Promoting Creativity among Technical College Students in Ebonyi State, Nigeria

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Abstract
The study investigated the strategies for promoting creativity among technical college students in Ebonyi State comprising of Abakaliki, Onueke and Afikpo education zones. The study used two research questions to direct the investigation. Survey design was adopted to carry out the study and the instrument was a questionnaire consisting of twenty seven items. The respondents were made up of sixty seven technical teachers drawn from the four technical colleges in the state. The research identified many problems that impede creativity and also found out some important strategies that could foster creativity among technical college students. It was recommended that technical teachers should effectively utilize available tools and machines in lesson delivery in order to foster creativity among students. Divergent and critical thinking among students should be encouraged to enable them develop skills in being creative. Also the government should provide enough fund while co-operating with private investors to provide enough teaching and learning materials for technical colleges to foster creativity.
Keywords: Promoting, creativity, technical, college, students, Ebonyi State

1. Introduction

Creativity is the ability to generate novel solutions to problems; a trait characterized by flexibility, ingenuity, and originality (Spencer, 2008). In recent years, educators are frequently expected to help satisfy societal quest for producing creative students that will be relevant in promoting sustainable future developmental strides. Policy makers in different countries are keen in teaching of values to the youth that would foster scientific breakthroughs and environmental sustainability. Year 2014 was the ultimate date that decade of education for sustainability development (DESD) proposed that promotion of education as the basis for sustainable human society strengthening will come to the peak. It is expected that scientific and human ingenuity and creativity would be at peak in improvement of environmental status and scientific explosion in discoveries. Umeano and Adinwa (2012) pointed out that education is a vital investment in sustainable development of a country and it's human potentials, and that basic education including literacy, numeracy, creativity, and life long skills are it's foundation.

Spencer (2008) pointed out that creativity is the ability to do things that are novel and useful, and that creative children and adults can solve problems to which there are no pre-existing solutions, no tried and tested formulas. Creativity no doubt is characterized by definite by factors. Milgram (2006) enumerated certain qualities shared by creative children to include that they:

- Take chances (they may use sentence fragments in essays, and they may color outside the lines in their writing book)
- Refuse to accept limitations and try to do the impossible
- Appreciate art and music (which some times leaves them out among their peers)
- Use the materials around them to make unique things.
- Challenge social norms. Creative children are often independent and non-conformists, but independence and non conformity do not necessarily make a child creative. Creative children may be at odds with their teachers because of their independent views. Faced with the task of managing large classes, teachers often fail into preferences for quiet, submissive, "good" children.
- Take unpopular stands (which sometimes give them the appearance of being oppositional, when they are expressing their genuine ideas and feelings).
- Examine ideas that other people accept at face value.

Umeano and Adinwa (2012) stated that creativity as a problem solving enterprise which is a form of transfer involves applying previously learned knowledge or skills to a new situation. Creativity thus involves in depth thought. It is innovation that leads to new insights, novel approaches, new perspective of situations in learning and doing things. Creativity in technical education includes some obvious actions like remodeling machine parts, inventions and other technical innovations. Federal Government of Nigeria (FGN) (2004) in the new national policy on education pointed out that the main features of the curriculum activities for technical colleges shall be structured in foundation and trade modules. The trainees completing technical college program shall have three options. They are to:

- Secure employment either at the end of the whole course or after completing one or more modules of

employable skills;
- Set up their own business and become self employed and be able to employ others;
- Pursue further education in advanced craft in technical program and in post technical institutions and polytechnics, colleges of education technical and universities. They are expected to be creative to achieve all the aforementioned objectives and expectations.

Interest is another factor that gingers creativity in students. Umeano and Adinwa (2012) stated that a student is more creative when he engages in activities he enjoys and takes pride in. Creativity is a resource that resides in people and can be nurtured and deliberately enhanced through education in a well structured environment. Craig (2001) found out in a research that education is critical in promoting sustainable development and improving creativity and environmental awareness. When they are shown how creativity is valued and rewarded in the society they would develop sustained interest that would further nurture and enhance creativity.

Another means of promoting creativity in students is through asking thought provoking questions and encouraging subject mastery. Abdulahi and Olarinoye (2000) asserted that approaches such as values clarifications, experimentations and problem solving that present learners with options and critical thinking for action are likely to be more successful in promoting sustainable creativity and living. The questions and assignments that provoke divergent thinking are specially helpful in developing creative minds. Students may need to be given ample freedom and security they need to take risks and time to experiment out certain ideas and occasionally accommodate mistakes. As these mistakes are corrected and more trials are made creativity is enhanced.

Information sourcing in an environment can enhance creativity. Larkin (2002) noted that sourcing of information in environment could be through news papers, magazines, field trips, video tapes, radio programs and action researches that are likely to drive the messages faster and deeper in order to enhance teachers' efforts. The teacher too needs to be creative in order to motivate students to do the same. Creative teachers are an asset to keeping students motivated to achieve more ideals that would culminate to creativity. In the theory of Maslow (1970) it explained that a teacher who is able to make students relax, feel accepted and respected as individuals is more likely to help them become eager to learn for the sake of learning and willing to risk being creative and open to new ideas. Technical colleges in Ebonyi State offer courses leading to crafts certificate in Building construction, automobile crafts, electrical and electronics installation and maintenance works, metal works, painting and decorating, arts crafts and agric mechanization. Students are admitted into the 3-year study of these crafts after the 3-year junior secondary school education when creativity is nurtured in students they would subsequently advance in further studies in their various fields of specialization. The research investigated the strategies for promoting sustainable creativity among technical college students in Ebonyi State.

2. Purpose of the Study
The general purpose of the study was to investigate how to promote creativity among technical college students in Ebonyi state. Specifically, the study set out to:
1. Identify the problems associated with fostering creativity.
2. Identify the strategies for promoting creativity.

3. Research Questions
1. What are the problems associated with fostering creativity among technical college students?
2. What are the strategies for promoting creativity in technical colleges?

4. Methodology
Descriptive survey design was adopted as method for this study. The design is appropriate since the research sought the view of teachers in the various schools. A total of sixty seven (67) teachers drawn the three public one private technical colleges in Ebonyi state which comprised Abakaliki, Onueke and Afikpo education zones were used in the study. All the technical teachers were used since the number is not too large.

The instrument for data collection was a creativity promotion strategy questionnaire (CPSQ) which consists of two parts. Part A consisted of thirteen (13) items on problems associated with fostering creativity among technical college students, while part B also consisted of thirteen (13) items on the strategies for promoting creativity in technical colleges. The questionnaire was developed on a four-point scale of strongly agree (SA) = 4 points, agree (A) = 3 points, disagree (D) = 2 points, and strongly disagree (SD) = 1 point. Three university lecturers, one an expert in industrial technology education, one in vocational agricultural education and another in psychology validated the instrument. They made some suggestions which were later incorporated into the instrument before final distribution to respondents at the technical colleges.

5. Data Analysis
The data collected was analyzed using mean and standard deviation. The results of the analysis were presented

based on the research questions. A questionnaire item with a mean of 2.50 and above on the four points scale was accepted. The 2.50 cut-off point derives from the sum of the scaling items divided by this four scaling items.

6. Results

Table 1: Problems associated with fostering creativity in technical colleges

S/N	Items Description	$\bar{x}$	SD	Dec.
1.	Lack of awareness of the importance of promoting creativity among students	3.08	0.75	P
2.	Teachers are incompetent in nurturing creativity	3.23	0.89	P
3.	Uncooperative attitude between government and the school does not foster creativity.	3.10	0.87	P
4.	Lack of sufficient funding of schools	3.11	0.82	P
5.	Unconducive environment for fostering creativity	3.15	0.80	P
6.	Lack of understanding by teachers of the benefits of creativity	3.14	0.82	P
7.	Lack of understanding by students of the benefits of creativity	3.12	0.81	P
8.	Creativity is not incorporated in technical college curriculum	3.15	0.80	P
9.	Lack of organizations interested in creativity to partner with schools	2.94	0.95	P
10.	Unavailability of development agencies to nurture creativity in students	3.10	0.80	P
11.	Lack of knowledge of subject matter by teachers to foster creativity	1.63	0.64	NP
12.	Lack of requisite teaching tools cause creativity	3.12	0.81	P
13.	Insufficient practical exposure do not foster creativity in students	3.06	0.74	P

Dec. = Decision, P = Problem, NP = Not a problem

Table 1 shows that out of the thirteen assumed problems associated with fostering creativity among students in technical colleges twelve of them received mean ratings of 2.50 and above implying that these were perceived as problems. It is only one out of the thirteen assumed problems had a mean rating below 2.50 and therefore was not really considered a problem at all.

Table 2: Strategies for promoting creativity in technical college students

S/N	Items Description	$\bar{x}$	SD	Dec.
1.	Introduction of critical thinking strategy in teaching-learning activities	3.12	0.87	Strategy
2.	Introduction of problem-solving strategy in teaching-learning activities	3.10	0.80	Strategy
3.	Encouraging students to take risk in their learning activities	2.93	0.94	Strategy
4.	Encouraging students to become autonomous in their learning activities	3.13	0.88	Strategy
5.	Being proficient in ICT skills	3.05	1.01	Strategy
6.	Promoting thinking skills in all subjects	3.14	0.81	Strategy
7.	Ability of teachers to make students understand the values in creative thoughts	3.07	1.01	Strategy
8.	Provision of requisite instructional materials for making instruction more realistic	3.06	1.02	Strategy
9.	Proficiency in innovative teaching	3.14	0.84	Strategy
10.	Using high probing questions while delivering lessons	2.93	0.79	Strategy
11.	High knowledge of subject matter by teachers	3.13	0.88	Strategy
12.	Using demonstration method of teaching frequently to deliver practical lessons	2.81	1.08	Strategy
13.	Proper implementation of continuous assessment in evaluating students	3.05	1.03	Strategy

Table 2 shows that in all the data presented all the thirteen items relating to the sustainable strategies in promoting creativity received the mean rating of over 2.50 points each. This implies that using the cut-off point of 2.50 as a bench mark, all the fourteen items were perceived as strategies for promoting sustainable creativity in technical college students in Ebonyi State.

7. Discussion

The data presented in Table 1 on the problems associated with fostering creativity among technical college students showed that all the items except item eleven that secured 1.62 which is below the cut-off mark of 2.50. All other items were perceived by respondents as problems militating against fostering of creativity among the technical college students. Respondents therefore accepted that the following do not foster creativity, lack of awareness of the importance of promoting creativity and not nurturing creativity by teachers. Respondents also posited the uncooperative attitudes between government and the school do not foster creativity and that lack of funding of schools also constitutes a problem. Lack of understanding of the benefits of creativity, lack of creative factors in curriculum, partner organizations not in interested in creativity and lack of nurturing of creativity by development agencies were identified by respondents as major hindrances to fostering creativity. This is in consonance with Craig (2001) who posited that individuals within an organization could work more effectively together by capitalizing on each others' strengths rather than neglecting each other as a result of individual

differences. Openness and mutual trusts when prevalent in organizations would propel innovations and creativity. Teachers' lack of requisite teaching tools and other materials and insufficient exposure of students to practical work were also identified by teachers as hindrances to fostering of creativity in technical college students. Hallack (1990) noted that the availability, relevance and adequacy of educational resources such as tools and equipment contribute to academic achievement. Item thirteen also revealed that respondents agreed that practical exposure of students is not enough to cause creativity in technical college students. It would be necessary to beef-up practical activities as posited by teachers.

Results in Table 2 revealed certain imperative strategies that could be utilized to foster creativity among technical college students. All the fourteen items were accepted as viable strategies for fostering creativity in technical college students. Items one to three showed that students' critical thinking, introduction of problem solving strategy and encouraging students to take risk could engender creativity. This is in consonance with the assertion of Umeano and Adinwa (2012) that students need time to experiment with new materials and ideas to think in divergent directions and occasionally make mistakes and that fostering creativity in students would inspire in students convergent and divergent thinking, creative and critical thinking and opportunity to take risks and explore their new interests which they will gladly pursue without having to be prodded are all necessary in fostering creativity. Teachers also agreed that the following would foster technical college students' creativity. They include encouraging students' autonomy in learning, being proficient in ICT, provision of requisite instructional aids, proficiency of teachers in innovative teaching, using high level questioning skills, and good knowledge of subject matter by the teachers. The respondents also agreed that large scale utilization of demonstration method of instruction and strict implementation of continuous assessment method of evaluation would also help in fostering creativity.

8. Recommendations

Achievement of the objectives of technical college education system requires the promotion of creativity in the students. Students of technical colleges on graduation are expected to offer their skills in different trades they had acquired. The teachers are also directly involved in properly exposing the students to the right knowledge and skills that would enable them become creative. From the findings of the study it is recommended that:

- Technical college teachers should utilize teaching tools and machines effectively in delivering their lessons.
- Teachers should encourage divergent thinking and students' taking risks to find out facts for themselves.
- Teachers should purposefully create awareness in students by informing them the values inherent ion creative work.
- The government should co-operate with private organizations for the development of innovative and high quality research in technical college programs.

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