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## EMPLOYING CREATIVITY SKILLS IN THE DELIVERY OF ACADEMIC CONTENT: FOCUS ON EFFECTIVE TEACHING AND EVALUATION FOR SUSTAINABLE DEVELOPMENT IN THE THIRD WORLD NATIONS

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### ABSTRACT

It has been observed that students' attitude to academic work has declined in recent time and consequently, mass failure in public examinations has been on the increase. The problem has been attributed to various reasons, of which the delivery of academic content to students is the most prominent. It is therefore imperative that more modern teaching strategies be adopted for the delivery of academic content. This study, therefore, examined the current trend in teaching and learning which is still filled with a lot of lapses and advocated for the employment of creativity skills which involves a lot of activities rather than passivity in the delivery of academic content in the nation's secondary schools. The concept and application of creativity to teaching and learning process were exemplified, and highlighted. The fact that the whole process would be incomplete without the teacher's continuous personal evaluation of his own teaching for effectiveness was also stressed. It was recommended that this process should be advocated for global practice for effective delivery of academic content by all teachers which should be the tenet of the emerging trends in Learning, Education and Teaching for sustainable development and Human capacity building in the third world nations.

**KEYWORDS:** creativity and innovation, thinking strategies, barriers to creativity, creativity boosters, teaching and evaluation,

### INTRODUCTION

Teaching and learning are the main components of education going by the definition of education put forward by Nduka-Otonti (1975) whereby he conceptualized education as the process of cultural transmission from one generation to another, whereby culture embraces the peoples' art, music, literature, philosophy, religion, commerce, political organization, science and technology, as well as all other ideas and values, implicit and explicit that permeate a society and bind its people into a recognizable unit (Osokoya, 2003). Hence, these tasks must be effectively performed if the goals of education are to be fulfilled. However, the educational level of a nation cannot rise above its teachers therefore, teachers must be adequately prepared to disseminate the academic content in modern, effective and more productive manner. This calls for the application of creativity and innovation in the delivery of academic content.

Principles of teaching and learning are general laws which underlie modern developments in educational practice. They are fundamental truths derived from learning theories and which apply to both teachers and students. They serve as general guidelines, ideals or expectations that need to be taken into account, along with other relevant conditions and circumstances, in the design and delivery of instruction. Some basic principles of learning/teaching which must serve as guidelines to any teacher interested in the improvement of teaching and learning in secondary schools are presented below:

1. Teachers' knowledge of the subject matter is an essential pre-requisite for effective teaching and learning. Teachers who know their subject matter thoroughly are more effective and efficient at

organizing the subject matter, connecting the subject with the students' previous knowledge, finding useful analogies and examples, presenting current thinking on the subject, and establishing appropriate emphases.

2. Effective teaching and learning require active involvement of students in the learning process. Learning is an active process which requires that the learner work with and apply new materials to past knowledge and to everyday life. Teachers should be aware of methods that encourage active learning in the classroom such as discussion, practice sessions, structured exercises, team projects, and research projects.
3. Effective teaching and learning require that learning experiences must be organized from simple to complex, concrete to abstract, known to unknown, etc.
4. Students are more motivated to learn when they take control of their own learning. Effective teachers encourage students to see, hear, touch, re-verbalize, read, copy, write, and discuss what they are learning.
5. Students learn in different ways and vary in their abilities to perform certain tasks. Understanding that each student has unique strengths and weaknesses related to the ways in which they approach learning is an important component of effective teaching. Teachers are therefore expected to provide a variety of learning activities for students to choose the activity which is the most effective for them.
6. Learning is enhanced in an atmosphere of cooperation as against competition. The opportunity to share ideas without threat of ridicule and the



1. freedom to respond to the ideas of others increases complexity of thinking and deepens understanding.
2. Learning materials must be meaningful to learners. New materials will be more easily learnt if the learner is helped to see its relationship to what s/he already knows. Materials which are seen by the learner as relevant to his or her own problems and experiences will be more readily learnt.
3. Both teaching and learning are enhanced by efficient feedback. Learning is facilitated when the learner is aware of the progress he/she is making. Learners' performance in examinations, tests, assignments, projects; etc should be communicated to them promptly.
4. Effective communication enhances learning. Language of communication should correspond with the level of the students. Teachers should use grammatically simple presentation, appropriate language, brevity, main points early unless building up, analogy and metaphor, etc). (Ekiti State Ministry of Education, 2012)

Creativity, simply defined, is the ability to bring something new and useful into existence, as well as the application of new ideas, new percepts, new concepts, new designs and alternative ways to doing things. De Bono (1971) opined that creativity is concerned with bringing about new ideas and updating old ones. It consists of perceiving what everybody perceives, thinking of what no one else has thought and doing what no one has dared (Akinboye, 2003). Animasahun (2011) further conceptualized creativity as conscious cognitive processes stimulated by problematic situation, guided by interest and resulting in the generation of statistically infrequent, unique and appropriate ideas useful in turning challenges of life into fruitful and beneficial outcomes. Creativity manifests in discoveries of new ideas to solve an existing problem, new knowledge to benefit mankind and new discoveries in science and technology to foster growth and development. It also involves the ability to escape from obsolete ideas which are still controlling human thinking and decisions, improving on the current ideas, generation of new ideas and provision of alternative ideas to move forward. Innovation on the other hand, is the end product of creativity. Creativity is incomplete and totally useless without innovation. Innovation refers to the implementation of creative inspiration. Robert J. Sternberg, a creativity expert and Yale Professor of Psychology, summarized creativity as the ability to produce work that is both novel (original) and appropriate (applicable to the situation) (Animasahun, 2000; 2008; 2009). Creative thinking is therefore the kind of thinking that leads to new insights, novel approaches, fresh perspectives, whole new ways of understanding and conceiving of ideas.

Based on the various definitions and explanation of creativity above, it is clearly evident that doing new things that are relevant, updating old ones and making situations more meaningful and beneficial are the major focus of creativity. Applying this to the delivery of academic content to students therefore, a teacher is

expected to do something more relevant to the needs of students and something that could make learning more meaningful, useful and all embracing. Teaching should not be "another of such". When the same method of teaching is adopted always in the delivery of academic content, students see it as "another of such", and so, they are not motivated to learn well. Teaching should be made dynamic and interesting (Lowman, 1984). Teaching is an activity that should be executed with passion, dynamism and interesting to foster learning especially in these days that students are surrounded with bundles of distractions.

Creativity is the bedrock of success of advanced nations of the world (Animasahun, 2002, 2011). It is the secret of renewed power for achievement, and must be imparted to students. Creativity involves activity rather than passivity which many teaching adopts. What we hear we forget, what we see we remember, but what we participate in becomes part of us. Students enjoy expressing their ideas and sharing them in groups, and with this, they would no longer be passively waiting for the bell, but actively involved in the class lessons. This is achieved only by employing creativity skill.

There are some modern teaching strategies which employ creativity and innovation techniques in the delivery of academic content but are rarely used the third world countries. These include: Pre-theoretic intuition Quiz, Puzzle-based learning, Cognitive apprenticeship, Critical Exploration, Cooperative Active Review and Web-quest teaching strategies to mention but a few. Pre-theoretic Intuitions Quiz involves getting students interested in a topic before lectures begin; the teacher gives a quiz aimed at getting students to both identify and to assess their own views (Ogundiwin, 2013). Puzzle-based instructional strategy is used to get students excited about learning new ideas and concepts (Scott, 2006; Anany & Mary, 2002; Kendal, Parks & Spencer, 2008). Cognitive Apprenticeship is an instructional model that utilizes cognitive and meta-cognitive skills and process to guide learning (Collins, Brown & Newman, 1989; Duckworth, 2010). Critical Exploration is a teaching approach whereby discussion centres on a specific intellectual challenge that has been represented in concrete form against which students can develop and evaluate their own ideas (Duckworth, 2006; 2009; Animasahun, 2014). Cooperative Active Review is a teaching strategy whereby the instructor poses questions and students work on them in groups, then students are asked to show their solutions to the whole group and discuss any differences among solutions proposed (Archer-Karth, Johnson & Johnson 1994; Brenda & Robert, 2003; Adegoke, 2013). A Web-quest is an inquiry-oriented activity in which some or all of the information that the learners interact with comes from resources on the internet (Dodge, 1995). It is a teacher-constructed web-based lesson which involves students with a multitude of perspectives (Zheng, 2005; Atolagbe, 2014). The strategies discussed here encourage activity rather than passivity and enhance thinking.



### Some Creativity Skills Useful In Teaching

There are certain creativity skills very useful in the delivery of academic content. The followings have been tested and found to be highly effective ( De Bono, 1985; Akinboye, 2003; Animasahun, 2011).

1. **Ideative Fluency:** This is the production of a number of sensible and profitable ideas at a specified time on a particular task. It embraces word fluency, associational fluency, expressional fluency and comparison fluency. This helps students to conjure up a wide range of ideas that they can choose from especially in examinations. This skill is good especially in essay writing or speech making.
2. **Ideative Flexibility:** This is the ability to think up widely qualitatively different ideas, adapting ideas from other situations, breaking connections, making connections and changing viewpoints to consider the other side. This enables students to produce impressive metaphors and analogies that expand thinking.
3. **Ideative Originality:** This is the production of uncommon, remote, clear, unique, clever or statistically infrequent ideas on a given task within a given time. It involves total deviation from that which now exists or which many people might think of. This skill enables students to think independently, and not simply parrot what others have said.
4. **Elaboration:** This refers to the ability to manipulate an idea and work on it until it is well formed. This is a practical way by which students take their ideas and develop them into a finished product that their peers would recognize as complete
5. **Imagination:** The ability to imagine is among the most advanced of all human traits. Let students imagine a particular problem in which they find themselves and think of the way to get out. This fosters imagination problem solving.
6. **Creativity Motivation:** This is the ability to accept problems as part of life, face challenges with uncompromising courage, getting excitement at breaking through obstacles, positive self image and being happy in life despite surrounding challenges.
7. **Lateral thinking:** This is the ability to think sideways (rather than vertically) to consider other alternatives, view points and ideas in order to arrive at a new solution.
8. **Assessment and Grading:** Openly reward unusual and innovative work even when it crude. However, be a little stingy with grades so as to foster creativity
9. **Answering Questions with Questions:** To avoid being "know it all", respond to their questions with another question which they must provide answer to. Students become more creative if they feel they are the true owners of the work.
10. **Amalgamation of preparation, incubation, insight, elaboration and evaluation** in creative process.

### Deliberate Teaching of Thinking Strategies

Thinking is the basis of all human decisions and actions, and is mostly needed in educational activities. However, most often thinking is corrupted with error, therefore, it is important that students are familiar with certain thinking strategies. This is another way by which creativity and innovation could be used in the delivery of academic

content. It is by deliberately teaching creative thinking techniques. Examples of this include: The Six Thinking Hats, PMI, SCAMPER, APC and DO IT. These have been researched into and proven to be very effective (De Bono, 1985; Akinboye, 2003; Animasahun, 2002, 2011).

The Six Thinking Hats refer to six metaphorically coloured hats used to describe six types of thinking. The white hat seeks undiluted information, facts and figure. The red hat is the emotional hat which requires that all information must be subjected to emotional reactions. The yellow hat seeks for the benefits or advantages of a venture. The black hat exposes the disadvantages and possible problems of certain undertakings. The green hat generates new ideas and alternative ways of doing things, and finally, the blue hat controls the other hats.

PMI is an acronym which stands for Plus, Minus and Interesting. This means that an individual suppose to examine the positive side of an issue, look at the negative side, and always consider the interesting aspects of any issue before one takes an action.

SCAMPER is also an acronym which stands for Substitute, Combine, Adapt, Modify, Put to other uses, Eliminate, and Re-arrange. It means one can substitute the present action for another, combine the present with another and adapt to the environmental demand, whereby one needs to modify to suit the current demand, put to other uses than the conventional, eliminate errors and re-arrange for optimal use or productivity.

APC is an acronym which stands for Alternatives, Possibilities and Choices. This means that an individual should endeavour not to be trapped, but always seeking for alternatives to doing things, see possibilities in what seems to be absolutely impossible, and make the right choice to move forward in life.

DO IT is also an acronym which stands for Define, Open, Identify and Transform, This can be interpreted to mean that whenever there is an issue or problem at hand, an individual must be able to define the problem because it is believed that am problem well defined is half solved. Then, the individual opens himself to suggestions and possibilities from where he can now identify the most appropriate solutions to the problem and transform such into action.

### BARRIERS TO CREATIVITY

There is no laudable and productive idea in life that would not attract certain impossibilities, challenges, road blocks or barriers that would almost make things very difficult to achieve. So also in creativity there are certain barriers. Some of these are paraded below so that both teachers and students would be aware of them and wage war against them.

1. Taboo e.g that younger ones should not question what elders do or say.
2. Strong desire to conform to accepted patterns, societal chosen goals and activities.



3. Feeling that it is not polite to be too inquisitive or express ignorance or ask question about matters that seem to be accepted by the majority or the society.
4. Desire for the safety of the "known" and fear of exploring the "unknown".
5. Fear of making mistakes, failing, taking risk or being ridiculed.
6. Preference for judging ideas rather than generating them.
7. Spirit of incompleteness i.e lack of drive in carrying problems or projects through to solution and practical test.
8. Premature assumption that "it can't be done".
9. Overemphasis on solutions rather than defining the problem.
10. Environmental distractions or intrusions.
11. Strong tendency to use only those solutions and methodologies that worked previously-giving way to mental blindness.
12. Heavy reliance on logical thinking.
13. Too much interference i.e when the teacher hover over students and tries to control every aspects of the lesson.
14. Competition: It has a negative effect on creative development.
15. Evaluation and rewards: Students are less likely to do creative work in the atmosphere of being evaluated and rewarded for their own behaviour immediately.

### CREATIVITY BOOSTERS

The following creativity boosters are offered to enhance the creativity skills of the students if judiciously utilized by the teachers:

1. A non-authoritarian learning and supportive environment.
2. Provision of self-initiated learning.
3. Freedom to explore and try new things.
4. Encourage students to be inquisitive by responding to every question raised.
5. Free/uninhibited expression of feelings and contributions to class discussions.
6. Minimize telling or showing the students how to do something. Let them try. Modify constructively.
7. Build confidence by telling the child how well he has done.
8. Encourage curiosity, independent thinking and self reliance by not penalizing the child for this irrelevant contributions, but promise him, modify his submission and reinforce him appropriately.
9. Don't be too rigid and compulsive. Don't exhibit intolerance for deviations from the lesson-plan or penalize the child for non-conformity.
10. Give the child operational and open-ended questions which have no pre-determined answers and especially questions which are not settled by a recitation of facts. These kind of questions lead to exploration, foster curiosity

and stimulate connotative tendencies. You can even ask questions you don't know the answer to.

11. Encourage students to ask questions.
12. Get out of a rut. You might try putting practice before presentation, or testing students before the lesson.
13. Encourage students to produce more than one answer to questions. Don't let them settle one solution to a problem. Its better to get them thinking of alternatives.
14. Encourage the child to over-learn to saturate himself with information, imagery and meanings. Encourage him to read widely, even outside his chosen field.
15. Defer judgment. Do not block off an exploratory effort by announcing outcomes or by providing solutions immediately.
16. Minimize the importance of errors. Make it clear that mistakes are both expected and necessary, and that they will be corrected.
17. Encourage the child to look for new meanings in familiar materials and to employ old meanings in new context. Let alternative answers be sought.
18. Assist the child in coping with frustration and failure by encouraging him not to throw in the trowel.
19. Let each child sees himself as a unique individual with great potential to solve some specific problems in their society.
20. Encourage self evaluation of individual progress and achievement among students.

### PRACTICAL IDEAS/EXERCISE

The following are suggestions for activities that can develop creativity. These are based on the suggestions of several creativity experts. Teachers are expected to read them over and use them to generate ideas for their next lesson.

**Input:** Bring interesting and unusual things to class to keep students involved. Examples include pictures, realia, artwork, music, fragrances, etc.

**Humour:** One great resource of linguistic ingenuity is humor. Comedians are some of the most creative people around.

**Random Input:** Here, the emphasis is on choosing something randomly and responding to it. A page from a magazine, dictionary, encyclopedia, classic novel, etc.

**Metaphors and similes:** Thinking in metaphors and similes is great for improving thinking skills. Metaphors encourage making connections between two very different things.

**Opposites:** Challenge students to think of the opposite of a word, a thing, or a situation.

**Different perspectives:** Tell students to think about things from several different points of view.

**Imagine:** Students can close their eyes and enter a fantasy world.

**Maps and diagrams:** Mind mapping, Venn diagrams, and fishbone diagrams are just a few



examples of how students can organize their thoughts on paper.

**Combinations:** Students can combine ideas, images, or words to produce new creations.

**Brainstorming:** This well-known activity has students working in a group thinking of ideas or solutions based on a problem statement.

### TEACHERS' PERSONAL EVALUATION

Teaching is a conscious activity designed to impart knowledge to learners for the purpose of learning. It is the central task of a life-long career for the professionals (Fink, 1999). The Nigerian National Policy on Education as published by the Federal Republic of Nigeria (1998:33) realizes the importance of teachers in national development when it stated that "no educational system can rise above the quality of the teachers". Afemikhe, (1995:3) rightly stated: Good teachers would beget good students from which the system can get a replenishment of its teaching stock. In the same way, poor teachers will produce poor students and consequently poorer future leaders. Hence, it is of great importance that a teacher evaluates himself continuously to discover where he belongs and to make necessary adjustments.

Evaluation on the other hand is the process by which a value judgment or decision is made from a variety of observations and from background and training of the evaluator (Bomwell and Eison, 1991; Idea Evaluation System, 1994; McKeachie, 1994).

#### Why should teaching evaluation be done by the teacher himself?

- Evaluation is part of good teaching
- To receive first hand information
- To avoid bias and subjectivity
- Questions put to oneself are better answered than those asked by external individuals
- How well am I teaching? Which aspects of my teaching are good and which need to be improved? Etc ( Tabs Evaluation System, 2011)

#### Why is teaching evaluation necessary at all?

- No human being is perfect, there is always room for improvement.
- To discover our strength (good aspects) and our weakness (bad aspects) and to make necessary adjustments.
- To document the quality of one's teaching for others.
- For personal mental and psychological satisfaction.
- For effective professionalization of teaching profession.

#### Effective Ways of Evaluation of One's Own Teaching

1. **Self Monitoring:** This is done semi-automatically and semi-consciously whenever one teaches; i.e. one is conscious of one's teaching by taking note of the style of

presentation, statements, vocabularies, sentence constructions, etc.

2. **Classroom Observation:** The teachers' mental attention is consciously concerned with "How is it going?" "Are they with me?" "Are they distracted?" "Am I losing them?" "Are they interested or bored?"
3. **Classroom Control and Discipline:** It is obvious that students are more attentive, respond positively to the teacher and businesslike when teaching is effective and they are benefiting maximally. It is always the other way round and indiscipline is high in a class where students feel that their time is just wasted.
4. **Post Teaching Reaction:** This is a situation whereby the teacher consciously watches the reaction of his students after teaching. "Are they happy or sad?" "Are they grumbling, frowning, stressed or otherwise?" etc. Answers provided to these are good source of information for self evaluation.
5. **Reaction to Assignments and Homework:** Positive reaction to class assignments and homework and prompt submission is normally a sign of interest in the subject, whereas negative reaction is a warning signal that all is not well with the teaching or the teacher.
6. **Tape Recording (Audio and Video):** The teacher can put a small audio recorder on the teachers' desk or put a video recorder on the side of the classroom and let it run during a class session. The teacher later sits down and listen to or view the recording. It was a total objective information because it tells us exactly what we really said or did, not what we thought we said or did.
7. **Information from Students Through Questionnaires:** The most common method of obtaining student reactions to our teaching is to use a questionnaire. Simple items on such areas as enthusiasm, warmth, credibility, knowledge ability, clarity of objectives, friendly dissemination of the teacher can be constructed and rated on 4 or 5 points Likert format. Opportunity for anonymity should be given and must be completed by all students. The results obtained are authentic information for the teacher to know how students perceive him and his teaching.
8. **Information from Students Through Interviews:** This is a situation whereby the teacher organizes focused interview sessions during which the teacher personally ask some questions about himself, the subject, and his teaching from a randomly sampled students (if sufficient trust and rapport exists) or executed by an outsider (if more anonymity and objectivity are desired). Through the use of probing, clarification, confrontation, paraphrasing, reflection, summarization and interpretation skills, objective, adequate and undiluted



information about the teacher, the subject and his teaching would be obtained.

9. **Students' Test Results:** Continuous assessment as well as end of term examinations is essential aspects of teaching. This is why graded exercise whether it is an in class test or an out-of-class project is always given by the teacher. Usually, the intent of such test is to assess the quality of student learning. However, the same information can be used to evaluate the quality of teaching if the whole reason for teaching is to help students to learn. In a situation where a substantial number of students fail the internal or external examination, honestly, the quality of teaching is to be queried.
10. **The Use of Outside Observer:** In addition to the two parties directly involved in a course (teacher and students), valuable information can be obtained from the observations of a third part, who should be someone who brings both an outsider's perspective and professional expertise to the task. Since such an outsider does not have a personal stake in the particular course, hence, he is free to reach positive and negative conclusions without any cost to himself. Also, as a professional, he can bring an expertise either in content and/or in pedagogy that is likely to supplement that of both the teacher and the students. Such an outside observer would be a colleague, a senior colleague, or an instructional specialist.

#### RECOMMENDATION AND CONCLUSION

Teaching can no longer be done effectively using the old methods. Creativity skills needed to be utilized to make teaching relevant and appropriate to the modern demands. Making use of some of the creativity techniques explained in this presentation will go a long way in improving the delivery of academic content. On the other hand, teachers generally owe it to themselves, to their students, and to their institutions to fulfill their responsibilities as effectively as possible. The only way to improve one's teaching over time is to continuously monitor and evaluate that teaching, and then use the information obtained to make needed changes. It must be noted that a comprehensive plan of evaluation for improvement requires the amalgamation of the various techniques described in this paper. In fact, when the various sources of information are used together, it gives the teacher the deep personal and professional satisfaction of being able to say, after a single course or after a career of teaching, "I did my best, and it was good!" It is therefore, recommended that this process should be advocated for global practice for effective delivery of academic content by all teachers which should be the tenet of the emerging trends in Learning, Education and Teaching for sustainable development and Human capacity building in the third world nations.

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