IDENTIFYING SPATIAL, FUNCTIONAL AND TECHNOLOGICAL MODIFICATIONS AND GUIDELINES TO COPE WITH EDUCATIONAL CHANGE AND CONTEMPORARY CHALLENGES

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Abstract: *The study identified spatial, functional, and technological modifications and guidelines to cope with educational change and contemporary challenges. The study adopted survey research design in which (600) secondary school teachers were purposively selected from thirty (30) secondary schools in south-west, Nigeria. The instrument for data collection was a self-developed questionnaire divided into four sections with 28 items based on the research topic. Four research questions were raised and two hypotheses were generated and answered. The study revealed that majority of the respondents agreed that learning spaces influence teaching and learning process in the educational change of twenty-first century. The study also revealed that majority of the respondents agreed that technology modification of twenty-first century influence change and continuity in educational planning, The study further showed that the issues and challenges to effective implementation of educational planning in educational changes of twenty-first century includes, blindness to the existing educational culture and teaching learning conditions, insufficient understanding of what change is like, lack of adequate planning skills, misappropriation of development funds, lack of in-service training on educational manager and failure to involve the key stakeholders among others. The result also indicated that there is strong significant influence of learning spaces on teaching and learning process in the educational change of twenty-first century and there is a significant influence of technology modification of twenty-first century on change and continuity in educational planning. Based on these findings, the following recommendation among others was made: effective and efficient educational planning should be built on sound decision in order to strengthen educational change of twenty-first century.*

Key words: *technological modifications, educational change, contemporary challenges, educational culture.*

Introduction

Technological advances are seen to have given rise to upsurge in information hunt which has made students of tertiary institutions to be in a great pursuit for information; they are very much willing to learn new things, ideas, technologies and new ways of acquiring information (Kyari, Adiuku-Brown, Abechi, Pyochi & Adelakun, 2018). Humans have used technology in various spheres of life to harness the natural resources. It is obvious that the use of technology creates challenges, but has benefits as well. One of the benefits of its ability to make the world become a global village. This it has done through its ability to facilitate the sharing of information globally. This phenomenon is facilitated by the use of Information and Communication Technology (ICT). Information communication and technology has made tremendous impact in the education industry by enhancing learning and global changes in education. Technology is one of the vital tools for learning.

Education plays a vital role in the modern, complex industrialized societies. It is commonly considered tool for poverty alleviation, increasing economic growth, people empowerment, cherishing personal earnings, encouraging a friendly and flexible environment paving way for a competitive economy. Furthermore, it provides for the new generations' strategies coping the complexities of economies in future Afzal, M., Farooq, M. S., Ahmad, H. K., Begum, I., & Quddus, M. A. (2010). In the development of schools, educational change is unavoidable, as it encourages flexibility in learning and teaching process. Change is inevitable in any organization with no exception to educational system changes (Chakraborty, Chakraborty, Dahiya, & Timajo, 2018). This change is brought about through the introduction of noble inventions and embrace of contemporary ideas, skills and practices required for modern growth and development. The other positive social impacts of education though not directly related to poverty but equally important, including improvement in functioning and continuity of democracy and reeducation in crime rate (Berg, 2010). Oluwalola (2015) describes change as aims at school improvement in one way or another. He opines that effective change does not come without adequate planning, vision, professional development, education measures and new institutional structures. Therefore, school improvement is closely linked to the professional development of principals and teachers (Postholm, 2012; Timperley, 2008). The improvement of student learning, learning environment, instructional support and/or learning processes, are ultimate goals for school improvement.

Planning could be said to be looking into the future and preparing for it. Planning involves the determination in advance of what is to be done

including clarification of goals, the establishment of policies, mapping out programmes and campaigns and defining specific methods or procedures and fixing day-to-day schedules. Educational planning is a continuous process of obtaining, analyzing, and providing data to make projections of future development in terms of human and material estimates necessary to accomplish the goals and purposes of education.
Okwori (2011) states that educational planning is the exercise of foresight in determining the policy, priorities and cost of educational system having due regards for economic and political realities for the system potentials, for growth and for the needs of the country and of the pupils served by the system. This implies that educational planning is a scientific study of the future with regard to a nation's educational development. Educational planning is a strategic process for the improvement of teaching and learning, that first appeared in the educational literature aftermath of World War I era (Ornstein & Hunkins, 1988 cited in Dan, 2013). Educational planning is the key function of educational resource management. The need for planning stone from the fact that a system must operate in changing environments. Changes in technological, economic, political and social climate can have radical effects on any system. Planning channels efforts towards desired results, and by providing a sequence of efforts, minimizes unproductive behaviours and waste of resources.
Planning for change should be done in a collaborative manner as a group work and not by individuals. This is necessary in order to develop implementation projects that the more people are involved in the problem analysis, the better, and more sustainable the solution. The planning process itself needs to be "comprehensive" and consider a vast array of real and potential intervening variables that is (people, things, and ideas) that may impact on the implementation of change (Krug, cited in Polka, 2015). It is imperative that contemporary educational leaders or those aspiring to become one need to keep this twentieth century four C planning model (cooperative, comprehensive, continuous, and concrete) in mind to meet the ever-changing educational landscape of the twenty-first century. (Fullan, 2005, cited in Polka, 2015) describes that the sustainability of school reform efforts, as being related to, "continuous improvement, adaptation, and collective problem solving in the face of complex challenges that keep rising."
It is observed that since the 1960s, educational change has undergone several phases of development. This has led to the creation of a unique and innovative design for teaching and learning process. However, much more is known about change strategies that typically lead to successful educational reforms in the early twenty-first century century to implement flexible learning classroom and provide guidelines for stakeholders in education on how the space ought to be. According to

Lackney (2019), an effective school-built facility is aimed at changing programs of educational delivery, and at a minimum should provide quality school physical environment for effective teaching-learning process. The school-built facility also includes furnishings, materials and supplies, equipment and information technology, building grounds, athletic fields, and playgrounds that is very important in contributing to healthy academic exercise (Lackney, 2019).

School-built facility is an essential component of the conditions of learning. The layout and design of a school-built facility contributes to the place experience of students, educators, and community members (Lackney, 2019). The quality of school design and its management can contribute to a sense of ownership, school safety and security, personalization and control as well as sociality, and spaciousness or crowdedness. (Lackney 2019) suggested that when planning, designing, or managing the school-built facility, these facets of place experience should be taken into consideration.

The twenty-first century school building is visualized to support academic success for all students, engage school communities to inform the creation of excellent school buildings for students and create school buildings on the cutting edge of technology and environmental sustainability (Price & Burley, 2016). The school-built facility planning process at its best involves an assessment of functional needs in light of the educational program developed during educational planning. Facility planning includes feasibility studies, master planning, site selection, needs assessment, and project cost analysis. Spatial requirements and relationships between various programme elements also needs to be established (Lackney, 2019). He stressed further that several school environmental issues have emerged over the past few decades, such as classroom acoustics, lighting, temperature, recreational equipment's, water quality, and abatement of asbestos, radon, and other hazardous materials to provide a safe and comfortable internal atmosphere for students and teachers.

The situation is that many schools built in the past do not provide adequate space resources for the way schools educate children in the early twenty-first century. Efforts to scale back class size across the nation along with growth in the number of students have placed a burden on school facilities and increased the demand for more classroom space (Picus & Lackney, 2019). Over time, it has also been observed that teachers' efforts to use classrooms in different ways to maximize learning often require additional square footage in each classroom (Lackney, 2019). In earlier periods, schools were built to meet the requirements of educational methods that are no longer in favour since the world does not occur in a vacuum. Many schools built in the 1970s have become obsolete because it is an "open classroom" model where

there were no walls between classrooms. As teaching moved away from this model, schools had to spend substantial sums of money to reconfigure their facilities (Picus & Lackney, 2019). However, due to significant improvement in technology, changes are also important part of a continuous modernization process because installation of white boards have been used to replace traditional chalk boards to make it easier to hang and display teaching aids and make a tremendous difference in the appearance of a classroom. Yet even these simple things can be expensive, and planning for such upgrades is important (Picus & Lackney, 2019).

(Zhao, 2011) opined that due to vast changes in education, the classical self-contained classroom can no longer provide the variety of learning settings necessary to successfully support project-based, real-world authentic learning. Education has to meet the needs of the globalized classroom. He stressed further that advancement in technology lead to new ways of doing things and learning, and to new types of knowledge. It becomes increasingly difficult to predict what type of businesses will emerge in the job market of the future. Thus, what is required are unique talents, skills and knowledge, the ability to adapt to changes and creativity so that school leaders must approach their work in radically new ways. Lackney (2019) stated that technology has enriched a variety of changes in the organizational and physical form of schools. With regards to instructional processes, technology integration is facilitating the movement toward project-based, self-directed learning and individualized instruction. As learning in twenty-first century becomes increasingly virtual, web-based, and wireless, it must physically take place somewhere. Technology is becoming ubiquitous; more schools are decentralizing technology throughout the school building and across the community.

The major challenge of educational change is how to understand and cope with rapid development in an unpredictably changing world. In the view of Hayward (2010), one of the main challenges of change is to sustain change on a broader scale, which is beyond that of individual teachers. Emerging new theories of educational change are beginning to employ concepts and ideas derived from the sciences and its development. The main characteristics of these new theories are nonlinearity of processes, which will make education as an open system, the interdependency of the various components of the system, and the change process itself. Consequently, educational planning projects that address the four contemporary cultural forces of accountability, technology, diversity, and constructivism, as well as others that may emerge, must be introduced to educators using Krug's 4 C model of cooperative, comprehensive, concrete, and continuous as a valuable strategic planning framework because change is ongoing process of

delivering an innovation. Thus, the changes in educational system related to people, things, and ideas will be more successfully implemented and will be more sustainable because the leaders managed in the "effective change zone". There is no doubt that proper educational planning is a necessity in this twenty-first century to address educational change and contemporary challenges.

To carry out effective planning, educational planners need to familiarize themselves with the theories of educational system. The study therefore is based on the Bereday theory of planning. Bereday (1977) cited in Asuquo (2018) maintains that a set of decision and the process of preparing the decisions are elements which are evident in educational system planning. This implies that planning in education involves preparing a set of decisions to be approved and executed by other organs or persons as the case may be. This theory maintains that the overall planning in education is continuous and systematic process from one generation to another which involves the application and co-ordination of social research methods, principles and techniques of education, administration, economies and finance. It takes into consideration the participation and support of general public and other stakeholders in education, with the opportunity of developing their potentialities and making the most effective contribution to the social, cultural and economic development of the nation.

It is necessary to understand what is meant by planning and what a plan is for better understanding of educational planning. An adage says; "to fail to plan is to plan to fail". This adage is loaded with meanings and full of warnings. According to (Newman as cited in Yawe, 2010) "planning is the process of determining in advance, what is to be done, including classification of goals, establishment of policies, mapping out of programme and campaigns and determining specific methods or procedures and fixing day-to-day schedules".

In line with the above definition of planning, Coombs, 1974 cited in Akpan (2018) opined that educational planning "is the application of rational systematic analysis to the process of educational development, with the aim of making education more effective and efficient in responding to the needs and goals of its student and society. In the same vein Okwori, (2011) sees educational planning as: "Involving the application of rational methods; systematic analysis or explanations, through the process of educational development with the aim of making education more effective and efficient in terms of responding to the needs of the students and the society as a whole. Therefore, Educational planning can be approached in four different perspectives, social demand, manpower requirement, rate of return and the synthesis (John & Abdus 1981, cited in Abdulrahman, Abdulkarim, Ibrahim & Abdulrahman, 2017). Whatever angle educational planning is viewed

from, the primary aim is to achieve quality.

Educational sectors are increasingly building or remodeling classrooms to be flexible spaces that support learner-centered instruction. However, the actual impact of these spaces on student learning outcomes cannot be overemphasized. Hence, learning space, whether digital or physical, is the most vital contemporary infrastructure requirement for learning in the twenty-first century (Uduku, 2015). Aside mastering the curriculum, twenty-first century learners have specific needs that need to be attended to by educators. Also. There is a need for students to acquire lots of skills necessary for digital innovation and partnerships. In the course of doing this, students should be sure to diligently creative, while being adaptable to any contemporary situation they find themselves, with informed flexibility and critical reasoning. This is what knowledge could be defined as, in the twenty-first century, twenty

contrary to the obsolete perception of knowledge as the ability to acquire a set of streamlined contents of a school syllabus so rigidly structured. All these could be better achieved if educators imbibe more productive modern methods of imparting knowledge.

Unlike twentieth century that focused on building more learning spaces, the twenty-first century allows the students to take up various positions in a variety of places, in various seating arrangements making them capable of continuously reconfiguring themselves (Uduku, 2015; Pearlman, 2010). The Joint Information Systems Committee (JISC, 2009) also described several attributes of twenty-first century learning spaces which includes flexibility that are able to accommodate both current and evolving pedagogies, future proofed that can be re-allocated and reconfigured, bold that looks beyond tried and tested technologies and pedagogies. Moreover, it also includes creativity that can energize and inspire students and teachers, and support development potential of all students. However, twenty-first century learning spaces offer students access to instructional and learning technologies that may include computers and connection to the internet. This adoption of learning technologies does not necessarily require more physical space, but more flexible space (Uduku 2015).

The emergency of technology into design is also an important part of planning for today's learning environments. A twenty-first century learning environment blends physical and digital infrastructure seamlessly support learning, melding face-to-face with blended and online learning. Technology modification in twenty-first century has allowed us to rethink the way school are design to promote physical learning spaces that accommodate new and expanded relationships among teachers and the students (U.S. Department of Education, 2017). These learning spaces allow equitable access to quality learning tools and technologies, and include space for group, team and individual

learning. Some of the most notable ways that technology can enhance student learning and promote twenty-first century skills are;

- Promoting greater student achievement
- Increasing student engagement
- Assessing student performance
- Facilitating communication and collaboration
- Maximizing administrative effectiveness
- Building student proficiencies in twenty-first century skills

These are factors that seem to strengthen the implementation and sustainability of educational change and contemporary challenges. Fullan asserted that 'the interface between individual and collective meaning and action in everyday situations is where change stands or falls.' (Fullan, 2007). Thus, we need to understand that educational change is highly complex and it involves various stakeholders. Darling-Hammond's (2009) reported an ongoing professional development for teachers and leaders of teachers that is collaborative and incorporated into teachers' schedules is one factor. Some countries are better than others at integrating the professional development of teachers into their teaching schedule. However, time for reflection on changes is a crucial factor for embedding and sustaining developments (Harlen & Hayward, 2010).

Inquiry-based approaches focused on classrooms and classroom practice, for example, action research and action learning can be effective ways of bringing about educational change (Pedder & James, 2012; Timperley, 2008). Therefore, educational change can become more effective, in order for education to better meet the needs of the world outside school, and allowing policy, practice and research to become better aligned. Nelson Mandela's famous words, reminding us of the power education has on its surroundings, makes it clear why educational change is so important and needs further research to develop and become even more effective: 'Education is the most powerful weapon which you can use to change the world.

Statement of the Problem

Over the years, massive financial, material and human resources are devoted to trying to improve education worldwide. However, the costs of managing and maintaining school-built facilities have received much less attention than facility planning. In addition, many schools built in the past do not provide adequate space resources for the way schools educate children in the early twenty-first century. Efforts to scale back class size across the nation along with growth in the number of students have placed a burden on school facilities and increased the demand for more classroom space. Teacher's efforts to use classrooms in different ways to maximize learning often require additional square footage in

each classroom.

Moreover, a high budget has been placed in order to provide the technology equipment needed in twenty-first century by teachers to improve the education system. Regardless of all the effort by the government to integrate technology due to educational changes, most developing countries are facing problem whereby the teachers are not maximizing the usage of the technology provided. The incorporation of learning space and technology into school environments in the twenty-first century necessitates additional modifications to both the built environment and the pedagogical approach to capitalize on the affordances of technology. This therefore investigated spatial, functional and technological modifications, and guidelines to cope with educational change and contemporary challenges.

Purpose of the Study

The general purpose of the study is to identify spatial functional and technological modifications and guidelines to cope with educational change and contemporary challenges specifically the study:

1. examined the influence of learning spaces on teaching and learning process in the educational change of the twenty-first century
2. ascertained how technology modification of the twenty-first century influence change and continuity in educational planning.
3. investigated the issues and challenges to effective implementation of educational plan in educational changes of the twenty-first century.
4. proffered possible measures to cope with educational change and contemporary challenges in the twenty-first century to ensure effective educational planning and implementation.

Research Questions

1. What are the influences of learning spaces on teaching and learning process in the educational change of the twenty-first century?
2. How does technology modification of the twenty-first century influence change and continuity in educational planning?
3. What are the issues and challenges to effective implementation of educational plan in educational changes of the twenty-first century?
4. What are the measures to cope with educational change and contemporary challenges in the twenty-first century to ensure effective educational planning and implementation?

Research Hypotheses

H_{01}: There is no significant influence of learning spaces on teaching and learning process in the
educational change of the twenty-first century.
H_{02}: There is no significant influence of technology modification of the twenty-first century on
change and continuity in educational planning.

Significance of the Study
The findings of this study will be of immense benefit to teachers to maximize the available school-built facility provided in the school to enhance teaching and learning process. The findings of the study would help Ministry of education in all over the world to provide a lot of facilities and training in order to enhance the use of advanced technologies in the twenty-first century teaching and learning process. The finding of the study will help educational planners/policy makers to be aware of the importance of spatial requirements and technological modification in building of school facilities in the twenty-first century. This will enable them to make policies that can stand the test of time to meet the educational changes. The outcome of this study will be an additional reference material to other stakeholders in education such as the ministry of education and government in identifying the key issues and challenges of effective implementation of educational plan in educational changes. More so, the findings of the study would help government both at state and national level to be aware of the need to provide adequate learning spaces and modern technology facilities that can accommodate and facilitate learning modes such as collaboration, explicit instruction, independent work, feedback and reflection as well as experiential learning, which are believed to lead to improvements in students' engagement and motivation.

METHODOLOGY

Research Design
The study adopted a survey research design which only requires the gathering of information from the population sample without manipulating any variable. The choice is also premised on the fact that the study involved investigating a sample of the population and generalizing the result.

Population of the Study
The population of the study is made up of all secondary school teachers in south-west Nigeria.

Sample and Sampling Technique
Six hundred (600) secondary school teachers were purposively selected

from thirty (30) secondary schools in south-west Nigeria. Among the thirty schools, six (6) secondary schools were randomly selected from five (5) states in south-west Nigeria. Twenty (20) teachers each were randomly selected from each of the thirty (30) secondary schools in south-west Nigeria.

Instrument for Data Collection

The instrument used for data collection is a self-developed questionnaire titled 'Educational Change and Contemporary Challenges Questionnaire (ECCCQ).' The instrument is made up of five sections consisting twenty-seven (27) items designed in line with the title of this study. Section A of the questionnaire was on bio-data information such as, respondent's gender, age, academic qualification and years of experience. Responses was based four-point scale, of "Strongly Agree" (SA = 4), "Agree" (A = 3), "Disagree" (D = 2) and "Strongly Disagree" (D = 1). The instrument was given to three experienced secondary school teachers to assess the validity before it was administered to twenty teachers of the population sample who were not involved in the real study. Their responses were analyzed and a reliability coefficient of 0.85 was obtained.

Method for Data Collection

The instrument for the study was distributed to the respondents. The instrument was retrieved immediately after they have been correctly filled by the respondents.

Method of Data Analyses

Data were analyzed using frequency count, percentages mean standard deviations and Pearson's product moment correlation. The percentages aspect of descriptive statistics was used to answer research questions one (1), two (2), three (3) and four (4) while Pearson's product moment correlation was used for research hypotheses one (1) and two (2).

RESULTS

Table 1: Analysis of the influence of learning spaces on teaching and learning process in the educational change of twenty-first century

S/N	Items	SA	A	D	SD	Mean	XD
1.	Classroom design helps students spent more time collaborating	319 53.2 %	195 32.5 %	60 10.0 %	26 4.3 %	3.35	.829

	and interacting with their peers						
2.	Students are actively engaged with the lesson due to their adequate learning space	211 35.2 %	304 50.7 %	63 10.5 %	22 3.7 %	3.17	.75 8
3.	Classroom design also facilitate ample opportunities to enhance student creativity and innovation	228 38.0 %	260 43.3 %	99 16.5 %	13 2.2 %	3.17	.77 7
4.	Renovation and redesign of classroom enable students' communicatio n and problem-solving skills	221 36.8 %	283 47.2 %	71 11.8 %	25 4.2 %	3.17	.79 2
5.	Learning spaces helps to promote students' interest towards learning	249 41.5 %	250 41.7 %	78 13.0 %	23 3.8 %	3.21	.81 0
6	Classroom design encourages students to learn and have easy access to a range of educational technologies designed to	317 52.8 %	185 30.8 %	80 13.3 %	18 3.0 %	3.34	.81 9

	facilitate learning						

Table 1 shows the analysis of influence of learning spaces on teaching and learning process in the educational change of twenty-first century. Majority of the respondents agreed that: classroom design helps students spent more time collaborating and interacting with their peers (85.7%); students are actively engaged with the lesson due to their adequate learning space (85.9%); classroom design also facilitate ample opportunities to enhance student creativity and innovation (81.3%); renovation and redesign of classroom enable students communication and problem solving skills (84.0%); learning spaces helps to promote students' interest towards learning (83.2%); classroom design encourages students to learn and have easy access to a range of educational technologies designed to facilitate learning (83.6%); The above table shows that majority 83.9% of the respondents agreed that learning spaces influence teaching and learning process in the educational change of twenty-first century .

Table 2: Analysis of how technology modification of twenty-first century influence change and continuity in educational planning

S/N	Items	SA	A	D	SD	Mean	XD
1.	Emergence of technology will make it possible to work with large data sets, e.g., to record statistics of student results	152 25.3 %	258 43.0 %	140 23.3 %	50 8.3%	2.85	.894
2.	Technology provides the help and complementary supports for both teachers and students	228 38.0 %	234 39.0 %	98 16.3 %	40 6.7%	3.08	.897

3.	Technology help teachers and students for effective learning with the help of the computers to serve the purpose of learning aids	167 27.8 %	258 43.0 %	138 23.0 %	37 6.2%	2.93	.86 6
4.	With the development of learning technologies in the twenty-first century, education system has changed rapidly	214 35.7 %	209 34.8 %	113 18.8 %	64 10.7 %	2.96	.98 6
5.	Technologies enable easy access and comprehensive teaching and learning environment.	213 35.5 %	251 41.8 %	101 16.8 %	35 5.8%	3.07	.86 8
6	Usage of technologies in teaching and learning process could improve students' achievement	183 30.5 %	269 44.8 %	110 18.3 %	38 6.3%	2.99	.86 2
7	Usage of ICT in pedagogy could increase students' creativity and thinking skills	188 31.3 %	249 41.5 %	117 19.5 %	46 7.7%	2.97	.90 3

Table 2 shows the analysis of how technology modification of twenty-first century influence change and continuity in educational

planning. Majority of the respondents agreed that: emergence of technology makes it possible to work with large data sets, for example, to record statistics of student results (68.3%); technology provides the help and complementary supports for both teachers and students (77.0%); technology help teachers and students for effective learning with the help of the computers to serve the purpose of learning aids (70.8%); with the development of learning technologies in the twenty-first century, education system has changed rapidly (70.5%); technologies enable easy access and comprehensive teaching and learning environment (77.3%); usage of technologies in teaching and learning process could improve students' achievement (75.3%); usage of ICT in pedagogy could increase students' creativity and thinking skills (72.8%); The above table revealed that majority of the respondents agreed technology modification of twenty-first century influence change and continuity in educational planning.

Table 3: Analysis on the Issues and challenges to effective implementation of educational plan in educational changes of twenty-first century

S/N	Items	SA	A	D	SD	Mean	XD
1.	Lack of care at the initiation stage.	215 35.8%	247 41.2%	101 16.8%	37 6.2%	3.07	.878
2.	Lack of adequate planning skills	193 32.2%	256 42.7%	106 17.7%	45 7.5%	2.99	.894
3.	Insufficient understanding of what change is like	245 40.8%	264 44.0%	56 9.3%	35 5.8%	3.20	.834
4.	Blindness to the existing educational culture and teaching learning conditions	162 27.0%	324 54.0%	82 13.7%	32 5.3%	3.03	.788
5.	Inadequate funds/ financial constraints	187 31.2%	259 43.2%	98 16.3%	56 9.3%	2.96	.921

6	Lack of in-service training on educational management	199 33.2 %	295 49.2 %	89 14.8 %	17 2.8 %	3.13	.760
7	Misappropriation of development funds	144 24.0 %	332 55.3 %	102 17.0 %	22 3.7 %	2.99	.747
8	Emerging issues /new challenges	144 24.0 %	292 48.7 %	126 21.0 %	38 6.3 %	2.90	.834
9	Failure to involve the key stakeholders	179 29.8 %	280 46.7 %	103 17.2 %	38 6.3 %	3.00	.851

Table 3 shows the analysis on the Issues and challenges to effective implementation of educational plan in educational changes of twenty-first century. Majority of the respondents agreed that; lack of care at the initiation stage (77%); lack of adequate planning skills (74.9%); insufficient understanding of what change is like (84.8%); blindness to the existing educational culture and teaching learning conditions (81.0%), inadequate funds/ financial constraints (74.4%); lack of in-service training on educational management (82.4%); misappropriation of development funds (79.3%); emerging issues /new challenges (72.7%); failure to involve the key stakeholders (76.5%); The above table showed majority of the respondents agreed that issues and challenges to effective implementation of educational plan in educational changes of twenty-first century includes**,** blindness to the existing educational culture and teaching learning conditions, insufficient understanding of what change is like, lack of adequate planning skills, misappropriation of development funds, lack of in-service training on educational management and failure to involve the key stakeholders.

Table 4: Analysis on the measures to cope with educational change and contemporary challenges in twenty-first century to ensure effective educational planning and implementation

S/N	Items	SA	A	D	SD	Mean	XD
1.	Schools should carry out strengths, weaknesses,	162 27.0%	304 50.7%	103 17.2%	31 5.2%	2.99	.806

	opportunities and threats analysis/needs assessment						
2.	Schools should have clear vision/ mission and objectives	155 25.8%	313 52.2%	101 16.8%	31 5.2%	2.99	.796
3.	Educators and principals should undergo educational administration and planning course	147 24.5%	310 51.7%	91 15.2%	52 8.7%	2.92	.859
4.	School policies regarding development planning needs to have a clearly defined framework and strategies to achieve its goals.	216 36.0%	263 43.8%	97 16.2%	24 4.0%	3.12	.818
5.	There is need to actively involve all key stakeholders in development planning since school level change will be supported by al1 stakeholders to shared ideas, mechanisms,	194 32.3%	303 46.0%	89 18.2%	14 3.8%	3.13	.741

	and processes that appeared to be promising for promoting systemic change and quality improvement						
6	Educational policies need to work towards strengthening of local participation in education service delivery.	192 32.0%	276 46.0%	109 18.2%	23 3.8%	3.06	.808

Table 4 shows the analysis on the measures to cope with educational change and contemporary challenges in twenty-first century to ensure effective educational planning and implementation. Majority of the respondents agreed that: schools should carry out strengths, weaknesses, opportunities and threats analysis/needs assessment (77.7%); schools should have clear vision. mission and objectives (78.0%); educators and principals should undergo educational administration and planning course (76.2%); school policies regarding development planning needs to have a clearly defined framework and strategies to achieve its goals (79.8%); there is need to actively involve all key stakeholders in development planning since school level change will be supported by al1 stakeholders to shared ideas, mechanisms, and processes that appeared to be promising for promoting systemic change and quality improvement (78.3%); educational policies need to work towards strengthening of local participation in education service delivery (78.0%). Table 4 showed majority of the responses of the respondents agreed that measures to cope with educational change and contemporary challenges in twenty-first century to ensure effective educational planning and implementation includes the need to actively involve all key stakeholders in development planning, there is need for school policies regarding development planning to have a clear defined framework and strategies to achieve its goals, schools should also have clear vision/ mission and objectives. More so, there is need for educators and principals to undergo educational administration and planning

course. Respondents also reported that they considered that the school should carry out strengths, weaknesses, opportunities and threats analysis/needs assessment for the schools and educational policies need to work towards strengthening of local participation in education service delivery.

Table 5: Summary of Pearson Product Moment correlation on how learning spaces influence teaching and learning process in the educational change of twenty-first century

Variable	N	Mean	SD	Df	R	Sig (2-tailed)	Remark
Learning space	600	1.463	.4995	198	0.113*	0.051	Significant
Teaching and learning	600	2.827	.9449				

**Correlation is significant at the 0.001 level (2-tailed)

A Pearson product-moment correlation analysis was used to provide answer to the first research hypothesis. As shown in Table 5. The result revealed that there is a strong influence of learning spaces on educational change of twenty-first century ($r=0.113$, $df=198$, $p<0.05$). This implied that there is a strong significant influence of learning spaces on teaching and learning process in the educational change of twenty-first century.

Table 6: Summary of Pearson Product Moment Correlation on the influence of Technology Modification of twenty-first century on Change and Continuity in Educational Planning

Variable	N	Mean	SD	DF	R	Sig (2-tailed)	Remark
Educational planning	600	1.463	.4994	198	0.196*	0.001	Significant
Technology modification	600	2.833	.9671				

*Correlation is significant at the 0.001 level (2-tailed)

The result shows that there is a significant influence of technology

modification of twenty-first century on change and continuity in educational planning ($r=0.196$, $df=198$, $p<0.05$). This implies that technology modification of twenty-first century plays a pivotal role on change and continuity in educational planning.

Discussions

The study revealed that majority of the respondents agreed that learning spaces influence teaching and learning process in the educational change of twenty-first century. This finding is in conformity with Uduku, (2015) who posited that learning space, whether digital or physical, is the most vital contemporary infrastructure requirement for learning in the twenty-first century. This is also in line with the findings of Marx, et al., cited in Adedokun, Parker, Henke and Burgess (2017) which confirmed that seating arrangement in semi-circles or similar configurations could facilitate interactive behaviours in teaching/learning process such as asking questions or collaborative learning. Therefore, the influence of learning spaces in twenty-first century teaching/learning process cannot be overemphasized; hence there is need for proper educational planning that incorporate adequate spatial requirement.

The study also revealed that majority of the respondents agreed that technology modification of twenty-first century influences change and continuity in educational planning thereby supporting U.S. Department of Education (2017) that the emergence of technology into design is also an important part of planning for today's learning environments. Therefore, technology modification in twenty-first century has allowed us to rethink the way schools are designed to promote physical learning spaces that accommodate new and expanded relationships among teachers and the students.

The study also showed that majority of the respondents agreed that issues and challenges to effective implementation of educational plan in educational changes of twenty-first century includes, blindness to the existing educational culture and teaching learning conditions, insufficient understanding of what change is like, lack of adequate planning skills, misappropriation of development funds, lack of in-service training on educational management and failure to involve the key stakeholders. This finding is in tandem with Ngunju (2009) who posited that there are several challenges to effective implementation of educational plan, which may include lack of planning skills among head teachers, failure to involve key stakeholders, high turnover of head teachers, lack of finances, poorly made development plans, and lack of support from stakeholders. However, these factors affect the effective implementation of educational plan in educational changes of twenty-first century.

The study further revealed that majority of the respondents opined that

measures to cope with educational change and contemporary challenges in twenty-first century to ensure effective educational planning and implementation includes the need to actively involve all key stakeholders in the development planning, there is need for school policies regarding development planning to have a clear defined framework and strategies to achieve its goals, schools should also have clear vision mission and objectives. Moreso, there is need for educators and principals to undergo educational administration and planning course. Respondents also reported that they considered that the school should carry out strengths, weaknesses, opportunities and threats analysis/needs assessment for the schools and educational policies need to work towards strengthening of local participation in education service delivery. Similar result was reported by Darling-Hammond's (2009) that one of the factors to cope with educational change and contemporary challenges is professional development for teachers and stakeholders in education. Further, Harlen and Hayward, (2010) opined that time for reflection on changes is a crucial factor for embedding and sustaining developments. However, Hargreaves & Fullan, (2012) posited that core ingredients in pulling change, as found in good examples from Canada, Finland and Queensland, Australia, are: collective responsibility, testing a bit but not too much and trust.

The result also indicated that there is strong significant influence of learning spaces on teaching and learning process in the educational change of twenty-first century. However, learning space whether digital or physical is recognized as socially constructed, and the most important contemporary infrastructure requirement for learning in the twenty-first century that could foster effective teaching and learning process because education has to meet the needs of the globalized classroom In this view, educational change has undergone several phases of development. This is in tandem with agreement of Cleveland (2016); Neill and Etheridge (2008) posited that effective design of leaning spaces has been found to facilitate constructivist pedagogy and student engagement.

The result further shows that there is a significant influence of technology modification of twenty-first century on change and continuity in educational planning. This implies that technology modification of twenty-first century plays a pivotal role on change and continuity in educational planning. It also observed that the incorporation of technology modification in twenty-first century improves teaching and learning processes across all subjects and ages. This could be translated to mean that incorporation of technology modification in twenty-first century increases the motivation of children and enhances the process of addressing their individual learning needs and also improves the enjoyment and interest in learning and augments self-directed learning. The assertion made above also agreed with

Chandra and Mills (2015) which revealed that the incorporation of virtual space into learning environments necessitates additional modifications to both the built environment and the pedagogical approach to capitalize on the affordances of technology.

Conclusion

The study identified spatial, functional, and technological modifications and guidelines to cope with educational change and contemporary challenges. The study revealed that majority of the respondents agreed that learning spaces influence teaching and learning process in the educational change of twenty-first century. The study also revealed majority of the respondents agreed that technology modification of twenty-first century influence change and continuity in educational planning, The study further showed that the issues and challenges to effective implementation of educational planning in educational changes of twenty-first century includes, blindness to the existing educational culture and teaching learning conditions, insufficient understanding of what change is like, lack of adequate planning skills, misappropriation of development funds, lack of in-service training on educational management and failure to involve the key stakeholders. More so, the study revealed that measures to cope with educational change and contemporary challenges in twenty-first century to ensure effective educational planning and implementation includes the need to actively involve all key stakeholders in development planning, there is need for school policies regarding development planning to have a clear defined framework and strategies to achieve its goals, schools should also have clear vision mission and objectives. In addition, there is need for educators and principals to undergo educational administration and planning course. Respondents also reported that they considered the school to carry out strengths, weaknesses, opportunities and threats analysis/needs assessment; educational policies need to work towards strengthening of local participation in education service delivery. The result also indicated that there is strong significant influence of learning spaces on teaching and learning process in the educational change of twenty-first century and there is a significant influence of technology modification of twenty-first century on change and continuity in educational planning. This implied that technology modification of twenty-first century plays a pivotal role on change and continuity in educational planning.

Recommendations

1. Effective and efficient educational planning should be built on sound decision and decision-making process in order to

strengthen educational change of twenty-first century.
2. There is also need for active-learning classroom environment in order to facilitate the changing pedagogical practices needed to support educational change of twenty-first century.
3. Efforts should be made to conduct evaluations that provide guidelines for learning benefit, associated financial and other costs of new-style learning spaces.
4. There is a need for stakeholders in education to frequently organize in service training for teachers on technology issues and emerging trends
5. Flexible learning space should be incorporated in school design to enhance health safety in teaching and learning process.

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