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Abstract: Education is an engine for the growth and progress of any society and it is responsible for building human capital which sets technological and economic growth. In the pre-technology education context, the teacher controlled the instructional process, the content was delivered to the entire class and the teacher emphasized factual knowledge. However, the current global demands in education require the use of approaches that are learner-centered and embracing integration of ICT. The purpose of this study is to establish the pedagogy used in Kenya for the 21st century learner. The case study design was used to collect qualitative data from three teachers who were purposively sampled from three education sub-sectors in Kenya: primary, secondary and university. The interview was guided by three research questions: Which teaching practices are used in Kenya? Which are the ‘best’ teaching practices in Kenya in the 21st century? What are the barriers for the ‘best’ teaching practices in Kenya? The findings were that the teaching methods currently in use were mainly teacher-centered although the respondents revealed that the ‘best’ teaching practices for the 21st century learner were student-centered. However, the barriers were large classes, lack of resources and facilities among other factors. The study recommends realignment of education policies to give priority to build pedagogical capabilities of teachers, provide digital tools and other resources. This would enable the 21st century learners’ opportunity to unleash their potential.

Key Words: Human Capital, Learner-Centered, Pedagogy, Technology, Teacher-Centered, Teaching Practices, Technological Capabilities, 21st Century Learner.
1. Introduction

Education is an engine for the growth and progress of any society and it not only imparts knowledge, skills and inculcates values but is also responsible for building human capital which breeds, drives and sets technological innovation and economic growth (Damodharan, 2007). In the pre-technology education context, the teacher is the sender or the source, the educational material is the information or message and the student is the receiver of the information. In terms of the delivery medium, the teacher can deliver the message via the chalk and talk method and overhead projector transparencies. This directed instruction model has its foundations embedded in the behavioral learning perspective discussed by Skinner (1976) cited in GSI Teaching and Resource Centre (2014). It is a popular technique which has been used for decades as an educational strategy in all institutions of learning.

Basically according to Gray (2016) the teacher controls the instructional process, the content is delivered to the entire class and the teacher tends to emphasize factual knowledge. That is, the teacher delivers the lecture content and the students listen to the lecture. Thus, the learning mode tends to be passive and the learners play little part in their learning process and this conventional lecture approach in classroom has been found to be of limited effectiveness in both teaching and learning for in such a lecture, students assume a purely passive role and their concentration fades off after 15-20 minutes.

The current global demands in education require the use of approaches that are learner-centered, embracing integration of ICT and creative enough to provide quality and relevant Education. The requirement is backed by a number of polices on Education For All (EFA) in Kenya (Republic of Kenya, 2007) and the needs of a dynamic 21st century learner as described by the partnership for 21st century skills. A 21st century learner possess attributes that integrate knowledge, skills, values and attitudes that result in learning outcome that is holistic and produce critical thinkers, problem solvers, with integrity, independence and responsible and positive self-esteem, which outweighs the current practices that target achievements in cognitive domains inclined to test score (Huitt, 2011).

The 21st century learner is democratic and critical in ICT and the education is perceived to prepare the child for life and the schools have to equip the learner with skills, knowledge and attitudes that enables the learner to have integrity and self-respect, moral courage, use the world around them, speak, write, read well and enjoy their life and work (Center for British Teachers, 2012). Globally, the most crucial of these skills also termed the 4Cs are critical thinking and problem solving, creativity and innovation, communication and collaboration.
2. Teaching in the 21st century

When the 21st century teaching is taking place; schools should stop being buildings defined by walls and times of day but they should transform into community nerve centers. Walls should become porous and transparent and teachers and students become connected to the outside world from the immediate surrounding community to people and knowledge across the planet. Teachers should stop being dispensers of data and become something more akin to coaches, imparting skills that help students become not just content experts but expert learners. Lastly, learners should be excited by flexible, open-ended, project-based and real-world learning situations that not only teach content skills but they also instill curiosity—fundamental to lifelong learning. They should develop communication and teamwork skills and should appreciate the freedom and responsibility that comes from taking charge of their own learning (Kellner, 2012).

2.1 Teaching practices

Teaching practices are the specific actions and discourse that take place within a lesson and that physically enact the approach and strategy. Teaching practices (Alexander, 2001) comprise:

• Teacher spoken discourse including instruction, explanation, metaphor, questioning, responding, elaboration and management talk.
• Visual representation using a chalkboard, writing, diagrams, pictures, textbooks and learning aids such as stories, experiments and drama to understand or construct the new knowledge being presented or indicated to the learner.
• The act of setting or providing tasks for learners to cognitively engage with new content or develop physical skills such as experimentation, reading, writing, drawing, mapping, rehearsing, problem solving and practicing.
• A variety of social interactions in which language is central between learners or learners and a teacher such as pairs, groups, individually or whole-class.
• Teachers’ monitoring, use of feedback, intervention, remediation and formative and summative assessment of the students or assessment by the students themselves.

2.1.1 Teaching approaches

The choice of teaching approach depends on what fits educational philosophy, classroom demographic, subject area(s) and the school mission statement. However, teaching theories primarily fall into two categories or approaches: teacher-centered and student-centered.

In teacher-centered approach, the teachers are the main authority figure and the students are viewed as empty vessels whose primary role is to pas-
sively receive information via lectures and direct instructions with an end goal of testing and assessment. It is the primary role of the teachers to pass knowledge and information onto their students. In this model, teaching and assessment are viewed as two separate entities. Student learning is measured through objectively scored tests and assessment.

While teachers are an authority figure in student-centered approach to learning, teachers and students play an equally active role in the learning process. The teacher’s primary role is to coach and facilitate student learning and overall comprehension material. Student learning is measured through both formal and informal forms of assessment including group projects, student portfolios and class participation. Teaching and assessment are connected; student learning is continuously measured during teacher instruction.

2.1.2 Teaching strategies

In educational pedagogy, there are three main teaching strategies (styles) based on these two approaches: direction instruction, inquiry-based learning and cooperative learning.

Direct instruction is the general term that refers to the traditional teaching strategy that relies on explicit teaching through lectures and teacher-led demonstrations. It is the primary teaching strategy under the teacher-centered approach and the teachers are the sole supplier of knowledge and information. Direct instruction is effective in teaching basic and fundamental skills across all content areas. According to Gill (2013) teachers are formal authority and are in a position of power and authority because of their exemplary knowledge and status over their students. Classroom management styles are traditional and focus on rules and expectations. He further argues that in direct instruction, teachers are experts and are in possession of all knowledge and expertise within the classroom. The teacher’s primary role is to guide and direct learners through the learning process and the students are viewed solely as the receptors of knowledge and information – empty vessels. In addition teachers are personal models who lead by example, demonstrating to students how to access and comprehend information and students learn through observing and copying the teacher’s process.

Inquiry-based learning is a teaching method that focuses on student investigation and hands-on learning. The teacher’s primary role is that of a facilitator, providing guidance and support for students through learning process. Inquiry-based learning falls under the student-centered approach and the students play an active and participatory role in their own learning process. There is a strong emphasis on the teacher-student relationship (Gill, 2013) and both the student and the teacher undergo the learning process together. The student learning is loosely guided by the teacher and is focused on fostering independence hands-on learning and exploration. There is a sense of autonomy in the learning process for teachers play a passive role in students learn-
Teachers act as a ‘resource’ to students, answering questions and reviewing their progress as needed while students are active and engaged participants in their learning.

Cooperative learning refers to a method of teaching and classroom management that emphasizes group work and a strong sense of community. This method fosters students’ academic and social growth and includes teaching techniques such as think-pair-share and reciprocal teaching and it falls under the student-centered approach because learners are placed in responsibility of their learning and development. This method focuses on the belief that students learn best when working with and learning from their peers.

2.2 The 21st century learners

For effective teaching it is good to know the type of learners the teachers in the 21st century would be dealing with and the following are some of the characteristics of these learners (Dublin, 2015).

• Broad and deep understanding of the world. Learners these days know that they live in the world where there are diversity and a lot of issues to address such as health concerns, environment protection, economic growth and many more. They try to play an important role in taking care of the environment and help lessen the contribution of society to its destruction. They also tend to be more financially literate and can make economically sound decisions.

• Make interdisciplinary connections. These days, students can apply and relate what they learn in different subject areas such as mathematics, science and the arts to address an issue or achieve a certain project. Doing so gives them a deeper sense of understanding and appreciation of the complex concepts and equations that they have to study every day.

• Think critically and creatively. 21st century learners can process the information that they receive, ask questions, analyze them and make arguments, beliefs and decisions based on this information. They do not limit themselves to becoming one-trick-ponies only. They often think outside the box and do not stick to a single approach to attack a dilemma.

• Communicates and collaborates with others. Two heads are better than one and the learners today realize the power of a unified group and learn how to deal with different personalities in an effective and courteous manner.

• Creates, evaluates and utilizes information. Technology has made it possible for everyone to gain access to a diverse and abundant amount of information. Students can harness this, evaluate which one is accurate and is significant and use it to address a certain issue.

• Career-ready and prepared for life. The real world can be harsh and cruel, unlike the environment the learners have been used to. It is certainly going to take more than just knowledge and theoretical ideas that are going to
make a person survive the grown-up life. However, the learners of today are more flexible and can easily adapt to new environments.

• Eyes on the prize. Teaching today should be more than just giving lessons and assignments. It should be a two-way process where both the learner and the teacher learn from each other and this would enable the learners to further the 21st century skills – skills that will allow learners to function, learn and adapt throughout life in this post-modern world.

All these learner characteristics would therefore culminate into the 21st century learning which means the constellation of learner characteristics which equips learners to enjoy a high quality of life, work and relationships by being resilient, intentional, creative and confident learners who understand the values of collaboration, the relationship of effort to results and the need to be continually growing and learning (Walker, 2012).

2.3 Effective pedagogy

The ultimate goal of any pedagogy is to develop student learning and yet the 2005 Global monitoring report on quality (UNESCO, 2005) includes creative, emotional and social development as indicators of quality learning. Effective pedagogy is inclusive of those teaching and learning activities that make some observable change in students, leading to greater engagement and understanding and/or a measurable impact on student learning. However, Alexander (2008) distinguishes indicators of quality from measures, recognizing that there are non-measurable indicators that may be culturally or contextually specific but difficult to gauge by objective measurements.

Effective pedagogy practices can be seen through measurements of enhanced student cognition which are key, although other indicators are included such as changes in student confidence, participation or values and social indicators such as teacher-student interaction and inclusion (Westbrook et al, 2013). In addition, secondary outcomes of successful learning as a result of effective teacher pedagogic practice may be higher student attention, use of resources, use of specific practices and stakeholder’s satisfaction such as parents and community members.

In the old pedagogies (Fullan & Langworthy, 2014) a teacher’s quality was assessed primarily in terms of their ability to deliver content in their area of specialization and pedagogical capacity was secondarily important for teaching strategies meant direct instruction. Technology on the other hand had been layered on top of content delivery and used to support students’ mastery of required curricula content. However, in the new pedagogies model, the foundation of teacher quality is a teacher’s pedagogical capacity – their repertoire of teaching strategies and ability to form partnerships with students in mastering the process of learning. Technology is pervasive and it is used to discover and master content knowledge and to enable the deep learning goals of creating and using new knowledge in the world.
2.3.1 New Pedagogies components

The following three components when integrated enable deep learning outcomes according to Fullan and Langworthy (2014), new learning partnerships between and among students and teachers, deep learning tasks that restructure the learning process towards knowledge creation and purposeful use and digital tools and resources that enable and accelerate the process of deep learning.

• Effective partnering is built on principals of equity, transparency, reciprocal accountability and mutual benefit. Through such partnering teachers not only become learners but also begin to see learning through the eyes of their students. This visibility is essential if teachers are to continuously challenge students to reach for the next step and if they are to clearly see whether teaching and learning strategies are achieving their intended goals.

• Deep learning tasks harness the power of the new learning partnerships to engage students in practicing the process of deep learning through discovering and mastering existing knowledge and then creating and using new knowledge in the world. Deep learning tasks are energized by the notion of learning leadership in which students are expected to become leaders of their own learning, able to define and pursue their own learning goals using the resources, tools and connections that digital access enables.

• Deep learning tasks redesign learning activities to: restructure students’ learning of curricular content in more challenging and engaging ways made possible by digital tools and resources; give students real experiences in creating and using new knowledge in the world beyond the classroom; develop and assess key future skills, called the 6Cs:
  - Character education – honesty, self-regulation and responsibility, hard work, perseverance, empathy for contributing to the safety and benefit of others, self-confidence, personal health and well-being, career and life skills.
  - Citizenship – global knowledge, sensitivity to and respect for other cultures, active involvement in addressing issues of human and environmental sustainability.
  - Communication – communicate effectively orally, in writing and with a variety of digital tools; listening skills.
  - Critical thinking and problem solving – think critically to design and manage projects, solve problems, make effective decisions using a variety of digital tools and resources.
  - Collaboration – work in teams, learn from and contribute to the learning of others, social networking skills, empathy in working with diverse others.
  - Creativity and imagination – economic and social entrepreneurialism, considering and pursuing novel ideas and leadership for action.
Digital tools and resources have the potential to enable, expand and accelerate learning in ways previously unimaginable. Technology strategically integrated with other core components of the new pedagogies unleashes deep learning. When pedagogical and deep learning capacities are clearly defined and developed, digital tools and resources enable the discovery and mastery of new content knowledge; the collaborative and connected learning; the low cost creation and iteration of new knowledge; the use of new knowledge with authentic audiences for real purposes; and the enhancement of teachers’ ability to put students in control of their learning process, accelerating learner autonomy.

In the new pedagogies, learning partners use technology: to construct knowledge, to investigate and solve real problems, to give each other feedback and assess one another’s work, to collaborate beyond the boundaries of the classroom and the school day and to communicate with peers, experts and others throughout the world. The how of technology use is dynamic and co-determined by students and teachers.

2.3.2 Effective teaching principles

These are teaching characteristics that relate to students’ experience and they are the blueprint for effective teaching.

- Enhancement of social-emotional student learning. There are five key components to social and emotional learning: Social awareness, self-management, self-awareness, responsible decision-making and relationships skills. The teachers can address these social-emotional learning components through the following teaching strategies:
  - Meeting one-on-one regularly with students to discuss challenges or social themes. This can help students become more self-aware of their actions, improve relationship skills with the teacher and develop responsible decision-making skills, they can use moving forward to resolve any challenges or issues they face in school.
  - Starting and ending the day with personal connection. This can help students understand the importance of their work and the influence it can have on their success. Teachers can share their own learning challenges and successes in school or other areas of life in an effort to connect with students and encourage honest discussion.

- Enhancement of a positive mindset. Practicing a positive mindset can improve student learning. The positive thinking can improve the emotional and motivational support or even cognitive functions for numerical problem solving, reading ability, working memory and math reasoning. The positive mindset teaching strategies include the following:
  - Using teachable moments. When faced with adversity in life or in the school environment, teach the students how to see the situation in a positive light and how to move forward. This is a great time to
practice empathy and teach the students that there are others who may be more disadvantaged.

- Delivery attitude lessons. Ask students to compare someone in their life who has a positive mindset with another who has a negative attitude. Students can also assess their own attitude and how they could improve.

While social competence and a positive mindset may not be commonly tested learning areas, they are important skills that can drastically impact student learning outcomes and student success in education and other important areas of life (Mattero, 2016).

Other teaching characteristics that make an effective teacher (Weimer, 2009)

- Enhancement of interest and explanation. When our interest is aroused in something, we enjoy working hard at it until we come to feel that we can in some way own it and use it to make sense of the world around us. Coupled with the need to establish the relevance of content, teachers need to craft explanations that enable students to understand the material. This involves knowing what students understand and then forging connections between what is known and what is new.

- Enhancement of concern and respect for students and student learning. Good teaching is nothing to do with making things hard and also nothing to do with frightening students. Good teaching is everything to do with benevolence and humility; it always tries to help students feel that a subject can be mastered; it encourages students to try things out for themselves and succeed at something quickly.

- Enhancement of appropriate assessment and feedback. This principle involves using a variety of assessment techniques and allowing students to demonstrate their mastering of the material in different ways. It avoids those assessment methods that encourage students to memorize and regurgitate. It recognizes the power of feedback to motivate more effort to learn.

- Enhancement of clear goals and intellectual challenge. Effective teachers set high standards for students and they also articulate clear goals. Students should know up front what they will learn and what they will be expected to do with what they know.

- Enhancement of independence, control and active engagement. Good teaching fosters a sense of student control over learning and interest in the subject matter. Good teachers create learning tasks appropriate to the student’s level of understanding. They also recognize the uniqueness of individual learners and avoid the temptation to impose mass production standards that treat all learners as if they were exactly the same.

- Enhancement of learning from students. Effective teaching refuses to take its effect on students for granted. It sees the relation between teaching and learning as problematic, uncertain and relative. Good teaching is open to
change and it involves constantly trying to find out what the effects of instruction are on learning and modifying the instruction in the light of the evidence collected.

3. Statement of the problem

In the report of education task force on re-alignment of education to the Kenya constitution (Republic of Kenya, 2012), the task force singled out a crucial question, is the Kenyan education system and its institutions and programs fit for the purpose? Specific issue identified in this question include relevance in regard to content and delivery: sufficient flexibility to adapt to the changing socio-economic needs, requisite quality to match global competitiveness and to address challenges of the 21st century.

The 21st century learners outpace their teachers in technological innovation and creativity and Kenya is no exception. The learners tend to get bored quickly with the curriculum delivery system embracing teacher-centered strategies which have no room for innovation and creativity. The outcome has been student unrest and protests, exams cheating and emergence of increasing dissatisfied youth (Laurillard, 2012), hence, the need for alternative approaches that are relevant. Moreover, the current teaching practices in Kenya focuses on producing “A” grade learners and those societal settings that attach a lot of value to test score.

It is therefore, in this landscape that the research has been done with a view of highlighting the effective teaching practices that can equip and develop the 21st century Kenyan learner.

4. Methodology

A case study design was used in the research to enable collection of qualitative data from three respondents who were purposively sampled. These were teaching professionals: a primary school teacher, a secondary school teacher and a university lecturer. These were from three sub-sectors of education in Kenya: primary, secondary and the university.

The study was guided by three research questions which were used to prepare the one-on-one interview schedule for in-depth data collection: Which teaching practices are used in Kenya? Which are the ‘best’ teaching practices in Kenya in the 21st century? What are the barriers for the ‘best’ teaching practices in Kenya?
5. Findings

The study respondents were three teachers from a primary and secondary school and a university whose pseudonyms were Peter, John and Nelly respectively.

Peter was a primary school teacher and had a bachelor’s degree in education. He had been teaching in primary school for three years and the teaching methods he used included the following:

(i) Explanation. This is teacher-centered approach, the teacher explains the content to the learners as they listen but they can ask questions if need be. These explanations sometimes are accompanied by visual aids to help the learners visualize an object or problem.

(ii) Narration. This is an interactive teaching method. The teacher narrates stories to the learners and thereafter learners narrate stories to their partners or the whole class.

(iii) Discussion. This is learner-centered approach and the teacher facilitates by putting the students into discussion groups and the teacher is guiding the discussion and giving feedback.

(iv) Case study. This is the study of a famous personality, an event or an occurrence and is teacher-centered. The teacher takes the learners through such breath-taking phenomena and form a discussion revolving the case study.

(v) Mimicry. It is learner-centered and the teacher guides the learners in areas of imitation so as to bring out the character being imitated.

(vi) Look and say method. It is teacher-centered and ideal for language learning. The teacher flashes a written placard and the learners read aloud what is written. The reading can be done by an individual, a group or the whole class.

Peter noted that from his teaching experience in primary school level in Kenya, the following methods had been effective.

(i) Explanation. It is effective because the teacher assessed the level/ability of the learners and explains the content with the target to reach each learner at their level and simplifies by examples what seems difficult to understand. The teacher would use the medium of instruction which the learners can understand. The learners, on the other hand would be using and developing their listening skills as well as asking questions for better understanding.

(ii) Discussion. This is effective because the discussion/lesson would begin from the known to the unknown. That is, the learners would bring in their prior knowledge to the lesson/content as the teacher guides them to the frontiers of the new concepts.

(iii) Narration. This is effective for it involves all the learners and requires
them to develop such skills as speaking and listening. It also encourages them to learn from each other.

On further probe on the “best” teaching practices needed in Kenya in the 21st century, Peter suggested the following practices:

(i) Role play. This introduces a problem situation dramatically and is learner-centered. It provides an opportunity for learners to assume roles of others and thus appreciate another person’s point of view. Role play allows for exploration of situations and provides opportunity to practice a number of skills such as listening, speaking, questioning and reasoning. The teacher has to define the problem situation and the roles clearly and must give very clear instructions.

(ii) Resource persons. This can be used as practical examples in the classroom. The goal here is to show the learners that what they are learning has practical application and teachers need to effectively utilize relevant resource persons to enhance their teaching and achievement in class.

(iii) Modeling. This is learner-centered and it is active learning strategy. Its logic is ‘we learn by doing and learning is a constructing process’. The learners work in small groups or individually using clay or paper to build or make models or diagrams in lower and upper primary respectively. The teacher gives them the question(s) to be answered by the model or diagram.

(iv) Experiential learning. This is the process of learners making meaning from direct experience making observation and recording the observed items. It focuses on the learning process for an individual through observation and interaction with the environment as opposed to reading from a book. The learner, thus makes discoveries and experiments with knowledge first hand.

(v) Identification and sorting. This deals with visual representation of knowledge and information on colors, sizes and shapes. The learners are expected to identify and sort out items as per the question. The teacher’s role is to guide and give feedback.

The barriers Peter revealed for the ‘best’ teaching practices in primary schools for learners in Kenya were:

(i) Language barrier. This is mostly experienced in the lower primary. The learners come from different backgrounds and some have never had proper introduction with the language of instructions in Kenya schools – English; this becomes a road block for the ‘best’ teaching practices.

(ii) Cultural backgrounds – in some cultures girls do not mix with boys and this can be a problem especially when the teaching practice requires learners to work in pairs or groups.

(iii) Family status and set up. This touches on characteristics that would contribute to the learners’ absenteeism. Chronic absenteeism or when many learners are absent, the ‘best’ teaching practice may be difficult to practice.
(iv) Sudden changes of curriculum. This happens due to political influences and although such changes are seen as a culmination of a government policy, they are impediment to ‘best’ teaching practices.

(v) Exam oriented curriculum. This gives a lot of pressure to both learners and the teacher in terms of syllabus coverage in order to attain the ‘A’ grade at the end of the course. Thus, the use of some ‘best’ teaching practices such as experiential learning is limited since it is time consuming.

(vi) Large classes. It prohibits the use of ‘best’ teaching practices since the teacher finds it difficult to meet the needs of every learner and the slow learners tend to be left behind. In addition, such large classes make it harder for the teacher to source for and use resources for ‘best’ teaching practices.

Peter concluded by asserting that despite all these setbacks, primary school teachers in Kenya were making an effort to provide quality teaching.

In secondary school sub-sector, John who had a master’s degree in education was interviewed. He had been teaching in secondary schools for five years. He had been using the following teaching methods:

(i) Lecture. This is a teacher-centered approach. It is used when presenting materials not easily obtainable, supplementing test book materials, developing interest and appreciation and summarizing points after a topic. It is a teaching and learning procedure by which the teacher seeks to create interest, influence and stimulate the learners. The factual material is presented in a logical manner.

(ii) Discussion. This involves active participation of learners and the teacher giving feedback. The learners not only learn to communicate ideas but to also dissect and evaluate them to find wider and more practical applications for them. The learners are given adequate time to search for information on the topic and the teacher assists them by suggesting sources of information. The teacher’s role during discussion is guidance and the learners are given time to express their ideas and participate actively in the lesson.

(iii) Demonstration. It is a process of teaching through examples or experiments. It is used to prove a fact through a combination of visual evidence and associate reasoning. Demonstration helps to raise student interest and reinforce memory retention because they provide connections between facts and real-world applications of those facts. It trains learners to be good observers and it stimulates thinking to form concepts.

(iv) Question and answer. In this method, the teacher asks the questions and the learners give the answers. The questions are prepared in advance so as to be clear and fit for the purpose. The questions can be factual involving mere recall of factual information or thoughtful requiring thinking, application and intelligent manipulation of learned materials. This is done by the teachers stating the question, pausing to allow the student to think about the answer to the question, naming the student and listening to the answer and finally, the teacher gives the feedback.
(v) Simulation. It is kind of a role playing but the teacher and learners play some role without any preliminary training or rehearsal. The role playing skill is displayed spontaneously. The learners are only acquainted with the conditions, they discuss in groups and go ahead with the subject matter. Simulation develops communication skills and educational process is carried on in artificially created situations. It imitates a real-world activities and processes in a safe environment.

John noted that the effective teaching methods in secondary schools were:

(i) Demonstration: it allows the learners to personally relate to the presented information especially in experiment demonstration. This is because connections between facts and real-world applications of those facts are provided. Demonstration helps to illustrate and explain new materials to learners, hence, understand the new concepts being introduced.

(ii) Discussion. This involves active participation of students and giving feedback through asking questions and giving answers. A discussion can be expository oriented whereby the teacher presents the objectives, explains the learning activity, demonstrates it and then invites questions from the learners before concluding the teaching activity. A discussion can also be inquiry oriented and the teacher states the objectives, arranges for the discussion to take place and the whole activity is open-ended.

(iii) Simulation. It provides an experience as close to the real-thing as possible. A simulated activity, however, has the advantage of allowing learners to reset the scenario and try alternative strategies and approaches. This allows learners to develop experience of specific situations by applying their wider learning and knowledge.

The ‘best’ teaching practices for Kenyan learners in secondary schools which John revealed were:

(i) Collaboration. It allows learners to actively participate in the learning process by talking with each other and listening to others point of view. Collaboration establishes a personal connection between learners and the topic of study and it helps learners think in a less personally biased way. A good example of this practice is group discussion which involves preparing specific tasks for a group to deal with and this allows participation of everyone. Collaboration helps to assess student’s abilities to work as a team, leadership skills or presentation abilities. After the discussion with a clearly defined roles the teacher gives the feedback.

(ii) Peer teaching. Learners assume the role of a teacher and teach their peers. The learners who teach others as a group or as individuals must study and understand a topic well enough to teach it to their peers. By having learners participate in the teaching process, they gain self-confidence and strengthen their speaking and communication skills.
(iii) Field work (experiential learning). It involves the direct use of the environment as a source of physical information. Field work involves the learners during preparation stage through information gathering on the topic and preparation of the data collection instruments such as questionnaires, involvement in data collection activities like asking questions, collection of samples and recording of information and involvement and follow-up activities such as report writing, presentation and display of collected items. Thus, field work provides a learner with sound and concrete basis for conceptualization, first-hand information, makes learning more meaningful and gives the learner long lasting memory and opportunity for improving social relationships among students and students and teachers.

(iv) A resource person. Classroom visits by informed professionals is a valuable teaching tool. Resource persons provide additional content support to the classroom materials and participates in critiquing and debriefing activities in which learners take various decision making roles. The resource person benefits the learners by sharing unique, specialized knowledge and experiences; sharing instructional media as well as published teacher-constructed instructional materials; sharing divergent way of thinking; providing role model; identifying possible options and goals for future career growth; and stimulating a realistic approach to educational problems. There is a short period at the end of the visit for a question and answer session.

John revealed the barriers to the ‘best’ teaching practices in Kenyan secondary schools as follows:

(i) Large classes. This restricts the teacher to some teaching practices because learner-teacher contact is minimal which makes it hard for the teacher to know each learners abilities and their needs. No matter how committed the teacher may be the learning resources may not be enough for the large class.

(ii) Limited learning resources and facilities. The teacher may improvise some learning resources but it gets difficult sometimes to improvise facilities like buildings.

(iii) Curriculum. The curriculum is exam oriented, thus, the syllabus must be covered on time for quality grades by every learner. This calls for other unorthodox teaching practices which might yield the expected results.

(iv) Teachers and learners attitude. Due to pressure to produce the most sought after exam grades, both the teacher and learners are apathetic to the ‘best’ teaching practices.

(v) Students’ ability. It is unfortunate that some schools due to the structure of the education system in Kenya admit learners who are slow in learning. This is an impediment for ‘best’ teaching practices because such learners are affected by myriad shortcomings such as lack of resources, facilities and experienced teachers.

(vi) Costs. It is costly due to large classes to provide adequate resources and facilities for ‘best’ teaching practices in secondary schools in Kenya.
At university level, Nelly who holds a doctor of philosophy (Ph.D) in education was interviewed. She had been a university lecturer for four years. She said that she had been using the following teaching methods:

(i) Lecture. It is teaching using verbal message to create interest, influence and stimulate learners. Communication is mainly one way, thus, teacher-centered approach. It is used to present new information orally to passive listening learners at times. To enhance learner retention, the learners take notes, the teacher asks questions and the learners give the answers and vice versa. The lecturer can also ask rhetorical questions which are pre-planned and the learners record the answers in their notes. Although the overriding teaching method is lecturing, the amalgamation of other methods – question and answer method and discussion method – are used for effectiveness.

(ii) Group discussion. Assignment is given to each group so as to undergo a common experience but contrasting viewpoints are expected. Enhanced understanding results when learners discuss the meaning of their experiences with each other. Each group is exposed to a common experience to draw them into participation, establish a personal connection with the content and provide a shared reference from which their ideas are exemplified. In group discussion, learners get connected with both a concrete example of the content and each other.

(iii) Take-away assignment. This enables learners to interact with new materials and also be formatively assessed. The teacher allows a given period of time for the learners to do the assignment which the teacher marks and gives written feedback for each assignment done. The learners are involved in doing something on their own and get to think of what they are doing.

(iv) Peer teaching. Learners are allowed to choose topics they think they can read and understand. A period of time is allowed for the learners to accomplish the tasks after which they would explain the conceptual relationships of their topic to the other learners and this defines their own understanding of the material under study. In peer teaching, learners are allowed to plan and evaluate their learning, hence, fostering learner self-responsibility.

(v) Multimedia technology. The teacher uses technology to modify the contents of the material and present it in a more meaningful way using Ms PowerPoint which can allow materials to be modified and customized for the final presentation to the learners. It is an interactive learning process involving the teacher, the technology and the learner which stimulates the learner to read further.

On effective teaching methods in Kenyan universities, Nelly had the following:

(i) Lecturer, question and answer and discussion methods combined. These three methods should be viewed and used as a component for effective
teaching. The combination encompasses teacher-centered as well as student-centered approach which makes it quite interactive.

(ii) Take-away assignments. It stimulates the learners to study on their own and make them understand concepts of the material they are reading. It is ideal for both wide and in-depth reading.

(iii) Peer teaching. Learners work on their own to assemble and organize the new material for presentation to other learners and as such they are expected to be responsible, creative, articulate and exude confidence when teaching. It is an effective method of teaching for it utilizes the three main domains when teaching: cognitive, psychomotor and affectionate.

The ‘best’ teaching practices that Nelly noted for Kenyan learners at the university level were:

(i) Cooperative group assignment. It is an active learning procedure that places learners as workers and forces the achievement of a group goal. This interdependence affects three broad and interrelated outcomes: effort exerted to achieve quality of relationship among participants and psycho-social adjustment. Cooperative group assignment embraces “team member teaching”, that is, each member of the group is assigned a portion of the whole and teach the other members (of the group). Ultimately all the group members will have learned the assigned task. Cooperative learning tasks with clear goals measure results in high-level reasoning and generation of new ideas and solutions. In addition, cooperative learning groups enhance positive inter-dependence, individual accountability, group processing, social skills and face-to-face interaction.

(ii) Learning cells. The reading tasks are categorized into two groups and the learners are also put into two groups. Each group is assigned a category of reading tasks but each learner in the group does independent reading after which the learner would be randomly assigned a partner from the other group to teach the essence of the material and vice-versa. This is true to the saying that we learn by doing and the class would have as many learning cells as there are pairs!

(iii) Peer teaching. This is allowing learners to take an active role in teaching some portion of the course. Individual learners are assigned areas of study to teach their colleagues and in so doing they would strive to understand the material under study in order to explain the new concept to their classmates. Peer teaching has many benefits – holistic learners.

(iv) Technology. It is universal and used to discover and master content. Technology enables the learning goals of creating and using new knowledge in the world. The digital era has changed fundamental aspects of education: traditional roles of teachers and textbooks as the primary sources of content; students discover, create and use knowledge in the real world to apply their solutions to real world problems which are beyond the boundaries of their schools. Technology affects learning in a unique way that is not only to fa-
ciliate the delivery and consumption of knowledge but to also enable learners to use their knowledge in the world.

The barrier to the ‘best’ teaching practices in universities in Kenya revealed by Nelly were:

(i) Large classes. This force the teacher to use ineffective lecturer method which can accommodate such number of learners. Moreover, the teaching materials/resources are inadequate and the teacher is at a loss.

(ii) Inadequate facilities/resources. This can only allow learners to be crammed in small spaces and use scanty resources to the chagrin of the teachers.

(iii) Inadequate teaching personnel. This is a barrier due to heavy teaching loads. A teacher (lecturer) has many (6-8) course units to teach per semester and again the number of learners is large per unit. Thus, the use of the ‘best’ teaching methods is unattainable due to this pressure.

(iv) Limited use of technology. In Kenya which is a third world country and still grappling with other third world such problems as famine and diseases, technology which takes colossal amounts of money takes a back seat in implementation. In the universities, technology is not fully embraced but we are going there slowly but sure.

(v) Teacher attitudes. Most teachers and especially the professors, think that they are source of knowledge, hence use of traditional and tired methods of teaching-lecturing.

6. Conclusions and recommendations

6.1. Conclusions

• The interviewed teachers were from three sub-sectors of education in Kenya, primary, secondary and university. They all had university degrees. Their teaching experience ranged between three and five years and this means that they trained as teachers in the 21st century and as such they were expected to be conversant with the teaching practices of the century.

• The respondents revealed that the teaching methods they used in class lean mainly towards the teacher-center approach although they were aware that using a combination of various teaching methods including those that are student-centered, would lead to a more effective learning. However, they were all in agreement in revealing that using teaching methods that are student-centered effectively promote learning.

• The interviewed teachers revealed that the ‘best’ teaching practices for the 21st century learner are those teaching practices that have student-centered approach. However, the respondents’ examples of the ‘best’ teaching practices were “traditional” student-centered approach methods such as field trips, role play, collaboration and peer teaching. This is an indication that the Kenyan teachers are ignorant of the latest research literature on effective
pedagogy of the 21st century learner. The research literature gives information on the characteristics of the 21st century learner and the possible teaching practices that can engage such a learner; these include teaching methods that foster teacher-student partnerships in learning, use of technology and engagement with deep learning tasks. These findings concur with Knapper (2008) indicating that the best ideas for effective teaching include: teaching methods that focus on the student activity and task performance rather than just acquisition of facts; opportunities for meaningful personal interaction between students and teachers; opportunities for collaborative team learning; more authentic methods of assessment that stress task performance in naturalistic situations, preferably including elements of peer and self-assessment; making learning processes more explicit and encouraging the students to reflect on the way they learn; learning tasks that encourage integration of information and skills from different fields.

• The barriers to the ‘best’ teaching practices in Kenya which were revealed by the respondents across the board in this study included large classes, lack of resources and facilities including technology, teachers’ and learners’ attitude, exam grades, pressure and inadequate finances. However, these are common features ‘inflicting pain’ on education systems in most third world countries in the 21st century.

6.2. Recommendations
• The Kenyan education system policies and economies should be realigned in order to build the pedagogical capacities of the teachers in the three education sub-sectors: primary, secondary and university. Effective teaching practices should be the new focal point of education policy because these practices define and measure the success of education system and more so when education is not centered only on covering the mandated curricula for exams that serve the education system rather than the student.
• The 21st century learner has natural instinct to learn and create, therefore, the Kenyan teachers should embrace the 21st century learning practices that can unleash this potential. These teaching practices can inspire and ensure learners are capable of independent learning and can use practical experiences and technical skills to create valuable environment for the society.
• Kenyan schools in the 21st century need technology in order to form learning partnerships. Therefore, fiscal constraints are no longer an excuse to delay the use technology in the schools. These are digital tools and resources that can be provided with the existing levels of funding. However, it is more a matter of political will than of economies.
• The barriers for the ‘best’ teaching practices in the three education sub-sectors in Kenya emanate from social, economic, technological, political and organizational contexts. Therefore, the education policy makers must
realign the policies and prioritize the needs for the 21st century learner vis-à-vis teacher’s pedagogy.

References


