally, it would have been difficult achieving the aim of this research if the objectives of the study mentioned above were not realised.

7.3 Contributions to Knowledge

This research work has made some significant original contributions to knowledge at academic and practical levels. Below are the key academic and practical contributions made by this research.

7.3.1 Academic Contribution

Several researchers have made significant contributions to the literature on blended learning with a view to gaining insight on what could lead to effective implementation of blended learning interventions, with its challenges as well as its implications for teachers' professional development. However, it is important to note that not much attention has been given to an examination of issues that relate to the implementation of blended learning interventions in secondary schools in Nigeria as observed by Bada, Adewole and Olalekan (2009), who submit that little is known about the use of blended learning in the Nigerian education system. Similarly, Nsofor et al. (2014) assert that owing to the newness of the blended learning concept in Nigeria education system little is known about what makes a successful blended learning experience. Corroborating, Ahaiuzu, Nyemezu and Nsirim (2020), writing on blended learning in the context of library and information science, noted that despite the fact that educational systems have been influenced greatly by the emergence and widespread use of information and communication technologies, there is generally inadequate literature and lack of empirical evidence on the adoption of blended learning in educational institutions in Nigeria.

This research work is in response to the gap in studies as expressed by these scholars and therefore, contributes to knowledge as a significant effort at carrying out an exploratory study on blended learning in the context of a developing country. In this regard, this research work promotes and advances knowledge on critical issues, dilemmas and challenges associated with the implementation of a blended learning instructional approach in the secondary education sub-sector from a developing country context.

Previous research work that sought to look at the perceptions of teachers and administrators as well as other critical issues germane to the implementation of a blended learning

instructional approach were mainly carried out in developed countries with cultures quite different from that of Nigeria. This study, therefore, contributes significantly as it is from a developing country. The findings of this research have also extended the frontiers of existing research in blended learning by adding to the amount of knowledge about blended learning implementation, but from the context of a developing country.

Some different challenges which were previously explicated in the literature have emerged from the data collected which makes this study unique. These challenges which have affected the implementation of blended learning in Unity Secondary Schools are as follows:

- From the findings of this research work, even though the policy document for ICT in Education in Nigeria emphasises the need for teachers' professional development, there is the absence of a strategic framework for the professional development of teachers that will facilitate the effective implementation of blended learning in Unity Secondary Schools in Nigeria. Even when professional development programmes are organized, nominations of teachers are mostly based on favoritism, ethnicity, and religion.
- The study also revealed that teachers are not involved in the design, monitoring and evaluation of blended learning interventions, thereby stifling many benefits for teachers and students.

7.3.2 Practical Contributions

Findings from this research work have brought to the fore several important implications for educational administrators and policy makers in the nation's education sector. As the literature review and findings from the research work revealed, many public sector organisations in Nigeria and in developing countries generally have faced significant challenges in policy implementation generally and more specifically in ICT policy implementation and the implementation of the policy on teachers' professional development. This research work in view of the foregoing has provided insights into the issues, challenges, and dilemmas in the implementation of the blended learning instructional approach in Unity Secondary Schools in Nigeria. From the research, there are a number of factors which if put in place could leverage the effective implementation of blended learning in Unity Secondary Schools. As a consequence, educational administrators, teachers and policy makers can have insights into those issues that impinge on the effective implementation of blended learning

in Nigeria's secondary education sub-sector, as well as what needs to be put in place to ensure effective teachers' professional development.

This research work will enable an understanding of the challenges of blended learning implementation as well as the factors that will enhance the implementation of ICT in education policy and this can be of immense assistance to principals and teachers in the Unity Secondary Schools. With this understanding, it will be possible for educational administrators to draw a strategic action plan that will assist in dealing with practices and approaches to teachers' professional development as currently in place and those factors that impinge on the effective implementation of Nigeria's ICT in Education policy.

An exploration of the issues, challenges, and dilemmas in the implementation of blended learning and the teachers' professional development that support it will enable educational administrators in Nigeria to identify some of the administrative lacunae inherent in the system. It will further help educational administrators develop turnaround strategies and interventions that will leverage teachers' professional development practices. Also, the study will assist educational administrators in the development of a funding model that will ensure equitable allocation and distribution of the necessary human, financial, and technical resources that will achieve the effective implementation of blended learning.

The issues, challenges and dilemmas in the implementation of teachers' professional development that the findings of this research have highlighted in the Unity Secondary Schools will serve as a compass to educational administrators in the Unity Secondary Schools on what to put in place to leverage teachers' professional development. Several recommendations along this line are provided in section 7.4 below.

7.4 Recommendation for Practice

The findings of the study listed several challenges that appear to impede the effective implementation of the blended learning instructional approach in Unity Secondary Schools. The researcher hereby makes the following recommendations for teachers and principals as well as government/policy makers.

7.4.1 Teachers

The researcher equally encourages the teachers to take ownership of their own professional development through collaboration. Findings reveal that some teachers had improved their

ICT skills based on the support they get from their peers. Teachers, therefore, need to be able to talk and put words to their daily work. In fact, teachers need to collaborate very well with their peers during school days so they can learn from their everyday practice.

As a corollary to the above, the researcher recommends that teachers should identify and take advantage of ICT tutoring platforms that provide more cost-effective solutions for teachers' ICT training.

Understanding models of blended learning is a critical element in blended learning interventions. The study, however, reveals that even though the teachers were indirectly implementing the models of blended learning in teaching and learning, they were not aware of these models. The researcher therefore recommends that teachers take advantage of free online resources to get more knowledge on the models of blended learning with the aim of adapting the models that best suit the peculiarities of their classroom situations.

7.4.2 Principals

As findings reveal, professional development of teachers appears under-played. Even though it is the responsibility of government to provide funding for teachers' professional development, it is the recommendation of this research that principals should take the leadership for teachers' learning and professional development. What this means is that principals should continuously encourage teachers' self-improvement and collective inquiry and provide professional support by encouraging teachers to take advantage of free ICT-based online training.

Findings suggest that there are no clear strategies and action plans that will leverage teachers' ICT skills and knowledge needs. It is in this light that this research recommends that principals/ administrators who are saddled with the management of the Unity Schools and interface with the Federal Ministry of Education devise clear strategies and action plans for the implementation, monitoring and evaluation of ongoing teachers' professional development that supports blended learning.

The research reveals that some teachers are averse to change and still hold tenaciously to the view that the traditional method of teaching is more beneficial. The researcher recommends

that the principal should take up the role of change agent and provide a robust environment that will enable teachers and principals to work cooperatively to initiate the much-required change in teaching and learning. This way, this resistance can be reduced.

The teachers acknowledged the role of the Alumni Association in the Unity Schools in the areas of provision of critical ICT equipment. The researcher recommends that principals should strengthen the relationship between the Unity Schools Alumni network so that as partners in progress, they can contribute their own quota towards improvement of teaching and learning.

7.4.3 Government/Policy Makers

A careful look at these challenges indicates that most of them are tied to the issue of underfunding. Inadequate funding may affect the procurement of ICT materials, tools, and equipment. It is against this background that this research work recommends that in relation to the issues of funding for the provision of ICT infrastructure and funding for teachers' professional development, there should be in place a funding model that will free up the needed funds for the provision of the needed ICT infrastructure on the one hand and funds for teachers' professional development on the other hand.

As a corollary to the above, the researcher recommends that educational administrators and policy makers explore the need to put in place integrated multi-agency and inter-ministerial policies and strategies which, if supported by coordination among ministries and agencies responsible for the implementation of ICT in education in Nigeria, will bring about the required synergy which the findings revealed as lacking. These integrated multi-agency and inter-ministerial policies and strategies will equally assist in securing adequate human and financial resources for the implementation of blended learning in the nation's secondary education sub-sector.

Similarly, in relation to funding, teachers' professional development, and the provision of critical ICT infrastructure, the researcher recommends the need for educational administrators and the Federal Government to consider several policy issues. These include strategic planning of human, financial and technical resources of the secondary education sub-sector in Nigeria. Since the challenges of teachers' professional development and the lack of ICT infrastructure revolve around underfunding, the researcher recommends that the

Federal Ministry of Education, Nigeria and more specifically the secondary education division put in place a funding framework that will enable collaboration with private companies and non-profit organisations in the area of funding, technical assistance and the professional development of teachers. This funding framework will help the Federal Government of Nigeria guide the translation of the government's budget decisions into specific funding arrangements for the nation's secondary education sub-sector and also help inform decisions about funding approaches.

Furthermore, the findings suggested that a premium is placed on capital projects over and above programmes aimed at professional development in the selected Unity Secondary Schools. It is in the light of this finding that the researcher recommends a balance and suggests that adequate funds be earmarked for teachers' professional development.

The researcher equally recommends that educational administrators in Nigeria should approach teachers' professional development in a more professional and efficient manner in view of the continually changing education scenario. Based on the findings, there appeared to be a weak link between teachers and senior administrators in the Federal Ministry of Education in terms of decision making on the type of teachers' training support for blended learning. It is in this regard that the researcher recommends the need for educational administrators to provide a framework that will enable teachers to make inputs into the blended learning professional development that meets their immediate needs.

From the findings, there appeared to be a centralization of decision-making such that most decisions are taken by the Federal Ministry of Education without recourse to inputs from teachers and principals. It is against this background that the researcher suggests that decision-making be made more flexible such that principals and teachers are consulted on issues that will leverage effective blended learning interventions in Unity Secondary Schools in Nigeria.

Findings of the study equally suggested the absence of a carefully streamlined strategic framework for teachers' professional development in the two Unity Secondary Schools for the development of the skills, capabilities, knowledge, and aptitude required to assist teachers in the effective implementation of a blended learning instructional approach. To address this, the thesis recommends a continual teachers' professional development

framework in form of a clearly outlined strategic document that is subject to constant review with teachers and principals making constant input.

7.5 Strengths and Limitations of the Research

In this section, the researcher provides her reflections on this research work. Here the strengths and limitations of the research will be outlined.

7.5.1 Research Strengths

- The major strength of this research work is that if the recommendations for the study are brought on board, it is capable of creating a collegial learning environment where teachers will feel safe, have the necessary support as well as providing teachers the opportunity to be innovative, creative and improve their technology integration in the classroom.
- The outcome of this research work provides a contextual synopsis of the challenges of blended learning implementation in the selected Unity Secondary Schools. Putting these challenges in context will help in developing home-grown solutions to these challenges.
- Throughout the research, the teachers expressed the views that blended learning implementation has positive impact on the students. Through the interview and focus group discussion, teachers believed that integration of technology improved student learning and increased student-student interaction, made teaching student centered and equally gave room for timely feedback to students.

While the research work has several strengths, it also has limitations.

7.5.2 Limitations of the Research

Limitations of this study included the following:

- The research work was exclusively focused on the qualitative approach. This is a limitation because the quality of the research work is heavily dependent on the researcher's individual skills and could be more easily influenced by the researcher's personal biases and idiosyncrasies. Also, rigor is more difficult to maintain, assess, and demonstrate.

- The researcher was solely concerned with secondary schools that are owned by the Federal Government implementing blended learning to the exclusion of state-owned secondary schools.
- The researcher is an international student who, although she had a Master's degree in Education (Leadership and Management), had never undertaken a serious course in ICT in education before attending the University of Bolton for a Doctorate in Education programme. This meant that the researcher came into this research with a fresh perspective and no prior assumptions. The researcher's lack of experience in ICT stood as a limitation: however, the researcher considered it a challenge and took it head on and with the support and guidance of the research supervisor, she was able to mitigate this limitation.
- Even though the researcher took reasonable steps to provide a perception that the research was independent from the professional role of the researcher, this may not have been enough to elicit much information especially from the principals who would not want to volunteer much information because of the oath of secrecy they subscribe to in Nigeria, making the preponderance of the findings tilt towards teachers.

7.6 Recommendations for Further Study

In the course of this research, so many areas which could be of interest to researchers who would want to further explore issues relating to the perception of blended learning, the implication of blended learning for professional development in Nigeria and the developing countries context generally, and the issues, challenges and dilemma in blended learning intervention, have generally evolved based on the research questions and the findings from the semi-structured interviews, focus group discussions and analysis of written documents. It is hoped that this research work will serve as a catalyst for further research on the implementation of blended learning in the secondary education sub-sector in Nigeria, as well as the issues that impinge on its effective implementation in Nigeria as more research is needed in this field of study. The suggestions for further research are mentioned below:

- This research work revealed that there is limited research available that explored blended learning implementation in the secondary education sub-sector in Nigeria. Currently, a significant number of research studies on blended learning in Nigeria

relate to the tertiary education sub-sector. Further research using other methodologies - perhaps, action research, teacher-led research - that throws to the fore how blended learning is supported at the secondary school levels in Nigeria generally may be beneficial to teaching and learning in the secondary education sub-sector in Nigeria.

- While carrying out this research work, the participants in the semi-structured interview offered varying definitions of blended learning mostly based on their experience which was unique with a general consensus that blended learning supported student learning within the classroom. In the light of this, it is the recommendation of the researcher that further research examining the wide-ranging definition of blended learning lead to a more acceptable definition of blended learning as an instructional approach.
- The research work revealed that even though a blended learning model is accepted as the conventional approach to learning in secondary schools globally in line with technological development, findings of this study suggested that teachers and administrators are not fully abreast of the various models of blended learning. It is in the light of this finding that the researcher recommends further research work on exploring blended learning models that will assist in the implementation of blended learning in Unity Secondary Schools in Nigeria.
- This study had two Federal Government of Nigeria Unity Schools in Kogi State as its focus. It is therefore, the researcher's recommendation that further research work should look at a larger sample and across two or more states in Nigeria with a view to ascertaining if a generalisation of the findings of this research is possible.
- As a corollary to the above, this study focused on Unity Secondary Schools in Nigeria which are wholly owned by the Federal Government of Nigeria. The researcher recommends that the same methodology for this study be applied to State Government-owned secondary schools as well as secondary schools owned by private individuals as well as faith-based secondary schools. This, it is hoped, will provide a basis for comparative analysis that will engender a more informed understanding of the issues, challenges and dilemmas in blended learning

intervention across secondary schools in the secondary education sub-sector in Nigeria.

- The research work explored issues relating to the professional development of teachers using blended learning in the Unity Secondary Schools. During the semi-structured interviews, teachers were asked of their perceptions of blended learning professional development as well as the modalities for selection of teachers for training programmes, if any. Teachers interviewed stated that they needed to be consulted when organising training programmes, as opposed to the current situation where training programmes are organised without their input. In light of the foregoing, the researcher recommends that further research should be carried out on the models of professional development that best support blended learning in Unity Secondary Schools in Nigeria.
- As a follow up to the above, the researcher equally recommends research into the factors that impact on the quality of professional development programmes for teachers in Unity Secondary Schools in Nigeria.
- Discussions and research findings from this work suggested that there has been a sustained lack of political will on the part of the Federal Government of Nigeria related to the issues of teachers' professional development especially as it relates to the implementation of ICT in education in the nation's Unity Secondary Schools generally. It is the view of the researcher that the issue of teachers' professional development is critical to the effective implementation of blended learning and more attention is needed on the part of researchers and policy analysts to explore in greater detail the factors that appear to impinge on effective implementation of blended learning in Unity Secondary Schools in Nigeria.

References

- Aborisade, P. A. (2013). Blended learning in English for Academic Purposes courses: A Nigerian case study. *Blended learning in English language teaching: Course design and implementation*, 35.
- Adekola, J., Dale, V. H., Gardiner, K., and Fischbacher-Smith, M. (2017). Student transitions to blended learning: an institutional case study. *Journal of Perspectives in Applied Academic Practice*, 5(2), 58-65.
- Adeosun, O. (2010). Quality basic education development in Nigeria: Imperative for use of ICT. *Journal of International Cooperation in education*, 13(2), 193-211.
- Adeoye, B. F. (2015). *Innovative Applications of Educational Technology Tools in Teaching and Learning*. Trafford Publishing.
- Adesina S (1977). Planning and educational development in Nigeria. Lagos, Nigeria: Educational Industries Limited.
- Adesola, S. A. (2012, September). Entrenching democracy and good governance: The role of ICT. In *Book of Proceedings* (p. 423).
- Adjzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. *Englewood Cliffs NJ: Pren-tice Hall*.
- Adomi, E. E., & Kpangban, E. (2010). Application of ICTs in Nigerian secondary schools. *Library philosophy and practice*, 1.
- Aduwa-Ogiegbaen, S. E., and Iyamu, E. O. S. (2005). Using Information and Communication Technology in Secondary Schools in Nigeria: Problems and Prospects. *Educational Technology and Society*, 8(1), 104-112.
- Afangideh, M.E. 2001. Teacher and needed competences. In D.N. Umorem, and C.A. Ogbodo (eds.) A handbook on teaching profession in Nigeria. Uyo: guidepost publishers.
- Afiene, G and Asuquo, F, (2020). Fostering Students 'Knowledge in a Language Classroom through Blended Learning. Retrieved from SSRN: <https://ssrn.com/abstract=3519333> or <http://dx.doi.org/10.2139/ssrn.3519333>
- Agbeboaye, C., Akpojedje, F. O., & Ogbe, B. I. (2019). Effects of erratic and epileptic electric power supply in Nigerian telecommunication industry causes and solutions. *Journal of Advances in Science and Engineering*, 2(2), 29-35.
- Ahaiuzu, B. E., Nyemezue, C. O., and Nsirim, O. (2020). Assessment of ICT Skills of LIS Educators for the Adoption of Blended Learning in Rivers State, Nigeria. *Information Impact: Journal of Information and Knowledge Management*, 11(3), 51-62.
- Al-Ani, W. T. (2013). Blended learning approach using moodle and student's achievement at Sultan Qaboos University in Oman. *Journal of Education and Learning*, 2(3), 96.
- Al-Dossary, S. A. (2008). Study of the Factors Affecting Study Retention at King Saud University, Saudi Arabia: Structural Equation Modeling and Qualitative Methods. *University of Sterling, England*.

- Alfadda, H. A., & Mahdi, H. S. (2021). Measuring Students' Use of Zoom Application in Language Course Based on the Technology Acceptance Model (TAM). *Journal of Psycholinguistic Research*, 1-18.
- Al-Gahtani, S. S. (2016). Empirical investigation of e-learning acceptance and assimilation: A structural equation model. *Applied Computing and Informatics*, 12(1), 27-50.
- Amaratunga, D., Baldry, D., Sarshar, M., & Newton, R. (2002). Quantitative and qualitative research in the built environment: application of "mixed" research approach. *Work study*.
- Avgerinou, M. D., & Gialamas, S. P. (Eds.). (2016). *Revolutionising K-12 Blended Learning through the i²Flex Classroom Model*. IGI Global.
- Aycock, A., Garnham, C., and Kaleta, R. (2002). Lessons learned from the hybrid course project. *Teaching*
- Babbie, E. and Mouton, J. (2010). The practice of social research. Cape Town: Oxford University Press.
- Babbie, E. R., Halley, F., & Zaino, J. (2000). *Adventures in social research*. Sage Publications, Inc.
- Babbie, E., & Rubin, A. (2010). Essential research methods for social work. *Belmont, Ca*.
- Bada, T., Adewole, A. and Olalekan, O. (2009). Uses of blended learning and its relevance to teaching and learning in Nigerian educational system. *Educational Research and Review*, 4(10), 443-447.
- Bailey, J., Martin, N., Schneider, C., Vander Ark, T., Duty, L., Ellis, S., & Terman, A. (2013). Blended learning implementation guide 2.0. *Digital Shift*.
- Baker, Sarah Elsie and Edwards, Rosalind (2012) *How many qualitative interviews is enough*. Discussion Paper. NCRM. (Unpublished)
- Beck, R. J. (2010). Teaching international law as a partially online course: The hybrid/blended approach to pedagogy. *International Studies Perspectives*, 11(3), 273-290.
- Behrend, T. S., Wiebe, E. N., London, J. E., & Johnson, E. C. (2011). Cloud computing adoption and usage in community colleges. *Behaviour & Information Technology*, 30(2), 231-240.
- Benbasat, I., & Barki, H. (2007). Quo vadis TAM?. *Journal of the association for information systems*, 8(4), 7.
- Benson, V., Anderson, D., and Ooms, A. (2011). Educators' perceptions, attitudes and practices: Blended learning in business and management education. *Research in Learning Technology*, 19(2).
- Bergmann, J., & Sams, A. (2012). Before you flip, consider this. *Phi Delta Kappan*, 94(2), 25-25.

- Bersin, J. (2004). *The blended learning book: Best practices, proven methodologies, and lessons learned*. John Wiley and Sons.
- Birks, M., and Mills, J. (2011). *Grounded theory: A practical guide*. Thousand Oaks, CA: SAGE Publications.
- Bless, C., Higson-Smith, C., & Kagee, A. (2000). Fundamentals of social research methods. *An African perspective*, 3.
- Bloor, M., Frankland, J., Thomas, M., and Robson, K. (2001). *Focus groups in social research*. Thousand Oaks, CA: Sage Publications Inc.
- Bonk, C. J., and Graham, C. R. (2012). *The handbook of blended learning: Global perspectives, local designs*. John Wiley and Sons.
- Bryman, A. (2008). Of methods and methodology. *Qualitative Research in Organizations and Management: An International Journal*.
- Bryman, A. and Bell, E. (2015). *Social research methods*. Oxford university press.
- BudgIT (2018). Education financing, analysis and Recommendation. Retrieved June 23, 2019 from <https://yourbudgit.com/wp-content/uploads/2018/11/Education-financing.pdf>
- Burrell, G., & Morgan, G. (2017). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*. Routledge.
- Byrne, B. (2004). Qualitative interviewing. *Researching society and culture*, 2, 179-192.
- Cevikbas, M., and Kaiser, G. (2020). Flipped classroom as a reform-oriented approach to teaching mathematics. *Zdm*, 1-15.
- Chan, Y. F., Narasuman, S., Dalim, S. F., Sidhu, G. K., & Lee, L. F. (2016). Blended learning as a conduit for inquiry-based instruction, active learning, formative assessment and its impact on students' learning outcomes in higher education.:74-78.
- Cheung, S. K., Ling, E. K. W., & Leung, S. K. Y. (2017). Beliefs associated with support for child-centred learning environment among Hong Kong pre-service early childhood teachers. *Journal of Education for tEaching*, 43(2), 232-244.
- Chiroma, A. S., & Yaduma, P. S. (2019). Shifting Paradigms of Continuous Professional Development Through Blended Learning and E-Enabled Platforms For 21st Century Teaching and Learning. *Education, Sustainability & Society (ESS)*, 2(3), 12-15.
- Christensen, C. M., Horn, M. B., and Staker, H. (2013). *Is K-12 Blended Learning Disruptive? An Introduction to the Theory of Hybrids*. Clayton Christensen Institute for Disruptive Innovation.
- Chuttur, M. Y. (2009). Overview of the technology acceptance model: Origins, developments and future directions. *Working Papers on Information Systems*, 9(37), 9-37.

- Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The psychologist*, 26(2).
- Collis, B. (2003). Course Redesign for Blended Learning: Modern Optics for Technical Professionals. *International Journal of Continuing Engineering Education and Lifelong Learning*. 13(1/2).
- Collis, J. and Hussey, R. (2013) *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*, Sage Publications, London.
- Collis, J., & Hussey, R. (2015). *Business research: A practical guide for undergraduate and postgraduate students*. Macmillan International Higher Education.
- Connaway, L. S. and Powell, R. R. (2010). *Basic Research Methods for Librarians*, 5th ed. Westport, CT: Libraries Unlimited.
- Coverdale-Jones, T. (2017). The use of videoconferencing as a communication tool for language learning: Issues and considerations. *IALLT Journal of Language Learning Technologies*, 32(1).
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks: Sage Publications.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sages publications.
- Creswell, J., & Plano Clark, V. (2007). *Designing and Conducting. Mixed Methods Research*. Thousand Oaks, CA: Sage
- Creswell, J.W., (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sages publications.
- Crow, G., Wiles, R., Heath, S., & Charles, V. (2006). Research ethics and data quality: The implications of informed consent. *International Journal of Social Research Methodology*, 9(2), 83-95.
- Dalgaard, C., and Godsk, M. (2007). Transforming traditional lectures into problem-based blended learning: challenges and experiences. *Open learning*, 22(1), 29-42.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management science*, 35(8), 982-1003.
- Davis, F.D. (1986). A technology acceptance model for empirically testing new end-user information systems: Theory and results. Massachusetts, United States: Sloan School of Management, Massachusetts Institute of Technology.
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-339.

- Delialioglu, O., and Yildirim, Z. (2007). Students' perceptions on effective dimensions of interactive learning in a blended learning environment. *Journal of Educational Technology and Society*, 10(2).
- Dewar, T., and Whittington, D. (2004). *Blended learning research report*. Calliope Learning.
- Dörnyei, Z., & Taguchi, T. (2009). *Questionnaires in second language research: Construction, administration, and processing*. Routledge.
- Downes, S. (2005) An Introduction to Connective Knowledge. Retrieved from <http://www.downes.ca/cgi-bin/page.cgi?post=33034>
- Drysdale, J. S., Graham, C. R., Spring, K. J., and Halverson, L. R. (2013). An analysis of research trends in dissertations and theses studying blended learning. *The Internet and Higher Education*, 17, 90-100.
- Duggleby, W. (2005). What about focus group interaction data? *Qualitative health research*, 15(6), 832-840.
- Easterby-Smith, M., Lyles, M. A., & Tsang, E. W. (2008). Inter-organisational knowledge transfer: Current themes and future prospects. *Journal of management studies*, 45(4), 677-690.
- Easterby-Smith, M., Thorpe, R. and Lowe, A., (2002), *Management Research: An Introduction*, 2nd Edition, London: SAGE publications.
- Easterby-Smith, M., Thorpe, R., & Jackson, P. R. (2012). *Management research*. Sage.
- Ebisine, S. (2015). Human Resource Development: Imperatives for Achieving Quality Assurance in Higher Education in Nigeria. *Journal of Educational and Social Research*, 5, 171-176.
- Edwards, S. J. (2005). Research participation and the right to withdraw. *Bioethics*, 19(2), 112-130.
- Ertmer, P. A., & Ottenbreit-Leftwich, A. (2013). Removing obstacles to the pedagogical changes required by Jonassen's vision of authentic technology-enabled learning. *Computers & Education*, 64, 175-182.
- Etor, C. R., Mbon, U. F., & Ekanem, E. E. (2020). Management of Information and Communication Technology and Teachers' Work Performance in Secondary Schools in Cross River State, Nigeria. *Mediterranean Journal of Social Sciences*, 11(1), 65-65.
- Eydelman, N. (2013). A blended English as a Foreign Language academic writing course. *Blended learning in English language teaching: Course design and implementation*, 43.
- Eze, S. C., Chinedu-Eze, V. C., & Bello, A. O. (2018). The utilisation of e-learning facilities in the educational delivery system of Nigeria: a study of M-University. *International Journal of Educational Technology in Higher Education*, 15(1), 34.

- Fafunwa, A.B., 2018. History of education in Nigeria. Routledge.
- Farahat, T. (2012). Applying the technology acceptance model to online learning in the Egyptian universities. *Procedia-Social and Behavioral Sciences*, 64, 95-104.
- Fatkulloh, S. (2020, March). Can blended learning replace conventional learning in terms of mastery learning and cognitive attainment. In *Journal of Physics: Conference Series* (Vol. 1511, No. 1, p. 012025). IOP Publishing.
- Federal Ministry of Education (2012). 4 Year Strategic Plan for the development of the education sector 2011-2015. Abuja: Federal government Printers.
- Federal Republic of Nigeria (2013). National policy on education. 5 th Edition: Abuja: NERDC
- Federal Republic of Nigeria. (2009). National Policy on Information and Communication Technology, Retrieved August 14, 2019 from <https://nitda.gov.ng/wp-content/uploads/2020/11/National-ICT-Policy11.pdf>
- Federal Republic of Nigeria. (2014). National Policy on Education, Retrieved August 10, 2019 from <https://education.gov.ng/wp-content/uploads/2020/06/NATIONAL-POLICY-ON-EDUCATION.pdf>
- Federal Republic of Nigeria. (2019). National Policy on Information and Communication Technologies (ICT) in Education, Retrieved August 12, 2019 from <https://education.gov.ng/wp-content/uploads/2019/08/NATIONAL-POLICY-ON-ICT-IN-EDUCATION-2019.pdf>
- Frankfort-Nachmias, C., & Nachmias, D. (2008). Research Methods in the Social Sciences. New York: Worth Publishers.
- Garrison, D. R., Anderson, T., & Archer, W. (2003). A theory of critical inquiry in online distance education. *Handbook of distance education*, 1, 113-127.
- Gentles, S. J., Charles, C., Ploeg, J., and McKibbin, K. A. (2015). Sampling in qualitative research: Insights from an overview of the methods literature. *The qualitative report*, 20(11), 1772-1789.
- Graham, C. R., Allen, S., and Ure, D. (2003). Blended learning environments: A review of the research literature. *Unpublished manuscript, Provo, UT*.
- Graham, C. R., Woodfield, W., and Harrison, J. B. (2013). A framework for institutional adoption and implementation of blended learning in higher education. *The internet and higher education*, 18, 4-14.
- Gray DE (2004) *Doing Research in the Real World*. First edition. Sage Publications, London.

- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed method evaluation designs. *Educational Evaluation and Policy Analysis*, 11(3), 255-274.
- Guba, E. G., and Lincoln, Y. S. (1988). Do inquiry paradigms imply inquiry methodologies? *Qualitative approaches to evaluation in education*, 89-115.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59-82.
- Guest, G., MacQueen, K. M., & Namey, E. E. (2011). *Applied thematic analysis*. sage publications.
- Guest, G., Namey, E. E., & Mitchell, M. L. (2013). *Collecting qualitative data: A field manual for applied research*. Sage.
- Guest, S. (2012). *Ronald Dworkin*. Stanford University Press.
- Gutierrez, D., and Russo, S. (2005). Comparing student performance, attitudes and preferences in an introduction to business course: Online, hybrid and traditional delivery methods—who makes the “A” grade. *College Teaching Methods and Styles Journal*, 1(3), 83-90.
- Halverson, L. R., Graham, C. R., Spring, K. J., and Drysdale, J. S. (2012). An analysis of high impact scholarship and publication trends in blended learning. *Distance Education*, 33(3), 381-413.
- Harris, P., Connolly, J., & Feeney, L. (2009). Blended learning: Overview and recommendations for successful implementation. *Industrial and commercial training*.
- Hauwa, I. (2012). Educational policy in Nigeria from the colonial era to the post-independence period. *Italian Journal of sociology of education*, 4(1).
- Heinze, A. (2008). *Blended learning: An interpretive action research study*. University of Salford (United Kingdom).
- Herzog, H. (2005). On home turf: Interview location and its social meaning. *Qualitative sociology*, 28(1), 25-47.
- Hidayanto, A. N., Febriawan, D., Sucahyo, Y. G., & Purwandari, B. (2014). Factors influencing the use of E-Class. *Journal of Industrial and Intelligent Information Vol*, 2(2).
- Ho, V. T., Nakamori, Y., Ho, T. B., and Lim, C. P. (2016). Blended learning model on hands-on approach for in-service secondary school teachers: Combination of E-learning and face-to-face discussion. *Education and Information Technologies*, 21(1), 185-208.
- Hong, K. H., and Samimy, K. K. (2010). The influence of L2 teachers' use of CALL modes on language learners' reactions to blended learning. *Calico Journal*, 27(2), 328.

- Hope Sr, K.R. (2017). Corruption in Nigeria. In *Corruption and Governance in Africa* (pp. 125-162). Springer International Publishing.
- Howe, K. R. (1988). Against the quantitative-qualitative incompatibility thesis or dogmas die hard. *Educational researcher*, 17(8), 10-16.
- Hudson, B., Hunter, D., & Peckham, S. (2019). Policy failure and the policy-implementation gap: can policy support programs help? *Policy design and practice*, 2(1), 1-14.
- Huff, A. S. (2009). *Designing research for publication*. Los Angeles: Sage.
- Huysamen, G. K. (1994). *Methodology for the social and behavioural sciences*. Southern Book Publishers.
- Idakwoji, S.P.(2016). An examination of the admission policy of Unity Secondary Schools in Nigeria. *FEPODA Journal of Business and Management*. 3(1). 54-62.
- Idowu, O. E. (2017). Positivism versus interpretivism: Fire-war on the methodological approach in the study of organisational culture. *International Journal of Human Resource Studies*, 6(4), 178-187.
- Ifinedo, E., Rikala, J., & Hämäläinen, T. (2020). Factors affecting Nigerian teacher educators 'technology integration: Considering characteristics, knowledge constructs, ICT practices and beliefs. *Computers & Education*, 146, 103760.
- Ige AM (2011). Myths and realities of falling standard of education in Nigeria: The way forward. *Niger. J. Prof. Teach.* 2:36-48.
- Jankowski, N. W., & Jensen, K. B. (Eds.). (2002). *A handbook of qualitative methodologies for mass communication research*. Routledge.
- Jennings, G. R (2001). *Tourism Research*. Brisbane: John Wiley.
- Johnson, B. and Christensen, L., (2008). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage.
- Johnson, R.B. and Onwuegbuzie, A.J., (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, 33(7), pp.14-26.
- Kafer, K. (2013). *The rise of K-12 blended learning in Colorado*. IP-5-2013). Denver, CO: Independence Institute.
- Kaiser, K. (2009). Protecting respondent confidentiality in qualitative research. *Qualitative health research*, 19(11), 1632-1641.
- Kelliher, F. (2011). Interpretivism and the pursuit of research legitimisation: an integrated approach to single case design. *Leading issues in business research methods*, 1(2), 123-131.

Kerr, B. (2007). A Challenge to Connectivism. Transcript of Keynote Speech, Online Connectivism Conference: University of Manitoba. Retrieved August 13 2018 from http://Itc.umanitoba.ca/wiki/index.php?tit:e=Kerr_Presentation

Keržič, D., Tomažević, N., Aristovnik, A., & Umek, L. (2019). Exploring critical factors of the perceived usefulness of blended learning for higher education students. *PloS one*, *14*(11).

Khan, Y., and Iqbal, A. (2016). Emerging Factors Affecting Blended Learning in Virtual Learning Environment Framework (VLEF). *Sino-US English Teaching, David Publishing*, *13*(3), 197-203.

Khilnani, S., Verma, B., & Mallick, S. (2005). New initiatives for national S&T manpower development by CSIR.

Kitchenham, A. (2005). Adult-Learning Principles, Technology and Elementary Teachers and their Students: the perfect blend? *Education, Communication and Information*, *5*(3), 285-302.

Kitzinger, J. (2005). Focus group research: using group dynamics. *Qualitative research in health care*, *56*, 70.

Kliger, D., and Pfeiffer, E. (2011). Engaging students in blended courses through increased technology. *Journal of Physical Therapy Education*, *25*(1), 11-14.

Kop, R., and Hill, A. (2008). Connectivism: Learning theory of the future or vestige of the past? *International Review of Research in Open and Distance Learning*, *9*(3).

Kumar, S. (2009, October). Undergraduate perceptions of the usefulness of Web 2.0 in higher education: Survey development. In *Proceedings of the European Conference on e-Learning* (pp. 308-314).

Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *JISTEM-Journal of Information Systems and Technology Management*, *14*, 21-38.

Leitch, C. M., Hill, F. M., & Harrison, R. T. (2010). The philosophy and practice of interpretivist research in entrepreneurship: Quality, validation, and trust. *Organisational Research Methods*, *13*(1), 67-84.

Leung, E. W. C., Wang, F. L., Miao, L., Zhao, J., & He, J. (Eds.). (2008). *Advances in Blended Learning: Second Workshop on Blended Learning, WBL 2008, Jinhua, China, August 20-22, 2008, Revised Selected Papers* (Vol. 5328). Springer.

Leung, L. (2015). Validity, reliability, and generalisability in qualitative research. *Journal of family medicine and primary care*, *4*(3), 324.

Lim, D. H., & Morris, M. L. (2009). Learner and instructional factors influencing learning outcomes within a blended learning environment. *Journal of Educational Technology & Society*, *12*(4), 282-293.

- Lin, H. (2008). Blending online components into traditional instruction in pre-service teacher education: The good, the bad, and the ugly. *International Journal for the scholarship of teaching and learning*, 2(1), n1.
- Lincoln, Y. S., & Guba, E. G. (2000). The only generalisation is: There is no generalisation. *Case study method*, 27-44.
- Lodico, M. G., Spaulding, D. T., and Voegtler, K. H. (2010). *Methods in Educational Research: From Theory to Practice*. San Francisco: Jossey-Bass.
- Longo, C. M. (2016). Changing the instructional model: Utilising blended learning as a tool of inquiry instruction in middle school science. *Middle School Journal*, 47(3), 33-40.
- Lounsbury, D. W., Reynolds, T. C., Rapkin, B. D., Robson, M. E., & Ostroff, J. (2007). Protecting the privacy of third-party information: Recommendations for social and behavioral health researchers. *Social Science & Medicine*, 64(1), 213-222.
- MacDonald, J. (2008). *Blended learning and online tutoring: Planning learner support and activity design*. Gower Publishing, Ltd.
- Mac-Ikemenjima, D. (2005). E-Education in Nigeria: Challenges and prospects. *A Paper presented at the 8th UN ICT Task Force Meeting, Dublin, Ireland*.
- Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues in educational research*, 16(2), 193-205.
- Makinde, S. O., & Bolaji, H. O. (2019). Appraisal of Internet Services Usage by Secondary School Teachers For Professional Development In Lagos, Nigeria. *International Journal of Indonesian Education and Teaching (IJIET)*, 3(2), 138-148.
- Mavroudi, A., Papadakis, S., & Ioannou, I. (2021). Teachers' Views Regarding Learning Analytics Usage Based on the Technology Acceptance Model. *TechTrends*, 65(3), 278-287.
- McCutcheon, K., Lohan, M., Traynor, M., and Martin, D. (2015). A systematic review evaluating the impact of online or blended learning vs. face-to-face learning of clinical skills in undergraduate nurse education. *Journal of advanced nursing*, 71(2), 255-270.
- McKeown, M. G., Beck, I. L., & Blake, R. G. (2009). Rethinking reading comprehension instruction: A comparison of instruction for strategies and content approaches. *Reading Research Quarterly*, 44(3), 218-253.
- Means, B. (2010). Technology and education change: Focus on student learning. *Journal of research on technology in education*, 42(3), 285-307.
- Means, B., Toyama, Y., Murphy, R., and Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record*, 115(3), 1-47.

- Mero-Jaffe, I. (2011). 'Is that what I said?' Interview transcript approval by participants: an aspect of ethics in qualitative research. *International journal of qualitative methods*, 10(3), 231-247.
- Mihas, P. (2019). Qualitative data analysis. In *Oxford Research Encyclopedia of Education*.
- Milakovich, M. E., & Wise, J. M. (2019). Overcoming the digital divide: Achieving access, quality, and equality. In *Digital Learning*. Edward Elgar Publishing.
- Miles, M. B., Huberman, A. M. and Saldaña, J. (2014) Qualitative data analysis: a methods sourcebook, 3rd edition. Thousand Oaks, CA: Sage.
- Mirriahi, N., Alonzo, D., McIntyre, S., Kligyte, G., and Fox, B. (2015). Blended learning innovations: Leadership and change in one Australian institution. *International Journal of Education and Development using ICT*, 11(1).
- Mondi, M., Woods, P., and Rafi, A. (2008). A 'Uses and Gratification Expectancy Model' to predict students' 'Perceived e-Learning Experience'. *Journal of Educational Technology and Society*, 11(2).
- Morgan, A. C. (2008). Competencies needed by agricultural communication undergraduates: A focus group study. In *Southern Association of Agricultural Scientists Conference, Orlando, FL*.
- Morgan, K. R. (2002). Blended learning: A strategic action plan for a new campus. *Seminole, FL: University of Central Florida*.
- Mullamaa, K. (2010). Going 100% On-line with Language Courses: Possible? *Journal of Language Teaching and Research*, 1(5).
- Neher, W. and Sandin, P., (2015). *Communicating ethically*. Routledge.
- Netherlands Universities Foundation for International Cooperation (2017) Education System Nigeria. Retrieved August 10, 2019 from <https://www.nuffic.nl/sites/default/files/2020-08/education-system-nigeria.pdf>
- Neuman, W., L. (2003). *Social Research Methods: Qualitative and Quantitative Approaches* (5thed.). Boston: Allyn and Bacon.
- Neuman, W.L. (2011), *Social Research Methods: Qualitative and Quantitative Approaches*, 7th edn, Pearson/Allyn and Bacon, Boston.
- Neumeier, P. (2005). A closer look at blended learning—parameters for designing a blended learning environment for language teaching and learning. *ReCALL*, 17(2), 163-178.
- Nganji, J. T., & Nggada, S. H. (2014). Adoption of blended learning technologies in selected secondary schools in Cameroon and Nigeria: challenges in disability inclusion. In *Advancing Technology and Educational Development through Blended Learning in Emerging Economies* (pp. 159-173). IGI Global.
- Nigerian Education Sector Report (2010). Abuja: Federal Government Printers.

Nili, A., Tate, M., & Johnstone, D. (2017). A framework and approach for analysis of focus group data in information systems research. *Communications of the Association for Information Systems*, 40.

Nsofor, C. C., Umeh, A. E., Ahmed, B., & Sani, I. D. (2014). Blended learning environment: An innovative pedagogical approach for redefining higher education in Nigeria. *Research on Humanities and social sciences*, 4(26), 21-27.

Nwangwa, K. C., & Omotere, T. (2013). The new roles of school managers in managing educational changes in Nigerian schools. *European scientific journal*, 9(25).

Oates, B. J. (2006) *Researching Information Systems and Computing*, Los Angeles, CA: Sage.

Olelewe, C. J. (2014). Challenges facing Effective Utilisation of Blended Learning Model in Teacher Education Programmes in Nigeria. A paper presented at 10th Annual National Conference of Qualitative Education in Nigeria (ASSEQEN) with the Theme Reorienting and Alternative Education to Build a Better Future for All at the Benue State University Markurdi between 12th – 16th May 2014.

Olibie, E. I. (2010). Roles and actions of school principals in managing curricular reforms in Nigeria. *International Journal of Educational Research and Technology*, (1), 1, 85-90.

Olivier, J. (2011). *Accommodating and promoting multilingualism through blended learning* (Doctoral dissertation, North-West University).

Olokooba, I.N. (2015). Availability and Use of Computer-Based Instructional Materials (CIM) by Upper Basic Social Studies Teachers in Ilorin, Nigeria. *Nigeria Journal of Educational Foundations*, 14 (1), 16-28.

Ololube, N. P. (Ed.). (2015). *Handbook of research on enhancing teacher education with advanced instructional technologies*. IGI Global.

Ololube, N. P., Ubogu, A. E., and Egbezor, D. E. (2007). ICT and distance education programs in a sub-Saharan African country: a theoretical perspective. *Journal of Information Technology Impact*, 7(3), 181-194.

Olujuwon, O. and Perumal, J. (2017). Nigerian teachers' understanding of school leadership practices in public secondary schools. In 60th Yearbook on Teacher Education: Edited by Gentles, C.H. (240-256). A Publication of the International Council on Education for Teaching and The University of West Indies, Mona Campus, Kingston, Jamaica.

Oni O, Haruna Z, Amugo JE (2017). Information communication technology as pedagogy for teaching in some selected secondary schools in Edo State, Nigeria. *Asian J. Appl. Sci. Technol.* (AJAST.1 (8):85-99.

Osguthorpe, R. T., and Graham, C. R. (2003). Blended learning environments: Definitions and directions. *Quarterly review of distance education*, 4(3), 227-33.

Oyedeji, B. (2016) Background Issues to Federal Character Dynamics in Nigeria. *International Journal of Innovative Development & Policy Studies* 4 (1): 1, 12.

- Pal, D., & Vanijja, V. (2020). Perceived usability evaluation of Microsoft Teams as an online learning platform during COVID-19 using system usability scale and technology acceptance model in India. *Children and youth services review*, 119, 105535.
- Palys, T. (1999) *Research Decisions: Quantitative and Qualitative Methods*. Harcourt Canada, Limited, Toronto, ON, Canada.
- Park, N., Lee, K. M., & Cheong, P. H. (2008). University instructors' acceptance of electronic courseware: An application of the technology acceptance model. *Journal of computer-mediated communication*, 13(1), 163-186.
- Parker, A., and Tritter, J. (2006). Focus group method and methodology: Current practice and recent debate. *International Journal of Research and Method in Education*, 29, 23–37.
- Parsons, D. (Ed.). (2016). *Mobile and Blended Learning Innovations for Improved Learning Outcomes*. IGI Global.
- Pearcy, A. G. (2009). *Finding the perfect blend: A comparative study of online, face-to-face, and blended instruction*. University of North Texas.
- Peña-López, I. (2016). *Innovating Education and Educating for Innovation. The Power of Digital Technologies and Skills*.
- Picciano, A. G., Seaman, J., and Day, S. L. (2015). Online Learning in Illinois High Schools: The Voices of Principals! In *Exploring the effectiveness of online education in K-12 environments* (pp. 1-18). IGI Global.
- Poon, J. (2013). Blended learning: An institutional approach for enhancing students' learning experiences. *Journal of online learning and teaching*, 9(2), 271-288.
- Porter, W. W., & Graham, C. R. (2016). Institutional drivers and barriers to faculty adoption of blended learning in higher education. *British Journal of Educational Technology*, 47(4), 748-762.
- Powell, A., Watson, J., Staley, P., Patrick, S., Horn, M., Fetzer, L., and Verma, S. (2015). Blending Learning: The Evolution of Online and Face-to-Face Education from 2008-2015. Promising Practices in Blended and Online Learning Series. *International association for K-12 online learning*.
- Pucer, P., Vičič, Š. G., & Žvanut, B. (2020). ICT Adoption Among Higher Education Teachers: A Case Study of a University in the Awareness/Exploration Stage of Blended Learning Adoption. In *Examining the Roles of Teachers and Students in Mastering New Technologies* (pp. 299-314). IGI Global.
- Qasem, A. A. A., and Nathappa, V. (2016). Teachers' perception Towards ICT Integration: Professional Development Through Blended Learning. *Main Issues of Pedagogy and Psychology*, 11(2), 20-26.

- Rana, K., Greenwood, J., & Fox-Turnbull, W. (2020). Implementation of Nepal's education policy in ICT: Examining current practice through an ecological model. *The Electronic Journal of Information Systems in Developing Countries*, 86(2).
- Rao, J. N. K. (2011). Impact of frequentist and Bayesian methods on survey sampling practice: a selective appraisal. *Statistical Science*, 26(2), 240-256.
- Reasons, S. G., Valadares, K., and Slavkin, M. (2005). Questioning the hybrid model: Student outcomes in different course formats. *Journal of Asynchronous Learning Networks*, 9(1), 83-94.
- Richardson, J. C., & Ice, P. (2010). Investigating students' level of critical thinking across instructional strategies in online discussions. *The Internet and Higher Education*, 13(1-2), 52-59.
- Robson, C. (2011) *Real world research: a resource for users of social research methods in applied settings*. Wiley Chichester.
- Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. sage.
- Sale, D. (2015). Getting into Great SHAPE with Blended Learning. In *Creative Teaching* (pp. 137-158). Springer, Singapore.
- Saunders, M., Lewis, P. and Thornhill, A. (2007). *Research methods for business students*. 4th ed. London: Prentice Hall.
- Schaefer, G. O., & Wertheimer, A. (2010). The right to withdraw from research. *Kennedy Institute of Ethics Journal*, 20(4), 329-352.
- Scott, P. (2000) 'Higher Education Research in the Light of a Dialogue between Policy-Makers and Practitioners', in U. Teichler and J. Sadlak (eds.) *Higher Education Research: Its Relationship to Policy and Practice*, Oxford: Pergamon and IAU Press, pp. 123–147.
- Segars, A. H., & Grover, V. (1993). Re-examining perceived ease of use and usefulness: A confirmatory factor analysis. *MIS quarterly*, 517-525.
- Seidman, G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and individual differences*, 54(3), 402-407.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Sharpe, R., Benfield, G., Roberts, G., & Francis, R. (2006). The undergraduate experience of blended e-learning: a review of UK literature and practice. *The higher education academy*, 1-103.
- Shaw, R. M., Howe, J., Beazer, J., & Carr, T. (2020). Ethics and positionality in qualitative research with vulnerable and marginal groups. *Qualitative Research*, 20(3), 277-293.

- Sloman, M. (2007). Making sense of blended learning. *Industrial and commercial training*, 39(6), 315-318.
- Smith, K., & Hill, J. (2019). Defining the nature of blended learning through its depiction in current research. *Higher Education Research & Development*, 38(2), 383-397.
- Smithson, J. (2000). Using and analysing focus groups: Limitations and possibilities. *International Journal of Social Research Methodology*, 3, 103–119.
- Somekh, B., & Lewin, C. (Eds.). (2005). *Research methods in the social sciences*. Sage.
- Stacey, E. (Ed.). (2009). *Effective blended learning practices: Evidence-based perspectives in ICT-facilitated education: Evidence-Based Perspectives in ICT-Facilitated Education*. IGI Global.
- Staker, H., and Horn, M. B. (2012). Classifying K-12 blended learning. *Innosight Institute*.
- Stone, A. (2008). The holistic model for blended learning: A new model for K-12 district-level cyber schools. *International Journal of Information and Communication Technology Education (IJICTE)*, 4(1), 56-71.
- Tarhini, A., Hone, K., & Liu, X. (2014). Measuring the moderating effect of gender and age on e-learning acceptance in England: A structural equation modeling approach for an extended technology acceptance model. *Journal of Educational Computing Research*, 51(2), 163-184.
- Tashakkori, A., & Teddlie, C. (Eds.). (2010). *Sage handbook of mixed methods in social & behavioral research*. sage.
- Terry, A.J., (2011). *Clinical research for the Doctor of Nursing practice*. Jones and Bartlett Publishers.
- Thackray, L. (2018). Anonymity, confidentiality and informed consent: exploring ethical quandaries and dilemmas in research with and about disabled children's childhoods. In *The Palgrave Handbook of Disabled Children's Childhood Studies* (pp. 299-313). Palgrave Macmillan, London.
- The National Teacher Education Policy (2014). Abuja: Federal Government Printers.
- Tobias O. N, Kerrie W, Christina J. D, and Nibedita M, (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and Evolution*, 9(9):20-32.
- Tolich, M. (2004). Internal confidentiality: When confidentiality assurances fail relational informants. *Qualitative Sociology*, 27, 101-106
- Tsang, P., Cheung, S. K., Lee, V. S., and Huang, R. (Eds.). (2010). *Hybrid Learning: Third International Conference, ICHL 2010, Beijing, China, August 16-18, 2010, Proceedings* (Vol. 6248). Springer.

- Tucker, C. R. (2012). *Blended learning in grades 4–12: Leveraging the power of technology to create student-centered classrooms*. Corwin Press.
- UNESCO, (2010). *Education for All Global Monitoring Report 2010: reaching the marginalised*. UNESCO Publishing, Paris, France.
- UNESCO, World Education Forum 2015, Ministry of Education, Republic of Korea (2015). *Education 2030 Incheon Declaration and Framework for Action: Towards inclusive and equitable quality education and lifelong learning for all*. Incheon: World Education Forum.
- United Nation Educational, Scientific and Cultural Organisation. (2015). *Incheon Declaration, Education 2030: Towards inclusive and equitable quality education and lifelong learning for all*. Symposium conducted at the meeting of World Education, Incheon, Republic of Korea. Retrieved from <http://unesdoc.unesco.org/images/0024/002456/245656e.pdf>
- United Nations, (2015). The Sustainable Development Goals 2015. New York: United Nations. <https://sustainabledevelopment.un.org/sdg4> [accessed 2 February 2017]
- Uprichard, E. (2013). Sampling: Bridging probability and non-probability designs. *International Journal of Social Research Methodology*, 16(1), 1-11.
- Van Horne, S., Henze, M., Schuh, K. L., Colvin, C., & Russell, J. E. (2017). Facilitating adoption of an interactive e-textbook among university students in a large, introductory biology course. *Journal of Computing in Higher Education*, 29(3), 477-495.
- Vaughan, N. (2007). Perspectives on blended learning in higher education. *International Journal on E-learning*, 6(1), 81-94.
- Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information systems research*, 11(4), 342-365.
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision sciences*, 39(2), 273-315.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- Vernadakis, N., Antoniou, P., Giannousi, M., Zetou, E., & Kioumourtzoglou, E. (2011). Comparing hybrid learning with traditional approaches on learning the Microsoft Office Power Point 2003 program in tertiary education. *Computers & education*, 56(1), 188-199.
- Vickers, P., & Offredy, M. (2010). The Constant Comparative Method. *Developing a healthcare research proposal: An interactive student guide*.
- Voss, C., Tsiriktsis, N., & Frohlich, M. (2002). Case research in operations management. *International journal of operations & production management*.

- Walsham, G. (1995). Interpretive case studies in IS research: nature and method. *European Journal of information systems*, 4(2), 74-81.
- Walt, J. L. V. D., & Potgieter, F. J. (2012). Research method in education: The frame by which the picture hangs. *International Journal of Multiple Research Approaches*, 6(3), 220-232.
- Wang, Y. S., Wu, M. C., & Wang, H. Y. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British journal of educational technology*, 40(1), 92-118.
- Watson, J., Murin, A., Vashaw, L., Gemin, B., and Rapp, C. (2013). Keeping Pace with K-12 Online and Blended Learning: An Annual Review of Policy and Practice. 10 Year Anniversary Issue. *Evergreen Education Group*.
- Williamson, B. (2018). Three stages of student engagement in a flipped classroom environment. *Journal of Learning and Student Experience*, 1: 2.
- Wolff, S. (2004). Analysis of documents and records. *A companion to qualitative research*, 284-289.
- World Bank (2018). "Learning to Realise Education's Promise. World Development Report 2018." *A World Bank Group Flagship Report* (2018).
- World Bank Group (2019). Nigeria Digital Economy Diagnostic Report. Retrieved August 17, 2019 from <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/387871574812599817/nigeria-digital-economy-diagnostic-report>
- Wu, B., & Zhang, C. (2014). Empirical study on continuance intentions towards E-Learning 2.0 systems. *Behaviour & Information Technology*, 33(10), 1027-1038.
- Yeigh, T., Sell, K., Lynch, D., Willis, R., Smith, R., Provost, S., and Turner, D. (2017). *Towards a Strategic Blend in Education: A review of the blended learning literature*. Lulu.com.
- Yetano Roche, M., Verolme, H., Agbaegbu, C., Binnington, T., Fishedick, M., & Oladipo, E. O. (2020). Achieving Sustainable Development Goals in Nigeria's power sector: assessment of transition pathways. *Climate Policy*, 20(7), 846-865.
- Yin, R. K. (2015). *Qualitative research from start to finish*. Guilford publications.
- Yin, R.K., 2013. *Case study research: Design and methods*. Sage publication.
- Yusuf HO (2009). Strategies for improving the teaching of reading comprehension in primary Schools. *J. Educ. Res. Dev.* 4(3):63-68.
- Zhang, X., van Donk, D. P., & Jayaram, J. (2020). A multi-theory perspective on enablers of inter-organizational information and communication technology: A comparison of China and the Netherlands. *International Journal of Information Management*, 54, 102191.

Appendix 1: Interview Guide for Teachers and Administrators

As a teacher/administrator, how would you define the term blended learning?

Are you conversant with the four models of blended learning?

A. Rotation Model-

1. Station Rotation where students are made to rotate to all centers in one location.
2. Lab Rotation where students rotate to other locations in a brick-and-mortar school
3. Flipped Classroom where students are given instruction in another location, usually home, and the activities about lesson are implemented in the classroom.
4. Individual Rotation which is a customised instruction, student may not go to all stations or modalities.

B. Flex Model with instructions provided primarily online with teachers assisting

C. Self-Blend Model which involves classes to supplement traditional courses.

D. Enriched-Virtual Model which has to do with online schooling with some face-to-face time with teachers

Would you say these models are being implemented in your classrooms or school?

Would you say that the students in your school are engaged?

Based on your experience as a teacher/administrator, what do you consider as components of blended learning instructional model.

In the course of your teaching/administrative experience, have you had a situation where you have had to design lessons with blended learning instructional models? If your answer is in the affirmative, could you give insights into your experiences

Do you consider blended learning instructional approach as beneficial to students? If yes, what are your reasons for saying so?

What could you consider to be your role as a teacher during blended learning instruction?

What do you believe to be the role of administrators in blended learning instruction?

Do you believe that teachers are prepared in terms of knowledge, skills, aptitude, tools/materials to implement blended learning instructional approach in your classroom? Explain

What do you consider as the critical challenges in the implementation of blended learning instruction in the classroom?

Do you think that blended learning instructional approach is what teachers should implement in the classroom?

Appendix 2: Focus Group Discussion Guide

External Factors that affect blended learning implementation

1. In your opinion, looking at the structures on ground in your school, will you say that the college has an enabling structure for blended learning implementation? Why or why not?

Internal Factors that affect blended learning implementation

2. What do you consider to be those factors that hinder teachers from engaging in blended learning in the classroom? Could we mention and discuss them?

Usefulness of Blended Learning

3. What do you consider to be the benefits of using blended learning in your college?

Ease of Use

4. What is your perception of your level of difficulty of using blended learning in your college?

Implication of Blended Learning for teacher's Professional development

5. What do you perceive to be the implications of the implementation of blended learning for your professional development?

Suggestions for effective implementation of blended learning

6. Kindly recommend ways for the improvement of blended learning in the classroom

Appendix 3: Consent Form

Form RE5

Full title of Project: AN INVESTIGATION OF TEACHER AND ADMINISTRATOR PERCEPTIONS OF BLENDED LEARNING IN TWO SELECTED UNITY SCHOOLS IN KOGI STATE, NIGERIA

Name, position and contact address of Researcher: Abigail Makoji Stephen, Postgraduate Research Student, 70 Alexandra Road, Eccles, Manchester. M30 7HJ

Please Initial Box

1. I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.
3. I agree to take part in the above study.
4. I agree to the use of anonymised quotes in publications

Name of Participant	Date	Signature
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Name of Researcher	Date	Signature
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Appendix 4: Participant Information Sheet

RESEARCH PROJECT TITLE: An Investigation of Teacher and Administrator Perceptions of Blended Learning in Two Selected Unity Schools in Kogi State, Nigeria.

RESEARCH INVESTIGATOR: Abigail Ayishetu Makoji-Stephen (Mrs)

ABOUT THE PROJECT

This research is a qualitative research using semi structured interviews, focus group and documentary evidence to examine the perception of teachers and administrators on what they consider to be the definition of blended learning as well as its implementation in two case study Unity Secondary Schools in Nigeria. As one of the research participants, the researcher will appreciate your participation in this semi-structured interview and would be grateful for any information that you may give to make this research work achieve its aims and objectives.

What are your rights as a participant?

Taking part in the study is voluntary. You may choose not to take part or subsequently cease participation at any time.

For more information

This research has been reviewed and approved by the University of Bolton Research Ethics Board. If you have any further questions or concerns about this study, please contact:

Name of researcher: Abigail Ayishetu Makoji-Stephen (Mrs)

Full address: 70 Alexandra Road, Eccles, Manchester. M30 7HJ

Tel: +447425176657

Email: abistiv@yahoo.co.uk

Appendix 5: Interview Transcript Sample

Respondent (R): Good morning, my name is Abigail Makoji-Stephen, I am a student of University of Bolton, United Kingdom, I am carrying out a research on investigation of teacher and administrator's perception of blended learning in two selected unity schools in Kogi state, Nigeria. For the purpose of this interview, could you state your name Please?

Participant (P): Good morning, my name is XXXXX

R: What is your position in this organisation?

P: I am a classroom teacher

R: How long have you been in this institution?

P: 4years now

R: As a teacher, how would you define the term blended learning?

P: BL I think is a situation where you teach using the traditional method of learning and the technology, the internet, computer etc

R: Are you conversant with the four models of blended learning?

Rotation Model, Flex Model, Self-Blend Model and Enriched-Virtual models?

P: Well, I have heard about some of them, but I think I am conversant with two which are the Rotation Model and the Flex Model.

R: Would you say these models are being implemented in your classrooms or school?

P: Well not completely, but I think a bit of the rotational model and flex model is implemented, but not completely.

R: Would you say that the students in your school are engaging well?

P: They are, I think they learn better with these models in place, the face to face method of teaching, we have been using for a while but when you bring in the internet, it gets their attention and when you get their attention, they tend to learn better when you do that.

R: Based on your experience as a teacher/administrator, what would you say about the two main components of blended learning: Face-to-face learning (F2F) and online and online learning?

P: Both are important in teaching, the face to face for instance is the traditional method we are used to, your presence in class, you tend to have control over the students, you tend to have an idea or you get to know if you are actually passing the message: when you are face to face with students in class, when they are paying attention, when they are learning, you will know based on observation, this I think it's important in learning and shouldn't be taken away. Using technology is equally important, then you bring in pictures, you bring in ideas from other people, you bring in things that may interest the students and attract their attention and if you bring both together, the students learn better

R: What else do you consider as components of Blended Learning in your school, apart from the face to face and the online?

P: Well, Sometimes you use pictures, using PowerPoint and the rest depending on what

you are teaching, it could be songs, it could even be objects you show to the students in class and if you do that , at least one or a few of the students are able to connect with these objects/ pictures to what you are teaching, which makes the knowledge remain with them.

R: In the course of your teaching experience, have you had a situation where you have had to design lessons with blended learning instructional models?

P: No

R: What do you believe to be your role as a teacher in blended learning instruction

P: My role as a teacher?

R: Yes, Please.

P: Well I think my role as a teacher is generally to guide and to direct as to understand that which I am trying to teach them, I will be there to guide them generally in the area I want them to learn. Also as a teacher, I make sure I help the students to stay focused in learning, because there is a tendency to get distracted when you are online, so I guide them not to stray so we can achieve our aim of lesson for the day.

R: In the course of your experience as a teacher, have you undergone any training on concept of blended learning and the types of online application that can be used to supplement blended learning activities in classroom?

P: Not formally, no, I haven't

R: Can you please explain a bit what you mean by not formally?

P: When I say not formally, I haven't had training in terms of seminars and workshops so to say to acquire such, but on personal level, I have tried to develop myself by training myself on the computer and internet and then, my husband's area of study is computer science, so he teaches me on areas I am not quite clear on.

R: So, do you consider blended learning instructional approach as beneficial to students?

P: Yes, very well

R: Why do you say so?

P: I think I have said before that if you go normal the traditional face to face , where you talk to students and they talk back, if you deviate from that by using the internet or computer, they pay more attention and learn more

R: Do you believe that teachers are well prepared in terms of knowledge, skills, aptitude, tools/materials to implement blended learning instructional approach in your classroom?

P: In my organisation, I think they are not adequately prepared. They are not well prepared because, teachers that practice bl is more or less on individual base, the organisation or school have not sent anyone on training for it, those of us who do it, do it because we have developed ourselves and we think it is important to the learning process.

R: What training do you think these teachers could benefit from that could enhance their knowledge on blended learning instructional activities?

P: Specifically, I cannot pin point or call a name right now, but I think if anyone is interested, he or she could go online and you can discover a lot of things, but I am sure there are seminars, there are workshops, that teachers could go on that improve bl

R: What do you consider as the critical challenges in the implementation of blended learning instruction in the classroom?

P: Well, in this environment, I think electricity, is the major, major challenge because you need power to use the internet. Another challenge is funding, because without funds, you cannot buy equipment, you cannot buy computers and projectors, that you use in the class. Also, accessibility to internet, this is not easily accessible here, and when you get them, there are expensive, these are our major challenge here. Another challenge is infrastructure, when you don't have buildings and equipment that are set for such purposes, it becomes a major challenge to bl. The servers and hardware supplied are below capacity. No due diligence in purchase. Suppliers cut corners when supplying and this is a big negative.

Well I think the organisation itself have not endowed staff or adequately prepared staff for such learning, they hardly send teachers/staff for training. Those that are prepared are in short supply

R: Do you think that blended learning instructional approach is what teachers should implement in the classroom?

P: Very well

R: why do you say so, what are the benefits derivable from implementation of blended learning instructional approach?

P: I think it comes to quick and easy teaching and learning, it's one of the major benefits, because you discover your students learn quick, they learn fast and it's easier for them to learn and it's easier also for the teachers to explain some things. It is also easier for the students to recall what they have learn, because they can associate some of these lessons with objects they have seen, with charts they have seen.

R: Apart from these, are there other benefits derivable form bl instructional approach?

P: I think the children also get expose to things, to knowledge and to ideas out there, they get to hear and see the world where they have not been to and get exposed to knowledge out there and understand what the other environment look like and the general exposure. Another thing is it's saves time, you intend to manage your time better

R: To round up this discussion, any suggestions or recommendations?

P: First and foremost, policy makers should seriously be involved, when they are involved, they will make better decisions and better plans for education and when such plans are made, you discover that more funds will be released for education and if that is done, it trickles down to the various schools and before you know it , the lack of equipment that has been a challenge before now will a thing of the past and the whole learning process becomes easier.

Then the teachers on their own part, should go for training, workshops or seminars either organised by the organisation they work for or even at individual level, we have schools online these days where teachers can enrol and educate themselves on individual base just to see that they develop themselves just to see that this knowledge is imparted to students.

Then I think, the manpower, more people should be trained on this so that there can be enough manpower in schools for effective implementation of BL.

Appendix 6: Focus Group Discussion Sample

Good afternoon,

My name is Abigail Makoji Stephen and I would want to appreciate you for volunteering to be a part of this focus group. I assure you that I will uphold every ethical standard as stated during the briefing and the form placed before you.

For the purpose of this discussion, could you just introduce yourselves, please.

I am by name ABC, I am by name XYZ, and I am ZAB

Thank you

In your opinion, looking at the structures on ground in your school, will you say that the college has an enabling structure for blended learning implementation? Why or why not?

Name: XYZ- In terms of structures, I think we do have some, but I will say, not enough. We have computers, averagely equipped lab and we have staff who are trying their best to ensure that students are comfortable enough to learn. In our school as a whole, we can boast of over 100 computers and the students have full access to it. However, there are challenges with internet access and electricity fluctuation. Even when we use diesel to power the generator for the ICT lab, it is not sustainable because government is not always forthcoming with funds.

What do you consider to be those factors that hinder teachers from engaging in blended learning in the classroom? Could we mention and discuss them

Name: ABC- The factors that hinder teachers from engaging in blended learning are much. I would want to refer to them as the challenges we face with blended learning in this school. It is basically about some teachers not really being trained to cope with their working environment like organising seminars for staffs in order to familiarize themselves with internet and making research online and by so doing they can't impact knowledge to students. This is a challenge, but we are working on solving it.

Name: XYZ- In addition to what he has said, I think one of the major challenge we face is the issue of light, there is no constant electricity power supply and running the generator from morning till night is not that easy. So I think electricity is one and considering the population of the school because the population is growing though not up to a thousand but I think we are close to a thousand and in such an environment where we have just one computer lab I think we need more laboratories, maybe like if we have up to two computer laboratories it will go a long way and the issue of internet access need to be addressed . If we have up to two laboratories, we can discourage students bringing in their personal

computers to complement what government provides. I think my colleague have talked about it. He talked about the aspect of the teachers not been acquainted with the use of the internet. Then, apart from the teachers not been acquainted with the use of the internet, we talked about access to the internet itself, you discover that here in Nigeria they don't have that free WIFI around like in other countries. So, when you talk of how to subscribe, to subscribe for a year you pay for over three million Naira and government can't do it. They find it difficult, and the another thing is that even when these things are funded like my colleague have said since the people to use it are not familiar with the use you discover that at the end of the day or maybe when what you subscribed you discover that what government expect, the result will not be achieved and they consider it as a waste. I think these are some little challenges we have.

Could you please throw more light on the challenges?

Name: ZAB- yes with what they said, I can classify them as the major challenges. I will add a few more points. It is sad that the classroom is not even fit to apply technology in the teaching of students. I will give an example. I brought a projector to class one day to show a video only to discover that the sockets in the class are broken. The enthusiasm of the students who were looking forward to the video that day was punctured because of this environmental factor. So, for me, this is a critical factor that hinders blended learning implementation.

What do you consider to be the benefits of using blended learning in your college?

Name: ZAB- The benefits of blended learning are numerous, and it could be looked at from the angle of teachers and then the angle of students. I will want to state however that for the benefit we have to be sustained, the challenges I mentioned earlier must be addressed. For the teachers, blended learning brings about flexibility. What I mean by flexibility is that blended learning allows us to teach the complex aspects of our subjects in the class and then the less-complex ones are treated online. Let me also add that for our students, blended learning has brought about considerable improvement in the performance of our students.

Name: XYZ- I want to look at another angle and that is from the angle of this school. In this discussion, I mentioned earlier about the challenges that we have with funding and the likes. Funding has been on a steady decline, so I see blended learning implementation as a cost saving strategy.

NAME: ABC- For me, blended learning enables active collaboration between students especially when they are given a joint project. There was a time I gave my students a project and I watched to see how they could effectively collaborate, the whole experience was so

gratifying and I am telling you, it's only then you know how intelligent some of these students are!

What is your perception of your level of difficulty of using blended learning in your college?

NAME: ABC- For me, I will say I am versatile in the use of ICT and this has helped in the blended learning intervention in this college. I can't speak for other teachers here, but I will say here that some of the teachers here are not so versatile and struggle a bit. The good thing however is that they recognise they have challenges and are always willing to learn. For me personally, I have been privileged to attend some training programmes which has enabled me to use some applications for example, the Google Application for Education (GAPE).

Name: XYZ- For me, I cannot say I am totally versatile. I still find somethings difficult and the good thing is that like my colleague just mentioned, himself particularly has been very helpful, carrying some of us who have challenges along. Things are looking better with this posture.

What do you perceive to be the implications of the implementation of blended learning for your professional development?

Name: ZAB- As you know madam, teacher's professional development is a key element in the successful implementation of blended learning education at all tiers of our educational system especially at secondary school level which is the place that concerns me now. For teaching and learning to be effective, there is need for continuous professional development of teachers for them to get abreast of the facts. A lot has changed in terms of the resources that facilitate teaching and learning and teachers must be trained in the use of them.

Could you expatiate on these resources?

Name: ZAB- There exist several resources for teachers like the google classroom, Kiddon, Blackboard, Schoology, Edmodo. No teacher can just jump into the use of these resources without some measure of training. So personal development of teachers is important. Unfortunately, government is not serious about teacher's professional development. The complaint has always been lack of fund for training meanwhile they tend to prioritise capital expenditure over recurrent of which training funds is a part of. So, there is need for government to pay attention to teachers' professional development.

NAME: ABC- Well, I have benefitted from training outside the school but have not been able to go on any since I came in here. Therefore, whatever I do here in terms of blended

learning stems from my pre-service computer science immersion programme. I don't consider my knowledge deep enough to maximally function in a blended learning class so even though I stated earlier that I had an immersion certificate in computer science, during the blended learning class, I still find it difficult to find my way around some software when in the computer laboratory with my students so I do need some more training on the job.

You have all talked about teachers' professional development. If I may ask, is this training that you get frequent or not?

NAME: ZAB- Not frequent at all. One will realise that in order to implement blended learning and get maximum benefits, teachers' professional development is key. The mandate of the current principal on blended learning is very clear and even though he tries to fulfil this mandate with vigour, professional development in this critical area is still poor. The infrequent nature of teacher's professional development is not the making of the principal if I must say but majorly because of lack of funding. Secondary education is not well funded and if this trend is not checked, it will certainly have a colossal effect on teaching and learning.

Kindly recommend ways for the improvement of blended learning in the classroom?

NAME: XYZ- You will agree with me that it would be very difficult for you to give out what you don't know. So, it is important teachers are equipped in the area of adequate training and they in turn will put into practice what they learnt. What I am trying to say is that teachers be giving training on and off the job. This is important for effective blended learning.

NAME: ZAB- In addition to that, I think there is need to provide a conducive environment for learning. When the environment is not conducive for learning I think it won't all go well and now let's take it one after the other, we discussed about the issue of epileptic power supply and this has to be addressed may be by switching to Solar off grid power. I give you example because I work with the ICT dept, most of the work I do here I do it during the night, reason been that is when we put on the generator for a longer period of time because during the day there is no light. Now, if we have solar panels, the batteries will be charged during the day and you know we have abundance of sunlight here and this we can use round the clock.

NAME: XYZ- We made mention of lab, now if we should have more well equipped ICT labs or additional system and up -to-date state of art ICT equipment, I think it will help.

NAME: DAB- In my own opinion, I think one of the ways we can improve on blended learning is by providing adequate access to internet. Also, much needs to be done as per funding. Blended learning interventions involves serious funding. Government needs to move away from budgeting without cash backing. Timely release of funds for the development of the secondary education sub-sector is important.

NAME: ABC. Let me add something to what my colleagues said. There is a need to put in place a teacher's professional development framework that will constantly identify learning opportunities for individual teachers. With this framework in place, the whole teaching and learning process will be greatly enhanced. This I am sure will improve blended learning implementation.

One other point that keeps me agitated is the lack of synergy. While I acknowledge that underfunding is the bane in blended learning implementation, there is a need for effective collaboration between the Federal Ministry of Education on the one hand and the Federal Ministries of Information and Communication, international agencies like UNESCO and other International Development partners in the country as well as non-governmental organisations that could assist not just in funding but also contribute to teachers professional development.

Thank You.

Appendix 7: ICT Laboratory, Federal Government Girls College, Kabba, Kogi State, Nigeria.



ICT Laboratory, Federal Government Girls College, Kabba, Kogi State, Nigeria.



Students of the Federal Government Girl's College Kabba, Kogi State, Nigeria seated in the ICT Laboratory

Appendix 8: ICT Centre, Federal Government College, Ugwolawo, Kogi State, Nigeria.



ICT Centre, Federal Government College, Ugwolawo, Kogi State, Nigeria. (Case B).



Inside the ICT Centre, Federal Government College Ugwolawo, Kogi State, Nigeria (Case B) the ICT Laboratory