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Innovations and Transformation in Teaching and Learning

By

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One of the most fundamental problems today is unemployment, resulting from the production of unskilled graduates, especially in developing countries. This could be as a result of lack of vision and imagination leading to a limited quality of life. Education, the engine of change is facing this problem, because people do not have a clear coherent sense of the meaning about what educational change is for and how it proceeds. Thus there is much try and error, confusion, failure of change programs, unwarranted and misdirected resistance, and misunderstood reform. (Fullan, 1982:4).

Meaning of Innovation

Innovation means any new programmed organizational changes or modifications in the teaching learning process that mark positive departure from existing practices. The word new is unsatisfactory in the definition of innovation because what is new to one teacher may not be new to another. Innovation therefore involves notion of informed change. There could be no innovation without a change, most changes are not innovation. An innovation must involve a change to enhance teaching and learning.

In terms of development, innovation is development in the area of curriculum, professional skills, focusing on teachers and program development relating to administration, that is what is new resulting from improvement is innovation. Improvement helps to understand innovation in terms of better than what was being done before, needs to be conceived at the outset of an attempt to innovate, it may be a radical and revolutional change in thinking, products, processes or institutions. Innovation leads to improve quality and productivity, the fundamental source of increasing wealth in an economy.

However, innovation involves deliberate application of information, imagination and initiative in deriving greater or different values from resources, and includes all process by which new ideals are generated and converted into useful products.

Innovation could result from critical incidents, such as decline in quality of education, recommendation from research findings and promotion of innovation by change agents, such as quality assurance agents. Since the current approach to teaching and learning is not creating desired results, as evidenced by critical incidence of unemployment rate, poor quality graduates, poor instructional program etc. There is need for innovation based on making teaching and learning easier, effective and efficient.

Innovation process is a structured action that is remarkably easy to implement. It begins with a problem and ends with profit. The step by step process of innovation Jettrey (2014:2) begin with:

1. A problem. Inability of the educational process to achieve national objectives is a problem, so we can say without fair that the process begins with a problem.
2. Convert the problem into a challenge. Once a problem has been identified, it needs to be converted into a challenge. A challenge is a question that invites creative solution; such as in what ways might we improve teachers quality, teaching quality, learning etc.
3. Challenge colleagues to suggest creative solutions. Apply general rule, diverse teams, generate more creative ideas.
4. Collaborative idea generation; through brain storming, assignments.
5. Combine and evaluate ideas.
6. Develop ideas depending on the innovation challenges and the kind of ideas generated. The purpose of developing ideas is to test them in the school environment and if no insoluble problems are discovered, prepare them for implementation.
7. Implement ideas. Finally, put your ideals into practice, do whatever is necessary to turn the evaluated and developed ideas into implementation that generate value for the teaching and learning. It is at this step that creative ideas grow up and become innovation. This could enhance school products, reduce cost, increase employment rate, etc. We should note that, today's students want an education that meets their individual needs, and opportunities that connection to what is helping around the world. They challenge us to be innovative and to make learning environments more exciting, challenging and rewarding, we need greater ambition than just improving education.

Transformation

According to Lyun and Leslie (2005) the word "Transformation" was first encountered during the early 1990s, when transformation came to be associated with the massive plan to overhaul our nation's education system.

For Boyd and Myers (1988:261) transformation is a fundamental change in ones personality involving the revolution of a personal dilemma and expression of consciousness resulting in greater personality integration.

Teaching

Teaching is the process of impacting knowledge and skills from a teacher to a learner. It encompasses the activities of educating or instructing. It is an act or experience that has a formative effect on the mind, character or physical ability of an individual. Teaching is basically the act of educating and it requires passion for learning. It is a profession that only those that are meant for it will survive it.

Teaching is a developmental process in which a student moves from less or more sophisticated ideas and abilities to a higher one. As a teacher, one of your most important tasks is to guide, motivate and assist your students through a maturational process. Students must recognize the limitations of their current skills, knowledge, perspectives and have opportunity to test and apply new skills and perspective.

Teaching Strategies

Transformative teaching requires a fresh approach to teaching and learning. It must be much more self-conscious about its objectives and methods. It must adopt a learner-centered rather than an instructor-centered approach.

According to Blake (1999), some practical strategies for becoming a transformational teacher include the following 9 steps:

Step 1: Remember, you are not your Students' Friend or Therapist

Rather, you are an interpretive guide, facilitator, and resource.

Step 2: Make your Students Privy to Your Larger Goals

Especially at the freshman level, students need to understand that the expectations at secondary schools are different – and much higher – than in tertiary level.

Step 3: Warn Students that they will receive Challenging Feedback

Most of your students did very well in secondary schools and received little critical or constructive feedback. In an effort to cultivate students' self-esteem, many of their teachers provided only positive feedback. Let your students know from the outset that your feedback will be blunter and more forthright.

Step 4: Discuss your discipline's objectives

It is doubtful that your students ever discussed in depth why we study biology or political science or how we engage in literary criticism. Independent learners understand why they are doing what they are doing. For example, we not only want history student to master facts about the past, but to think historically, to evaluate historical evidence, to appreciate the importance of context and multiple perspective, and to pose problems, formulate arguments, and take account of opposing viewpoints.

Step 5: Foster Intellectual Openness

For transformative teaching to be successful, students must feel safe – free to make mistakes without embarrassment, free to try out unfamiliar perspectives, free to test imaginative hypotheses.

Step *6:* Cultivate "Reflective Learners"

Give students the opportunity to reflect on the learning process. For example, ask them to evaluate simple answers to questions or to spell out the criteria used to evaluate evidence or to explain the procedures utilized to solve a problem.

Step 7: Create Opportunities for Students to Think in More Sophisticated Ways

Students need to understand the limitations of their current skills, knowledge, and assumptions. Present students with challenging problems, and provide them with alternative interpretations and viewpoints. Ask them to defend or critique an argument, theory, or paradigm. Invite students to play devil's advocate. Challenge students' thinking habits by asking them to defend a viewpoint they disagree with. Ask students to approach a topic from multiple perspectives (e.g. feminist, materialist, psychoanalytic, etc). Create activities, such as role-playing or debates that give students opportunities from experience with various points of view.

Step *8:* Encourage Critical Thinking and Discourse

Have students talk through their reasoning and problem-solving strategy. This is called "metacognition," and it can be done with partners or in small groups. Have your students engage in dialogue and reflection.

Step 9: Give Your Students Meaningful Assignments

i. Give your students case studies that involve real world problems and real life data.
ii. Have your students contribute to a project of ongoing significance, for example, by helping to create a virtual encyclopedia, glossary, or museum exhibition.
iii. Make authentic research an intrinsic part of your course. Have your students engage in inquiry, investigation, and active, hands-on learning using the evidence appropriate to your discipline.

According to Viratita (2014:2). The following principles are supporting teaching for transformation.

Connect to life in all its diversity: We often limit our lives and connecting to life in all its fullness and diversity opens us up in ways not experienced before.

Involve the whole body
Embodied beings that we are, teaching and learning that involves the whole body, engages all the senses and crosses the three realms of body, mind and spirit triggers transformation. Teaching and learning experiences that engages the whole body push our abilities and our comfort.

Connect self to community
We are individuals but embedded in the collective, whether we accept this or not. Experiences that connect the two are really helpful towards transformation.

Connect to purpose
We each have a sense of purpose and a desire to make a difference and teaching and learning that taps into that can be transformative.

Connect to creativity
We are all creative beings and experiences that lead us to re-discovery our own creativity in different ways helps us transform.
The application of the above principles in teaching and learning experiences could raise the following questions

a. Does this course experience try to connect to life in as much of its diversity as possible?
b. How does learning in this course involve the whole body?
c. Do the experience of the course foster ways for students to connect self to community?
d. How does the course over all help students connect to their sense of purpose?
e. How does the work foster creativity, the development of valuable and original ideas?

Teaching that involves the transmission of knowledge from teacher to students is commonly used in schools. In this approach, students simply assimilate and synthesize the new knowledge on their own. Transformational teaching emphasizes inquiry, critical thinking, and the development of higher order thinking and communication skills. This allowed students to recognize the limitations of their current knowledge and skill and have opportunities to test and apply new knowledge and skills for self realization.

Transformational teaching is the expressed or unexpressed goal to increase students' mastery of key course concepts while transforming their learning-related attitudes, values, beliefs, and skills (Slavich, 2005:3).The process of transformational teaching involves creating dynamic relationships between teachers, students, and a shared body of knowledge in a way that promotes student learning and personal growth. From this perspective, teachers are viewed as intellectual coaches who create teams of students who collaborate with each other and with their teacher to master bodies of information. Teachers assume the traditional role of facilitating students' acquisition of key course concepts, but they do so while promoting students' personal development and enhancing their disposition toward learning. Teachers do this, we believe, by implementing the core methods of transformational teaching, but rather [change] something about how students learn and live (Slavich 2005:3).

Transformational teaching increases students' motivation and positive beliefs toward physical activity (Morton et al. 2010:248), that self-determined motivation in this realm is explained by students' perceptions of their teachers' transformational behaviors(Beauchamp et al. 2011), and that an intervention designed to teach transformational teaching behaviors can increase such behaviors and result in higher student-reported motivation, self-efficacy, and intentions to remain physically active (Beauchamp et al 2011:127).

Rosebrough and Leverett (2011:16) define transformational teaching as "an act of teaching designed to change the learner academically, socially, and spiritually". They argue that education should be more about inspiration than information, and encourage teachers to consider the importance of equipping students with both the skills and attitudes that are necessary for overcoming challenges. Their approach is similar with respect to its emphasis on promoting student growth through leadership.

Transformational teaching is the idea that teachers can guide students toward making self-discoveries that shape their fundamental beliefs about themselves. In contrast with traditional lecturing, which involves a largely unidirectional transfer of information from an teachers to students, transformational teaching involves conceptualizing teachers as change agents who lead students in the process of

collaborating with one another and with their teachers to develop as learners and as people. This is done by engaging students in the process of interdependent discovery, and by giving students ample time to discuss the strategies they use and the knowledge they generate. Although transformational teaching could be considered a method of classroom instruction, as it suggests some specific activities that can be used to achieve transformational teaching goals, it is more aptly described as a broad framework for understanding the overall instructional environment and how key players in that environment can interact to maximize students' intellectual and personal growth. The approach thus involves examining the roles that teachers may play in transforming students' attitudes, values, and beliefs, as well as the responsibility that students have for shaping their own and their peers' learning experience. In a more general sense, it involves reconsidering traditional notions of what may be accomplished in the classroom. This entails broadening teaching objectives so that they include enhancing students' attitudes toward learning, and their beliefs regarding their capability to acquire, synthesize, analyze, and use knowledge in a manner that is relevant and meaningful for their lives (Slalvich and Zimbardo, 2012).

However, transformational teaching is about employing strategies that promotes positive change in students live. The goal is not simply to impact certain information to students, but rather, to change something about how students learn and live. Transformational teaching though, concerns more than just getting students excited about psychology. It is about making life-long changes.

In transformational teaching, teachers are conceptualized as change agents who develop projects, and materials that guide students towards personal change. These activities are completed by the students, under the close mentorship of a teacher or teaching assistant, and the effectiveness of the change interventions are closely examine.

Transformational Teaching Possesses the Following Characteristics

1. The teacher is conceptualized as an instructor of the relevant material and also as a change agent who guides students through the transformational process.
2. In his or her role as change agent, the teacher works to decrease students' perceived barriers to success while increasing their self-efficacy for change.
3. Teaching centers on the use of self-change projects but requires previous mastery of the course concepts via other teaching methods.
4. Students are viewed as being capable of mastering the course content and achieving the targeted changes (Slavich and Zimbardo (2012).

Techniques that Teachers Can Use to Achieve Transformational Teaching Goals

Some of the techniques that teachers can use to achieve transformational teaching goals include**:**

Facilitate Acquisition and Mastery of Key Course Concepts

Facilitating students' acquisition and mastery of key course concepts is central to all contemporary approaches to classroom instruction and is not unique to transformational teaching. However, several steps can be taken to make these approaches transformational in nature. First, teachers can increase students' prospects for personal development by having students work interdependent teams where communicating ideas, sharing knowledge, delegating responsibility, negotiating relationships, and obtaining consensus is necessary for solving problems and completing assignments.

Second, teachers can increase students' involvement in, and responsibility for, shaping the course curriculum, course content, and learning experience. They can accomplish this by giving students assignments that may be completed at their own pace, adapting assignments to match students' stated interests, offering several topics or assignment options that will fulfill a particular requirement, selecting lectures based on students' interests or priorities, and assigning projects that occur outside the classroom, where students have more opportunities for self-directed and self-paced learning.

Third, teachers can increase the amount of class time that is devoted to exploring and challenging students' questions, views, and perspectives. This can be done by answering questions, debating viewpoints, role-playing interactions or situations, analyzing and reacting to stories or videos, and shaping the course content based on students' input, preferences, and needs .Finally, teachers can design methods for evaluation that are themselves learning experiences. This can involve developing exam questions that encourage students to synthesize or integrate information in new ways, permitting students to consult with a partner during an exam, giving students the opportunity to correct and resubmit answers for an exam, or allowing students to revise and resubmit papers after integrating feedback or meeting with the teacher. The take-home message here is that learning should be active, collaborative, and shaped by students' input and needs.

Enhance Strategies and Skills for Learning and Discovery;

A second principle of transformational teaching involves providing students with strategies and skills that are important for learning and discovery. To accomplish this transformational teaching goal, teachers regard classrooms as "learning labs" in which students collaborate with each other and with their teacher to evaluate ideas and solve problems for the purposes of mastering bodies of information and acquiring new skills

for discovery. We call this principle "learning by doing with others," which derives from the social constructivism notion that students gain valuable information and tools from working with peers (Piaget 1926; Vygotsky 1978, 1986). Teachers begin by establishing a shared vision for a course that involves having students and the teacher work together to acquire and implement tools and strategies that are important for synthesizing information, identifying alternatives, answering questions, solving problems, resolving contradictions, communicating ideas, and completing projects (Robbins and Alvy 2004). At the beginning of this process, teachers describe skills, strategies, and tools for students, and model their implementation.

Once students have a good grasp of how the skills and tools may be applied, however, teachers begin to share the responsibility for promoting personal growth with students, who are called upon to support, encourage, and teach one another. In accord with social constructivism and transformative learning theory, students in such classrooms are not passive, but rather are highly active and engaged in guiding and shaping the discovery process (Mezirow 1978, 1996, 2000; Vygotsky1978, 1986). Indeed, as a class progresses, they even come to teach one another the concepts and skills. The specific skills that students acquire during this process are influenced by the shared vision for the course, but in accordance with intentional change theory, teachers can also work with students to establish individualized learning goals that involve person-specific skills and beliefs that are identified as targets for enhancement or change (Boyatzis 2006; Boyatzis and Akrivou 2006).

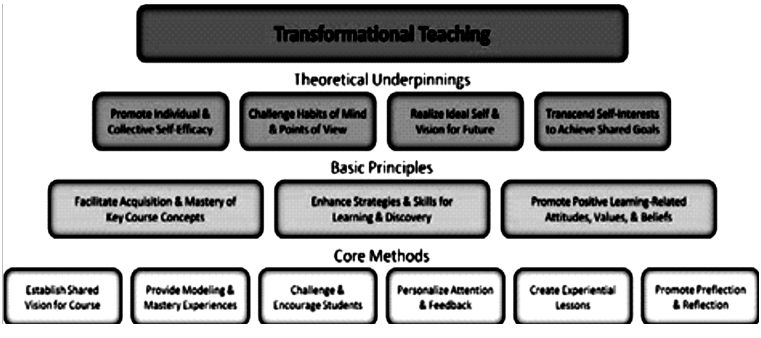
Promote Positive Learning-related Attitudes, Values, and Beliefs

The third principle of transformational teaching involves promoting positive learning-related attitudes, values, and beliefs through the application of strategies from transformative learning theory (Erickson 2007; Mezirow 2000; Taylor 2007), intentional change theory (Boyatzis 2006), and transformational leadership (Bass 1985; Bass and Bass 2008; Bass and Riggio 2006, 2010). Common to these three perspectives is the notion that changes in specific attitudes, values, and beliefs occur when leaders facilitate individuals' direct engagement with questions and problems in a way that challenges prevailing views on a topic. These changes result when students solve questions and problems that center on particular concepts, but also when students discuss and debate ideas while reflecting on their beliefs and on alternative points of view (Mezirow 1997, 2000; Smith et al. 2009). As suggested by both transformative learning theory and intentional change theory, changes in attitudes and beliefs are most likely to occur in social contexts, since as social interactions expose individuals to different viewpoints and to supportive others who can encourage positive change (Boyatzis 2009; Brock 2010; Mezirow 2000). Engaging students in collaborative,

interdependent problem solving and discussion is thus critical for promoting positive learning-related attitudes, values, and beliefs in transformational teaching.

Core Methods of Transformational Teaching

There are several ways to achieve transformational teaching objectives, Slavich & Zimbardo (2012) propose one framework for thinking about these strategies that is organized around the following six core methods: (1) establishing a shared vision for a course; (2) providing modeling and mastery experiences; (3) intellectually challenging and encouraging students; (4) personalizing attention and feedback; (5) creating experiential lessons that transcend the boundaries of the classroom; and (6) promoting ample opportunities for preflection and reflection.



Theoretical underpinnings basic principles and core methods of transformational teaching (Source: Slavich & Zimbardo (2012)

Transformational teaching is an approach to classroom instruction that involves increasing students' mastery of key course concepts while transforming their learning-related attitudes, values, beliefs, and skills. The approach is rooted in social cognitive theory (e.g., teachers promote students' individual and collective efficacy), transformative learning theory (e.g., teachers challenge students' habits of mind and points of view), intentional change theory (e.g., teachers help students' realize their ideal self and vision for the future), and transformational leadership (e.g., teachers motivate and empower students to transcend self-interests to maximize their potential and achieve shared goals). These theoretical perspectives can be distilled into three basic principles, which include: facilitating students' acquisition and mastery of key course concepts, enhancing students' strategies and skills for learning and discovery, and promoting students' positive learning-related attitudes, values, and beliefs. Teachers accomplish these goals by establishing a shared vision for a course, providing modeling and mastery experiences, challenging and encouraging students, personalizing attention and feedback, creating experiential lessons that transcend the

boundaries of the classroom, and promoting ample opportunities for preflection and reflection. These methods are synergistically related and, when used together, maximize students' potential for intellectual and personal growth (Slavich & Zimbardo, 2012).

Learning

There are various definitions of learning. Each of the definition depends on the psychological school of thought of the person giving the definition. According to the behaviorists "learning is a relatively permanent change in behavior or in behavioral potentiality that result from experience and cannot be attributed to temporary body states or induced by illness, fatigue or drugs (Igwebuike, 1993). In this case, the behaviorists see learning in terms of behavioral manifestations after it has taken place.

To the cognitivists, learning is an active process of construction and reconstruction of meaning or the interpretation given to the learner's experiences from interactions with the physical & intellectual world (Igwebuike, 1993). The cognitivists believe strongly that learning is internally and not externally gathered.

Active Learning

According to Blake (1999), students do not want to be passive learners. They demand learning experiences that are more inquiry-based, engaged, and experiential than in the past. He noted that teachers can shift from a teacher-centred to a learner-centred classroom, using the following strategies of active learning.

1. Collaborative or team-based learning: Many teachers, who recall bad experiences with small group learning, worry that some students will fail to pull their weight or that group dynamics will be a source of complaints. In fact, today's college students have extensive experience working with small groups and find this a productive way to solve problems and to learn from one another. Here are some helpful tips to ensure that collaborative learning is successful.
   i. Groups should consist of approximately five members
   ii. Make sure that the groups are equally diverse
   iii. Give the groups assignments that are relevant to the class
   iv. Consider having students take a quiz individually and then collectively as members of a group
   v. Let students evaluates each other's contribution to the group

2. Inquiry, case, or problem-based learning: Teaching through inquiry engages students in the research process. This approach is question driven, rather than topic or thesis driven. In case-based learning, which is widely used in business and law schools, students explore how issues and principles learned in class

interact with real-world situations. Problem-based learning involves presenting students with a detailed problem and students try to solve it individually or in teams.

3. A research "scavenger hunt": This approach teaches students how to conduct library or online research by having them hunt for the answers to a series of questions. It gives students the opportunity to practice and refine their research skills and to learn about various library and internet research resources.

Transformative Learning

Transformative learning could be seen as the expansion of consciousness through the transformation of basic world view and capacities of the self transformative learning is facilitated through consciously directed processes.

According to Brookfield (2000), learning can only be considered transformative if it involves a fundamental questioning or reordering of how one thinks or act. In order words, reflection alone does not result in transformative learning unless the process involves a critical reflection and analysis of taken for granted assumptions.

For transformative learning to occur, the teacher must strike a careful balance between support and challenge. (Craton 2002) argues that although student's empowerment and support are important and environment of challenges is the central ingredient for transformative learning. Learning must have their beliefs and assumptions activity challenged.

Transformative Learning in Practice

The Role of the Educator: In order to foster transformative learning, the educator's role is to assist learners in becoming aware and critical of assumptions. This includes their own assumptions that lead to their interpretations, beliefs, habits of mind or points of view as well as the assumptions of others.

Educators need to provide learners with opportunities to effectively participate in discourse and must encourage equal participation among students. The role of educators is also to set objectives that include autonomous thinking. According to Mezirow, (1997) it is the role of the educator to promote discovery learning through the implementation of classroom methods such as learning contracts, group projects, role play, case studies, and simulations. These methods facilitate transformative learning by helping learners examine concepts in the context of their lives and analyze the justification of new knowledge.

The Role of the Learner

The educator becomes a facilitator when the goal of learning is for learners to construct knowledge about themselves, others, and social norms. As a result, learners play an important role in the learning environment and process (Cranton, 2006). Learners must create norms within the classroom that include civility, respect, and responsibility for helping one another learn. Learners must welcome diversity within the learning environment and aim for peer collaboration.

The role of the learner involves actively participating in discourse. Through discourse, learners are able to validate what is being communicated to them. This dialogue provides the opportunity to critically examine evidence, arguments, and alternative points of view which fosters collaborative learning (Mezirow, 2000).

The Role of Professional Development for the Educator

Transformative learning about teaching occurs when educators critically examine their practice and develop alternative perspectives of understanding their practice. (Cranton, 1994). It is essential that this becomes the role of professional development. With this taken into consideration, the role of professional development is to assist educators in bringing awareness to their habit of minds regarding teaching (Craton & King, 2003). When this occurs, educators critically examine the assumptions that underlie their practice, the consequences to their assumptions, and develop alternative perspectives on their practice (Cranton, 1994).

Teachers need education and professional development that will help them to question, challenge and experience critical discussions on school improvement. Transforming teachers so they see themselves as agents of social change can be a challenge within education.

Innovative Strategies in Teaching and Learning

Some of the innovative strategies that can be used in teaching and learning to enhance transformation in the learner include the use of Teaching Practice and Information and Communication Technology:

Teaching Practice

Teaching practice is an important curriculum provision in the teacher programme. It is a pre-service activity in which teacher trainees at any level must be practically engaged. It is an opportunity for teacher trainees to be practically involved in the development and evaluation of instruction including the keeping of school records and discipline of pupils or students.

Teaching practice is an innovational strategy to enhance teacher trainee as it enables a student teacher to: apply the principles of the professional courses taken on

the teaching and learning process that will bring about meaningful changes in learning among pupils.

Some specific objectives to be achieved through the teaching practice exercise as identified by Atipioko; Ajuar & Omoraka (1997:131) include:

1. develop the skills and the competence of teaching
2. organize the scheme of work and lesson note around major concepts and generalizations that may facilitate sequential learning
3. become familiar with a variety of teaching strategies and institutional resources that are appropriate to achieve overall teaching/learning objectives
4. study and diagnose the scholastic difficulties of a pupil that may arise from behaviour problems and provide guidance and remedial instruction to those who need them
5. apply the principles of evaluation in assessing the effectiveness of their teaching as well as the progress of their pupils, as a means of improving instruction.
6. acquire skills in democratic classroom management and conduct of pupils activities.
7. participate actively and effectively in the various institutional and non-institutional programmes and activities of the school in which they will be serving.
8. Establish good human relations with individuals, small or large groups. With staff, parents and other members of the community.
9. Provide opportunity to participate in community activities, which will enhance the professional growth of a teacher.

For innovation and transformation to take place in the educational sector, all participants in the programs of teaching practice should be actively committed to the genuine course of teaching and learning.

Information and Communication Technology (ICT)

Some scholars have attributed the development of nations to the advancement and application of science and technology. If Nigeria is to build an organized, self-reliant and technologically compliant society, much emphasis has to be continually made on science and technology that must be maintained (Olorundare, 2007).

ICT is an acronym for “Information and Communication Technology”. It refers to technologies that enable us to access the information through communication Medias. It is of course Information technology, but basically focuses on communication technologies including the Telephone, Television, Internet, wireless networks, mobile phones, and other communication mediums.

ICTs can be viewed from abroad perspective as technological tools used for different purposes in the accomplishment of set goals. According to Adomi & Kpangban (2010:1) "Information and Communication Technology (ICT) are electronic technologies used for information storage and retrieval. In the same vein, Prytherch (2000) opines that ICTs are networks that provide new opportunities for teaching, learning and training through delivery of digital contents. From the definitions given so far, ICTs could therefore be seen as the processing and sharing of information using all kinds of electronic devices in the manipulation and communication of information. Considering the varieties of ICT in transformation of teaching and training processes, institutions of higher learning strive to adopt more ICT tools for learning collaboration, communication, curriculum development and staff development (Duggan et al, 2001; Wood, 1995). Enakrire (2014) noted that ICTs have graciously transformed the educational system and the economy.

ICT Application in Education

Most discussions on ICT in Education tend to focus on the use of ICT for teaching and learning only. Enakrire (2014:47) asserted that, from the earliest times, educational interest in technology has always centred on the instructional application of such technology to improve teaching and learning. In this case, everyone is expected to have the necessary skills to benefit fully from the information society. Many researchers have listed numerous benefits of ICT literacy in education and training at all levels, including curriculum development, teacher training, institutional administration and management, and in support of the concept of lifelong learning. Any approach to ICT adoption at the higher education level that stressed on only instructional applications and ignores research applications, will be grossly inadequate in meeting the needs of both student and teachers.

Enakrire (2014:51) asserted that the adoption of ICT by education has often been seen as a way to contribute to educational change through enable reform or better management of education systems, better preparation of students for the information age, improve learning outcomes and the skills of learners and prepare them for the information society. These initiatives are also helping to bridge the gap between those who have access to and control of technology and those who do not.

ICT has the potential to be used as a supportive educational tool enabling students' learning by doing. ICT can make it possible for teachers to engage students in self-paced, self-directed problem-based or constructivist learning experiences; and also test student learning in new, interactive, and engaging ways that may better assess their understanding of the content.

For Innovation to occur in the teaching process using ICT; the teacher should ask himself or herself the following questions:

a. How will ICT enhance my teaching?
b. What is the most effective way of teaching?
c. How will more students benefit from my teaching?
d. Will ICT help me?
e. Can use of ICT make teaching more meaningful and get rid of rote memorizing?

Conclusion

This paper has reviewed Innovation and Transformation in Teaching and Learning. We must take advantage of this opportunity presented by Association of Nigerian Teachers to strive harder towards transforming the teaching and learning process in Nigerian educational system in which every citizen is a proud owner of the country and to restore Nigerian educational system to global/international standard.

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