

Studnovation: Inspiring Creative Innovations Among Students in Akwa Ibom State University

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Abstract

The aim of this study was to inspire third year students of Akwa Ibom State University to produce creative and innovative prototypes of products and services that will address the need of the society. Using an innovative method of teaching through a three-month course structure to tutor them on creativity, innovation and opportunity recognition, the third year students were required to develop prototypes of innovative products and services to address societal challenges in their field of interest. Findings reveal various studnovative prototypes indicating that educating students on creativity, innovation and opportunity recognition with a challenge of developing prototypes of solutions to societal problems can lead to the much needed Job creation by students thereby reducing the rate of unemployment in the nation

Keywords: Studnovation, Creativity, Innovation and Entrepreneurship

1. Introduction

Due to the high rate of unemployment in Nigeria and the increasing number of jobless graduates in the labour market, it is pertinent that students are made aware of their own ability to generate their own jobs and become employers of labour without having to que up for unavailable vacancy in both the government and private institutions. In the light of the fact that traditional educational delivery system does not give room for the stimulation of creativity among students, the introduction of entrepreneurship as a course module for all disciplines in the university provides a way out of joblessness, unemployment and poverty.

However, there is a call for more focus on the practical orientation of the course with less emphasis on the theoretical appreciation of the course (Akpan et. al, 2012). It is in this regards that third year students of the Faculty of Engineering and Natural and Applied Sciences were required as part of their assessment in the course GSS 302 - "Entrepreneurial Skills" to develop creative and innovative solutions to societal needs in their field of discipline or field of interest.

2. Opportunity Recognition

Lim and Xavier (2015) posit that opportunity recognition is a discovery of an idea to create new businesses and the search of information regarding market and technological possibilities. Students were taught that opportunity recognition is a central and unique component of entrepreneurship (Shane and Venkataraman, 2000) in that, it is that vital first step in the entrepreneurial process (Christensen et. al, 1994) which involves the search and capture of new ideas that eventually leads to the establishment of a business venture. They were taught that opportunity recognition is a perceived means of generating economic value that previously has not been exploited and is not currently being exploited by others (Katz and Green, 2007). They were taught that opportunities could occur through discussion with family members and friends, through work experience, hobby, chance happening, education, technology transfer among others (ibid.).

2.1 Creativity and Innovation

Tutoring the students on the Creativity and innovation, the students were made aware that Creativity and Innovation are at the heart of the spirit of entrepreneurship. Creativity and innovation are among the entrepreneurial competencies related to fostering entrepreneurship, improving performance and achieving sustainable development (Barroso, 2012; Salinas, 2014). According to Aceves & Barroso (2016), creative thinking is an important competency that aids in conflict solving and decision making. The students were taught that creativity is the act of turning new and imaginative ideas into reality. They were taught that creativity is critical for economic growth and is a crucial part of innovation. They were taught that creativity could be learnt through experimentation, exploration and questioning of existing assumptions among others.

On innovation, the students were taught that innovation is that dynamic process that focuses on the creation and implementation of new or improved products and services and is the basis of all competitive advantages. Citing from scholars, the students were made aware that creativity and innovation are the key drivers of job creation as such, nurturing creativity and innovation amongst them is the best way out of unemployment and for creating sustainable jobs (Brownson, 2014). Creativity is a source of competitive advantage (Barroso-Tanoira, 2017). Studies have shown that innovation is the major reason for job gains in companies owned by entrepreneurs in America, Asia, Europe, Middle East, India and in Africa (Ernst and Young, 2013). Innovation is

said to be a genuine job creator, a genuine differentiator/advantage over competitors (ibid.). Hence, creativity and innovation is one of the main sought after skills for those seeking for employment (Brownson, 2014).

2.2 Studnovation

Studnovation has to do with the innovative ideas generated by the students through their creative abilities. The ideas are displayed in form of a prototype for presentation as part of their course work. The use of the word Studnovation is to make the students aware of their abilities to be creative and to boost their confidence in owning and presenting their ideas for assessment and future establishment of the depicted business idea.

3. Methods

Given a wide variety of teaching methods, scholars on entrepreneurship education have not been able to provide a consensus as to the particular basis for choosing teaching techniques that best suits a given set of students (Balan and Metcalfe, 2012) as such, Samuel and Rahman (2018) advocates that attention should be given to the objective of the course. In this study, an innovative method of teaching was used based on the objective of the course. Bennett (2006) posits that the innovative method demands the teacher to stimulate and encourage students to rediscover themselves in terms of their abilities, knowledge and attitude. Gibb (2002) adds that students learn from one another in such a method by being practical conscious. Jones and Iredale (2010) point out that it involves experiential learning styles, creative problem solving and learning by doing to arouse the interest of the students while Samuel and Rahman (2018) emphasize group work that involves real activities.

Based on the above, in a two (2) credit hour session per week for three months, the third year students of Akwa Ibom State University were taught idea generation, creativity and innovation with entrepreneurial exposure of products already produced by previous students. The students were instructed to form a group of not more than five people in a group to address a need in their field of discipline or field of interest. A maximum of three month was given to all the students for the development of the prototype connected to the solutions they are providing for their identified needs.

4. Analysis

The result showed several prototypes produced by the students. Some of the prototypes are depicted below for the analysis.

Picture 1: Office Decoration Devices



Device A

Device B

Due to the need to decorate and brighten offices, some of the students developed the above office decoration devices. Device A called a 'portable water fountain' as shown above in Picture 1 emits different forms of light as it rotates with a recycling technique of water gushing out from the holes made on the top of the different levels of the device down to the holes made on the lowest level. Indeed the device is a delight to behold. Device B as depicted on Picture 1 above is another form of decorating device which emits light within the bottle with rotating flakes made of different colours which gives the room a serene look. The making of these devices has empowered the students involve to create similar devices for sale as a means of generating their personal income.

Picture 2: Food Processing Equipment



Due to the need to develop processing devices to meet the food needs of the nation, some group of students in Agric Engineering department developed a prototype of cassava processing Equipment as shown on Picture 2

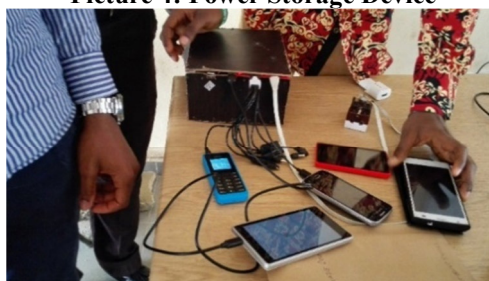
above with increase in the speed of processing compared to existing ones. This device has propelled the students into the development of other devices for easy processing of food.

Picture 3: Shoe Polishing Device



A group of female students developed an electrical shoe polishing device as demonstrated on picture 3 above. They observed that a number of workers have limited time to polish their shoes as such they depend more on roadside shoe polishers on their way to work who may not polish the shoes appropriately due to the limited time given to them to rush over the shoe. Hence the need for workers to have their own electric polisher which could give their shoe the required professional touch needed to polish the shoe.

Picture 4: Power Storage Device



Due to power outage issue in Nigeria and the need to keep mobile and computer devices active all the time, some group of students developed a power bank with multiple Universal Serial Bus (USB) to ensure that multiple devices could be charged at the same time as depicted in picture 4 above.

Picture 5: Illumination Clock



Due to the unpredictable nature of power outage in the country, some group of students developed an illumination clock powered by solar to serve as an immediate point of lighting in case of power outage or when the environment becomes dark in the evening. Hence, when one enters such a dark environment, the illumination of the clock serves as a light to guide the person in the room.

Picture 6: Device Protector



A student developed a stove protector as depicted in Picture 6 above. The student observed that the stoves used by students are usually prone to leakage due to improper storage and usage of the stove. Hence, he developed the stove protector which provides protection for the bottom of the stove raising it above the ground to avoid contact and friction with sand and rough cement on the ground which is the prime cause of the leakage. In so doing, he attaches another device to the protector which is fixed above the top level of the stove as shown

on picture 6 above which enable the students to dry their food items and other forms of edible drying with minimal contact with fire from the stove. The device was highly sought for by other students after the presentation. Hopefully, the students' orders for this device have provided an additional source of income to the student who developed the device.

Picture 7: Furniture from Waste



A group of students constructed a piece of furniture using used car tyres as depicted on Picture 7 above. Given the need to recycle waste materials, the students made a circular shaped table suitable for holding meetings with about three to four people comfortably. To make the table suitable for round the clock usage, the students fixed a bright light bulb in the middle of the table with a battery switch under the table to aid in illuminating the room in case of sudden set in of darkness due to change of weather or power outage.

Picture 8: Multipurpose Extension sockets



Due to a need for power extension especially with different power point capable of carrying various devices, some student constructed a multipurpose extension sockets as displayed in Picture 8 above. The extension sockets has modes for different types of plug heads such as European type plug heads, American type plug heads, USB device among others.

Picture 9: Text Book Publication



Text on Mathematical Formulas, Information Communication Technology & Statistical formulas

Due to paucity of certain text books in different fields of the Natural and Applied Sciences in Nigeria to act as a reference for formulas and terms used in such field, the students of Mathematics Department developed a prototype text book consisting of Mathematical formulas relevant for undergraduate students. In the same vein, students of Computer Science Department developed a prototype text consisting of all computer terminologies and their meanings which are not found in dictionaries and of which such a book was lacking in that field. Similarly, a group of students in the Department of Statistics also developed a prototype text of Statistical formulas that are relevant for undergraduate students of any university in that field as displayed respectively on Picture 9 above.

Picture 10: Mud Stove



Due to a lack of cooking facilities in a remote area in the southern region of Nigeria, a group of students in Geology while in camp for their field work generated the idea to create a mud stove for their use due to a lack of cooking facilities. The mud stove uses charcoal as its energy source and saved the students the cost of purchasing kerosene for cooking. The students were able to construct the stove for sale to other campers. This enabled the students to practicalize their ability to spot an opportunity and develop a product to utilize such opportunity.

Picture 13: Food Preserving Unit



A group of students in Agric Engineering developed a unique food preserving unit that can preserve peeled/uncooked yams for about seven days without it spoiling. This unique food preserving unit can be developed and sold to low income earners who may be unable to afford a refrigerator and rural farmers for preservation of their harvested crops.

5. Discussion of Findings

The aim of this study was to inspire third year students of Akwa Ibom State University to produce creative and innovative prototypes of products and services that will address the need of the society. The findings reveal that the use of the Innovative teaching method in a three-month course structure to tutor the students on creativity, innovation and opportunity recognition paid off in that, the students came up with various innovative prototypes of products of which a few is reported in this study. This indicates that the students were stimulated and encouraged to rediscover themselves (Bennett, 2006) as show cased in their creative abilities in the array of prototypes displayed at the end of the study.

The findings reveal that allowing the students to work in teams help them to gain more knowledge from the expertise of other team members which supports Gibb's (2000) view that the method allow students to learn from one another. The group work helped them to develop a team spirit which is what is required now in organizations. This aligns with Samuel and Rahman (2018) assertion that emphasize the use of group work that involves real activities as show case in the development of the prototypes. The group work further helped them to grow their creative thinking ability in coming up with an agreed prototype to work and present as a team (Wilson, 2005).

The findings reveal that the students are able to recognize/spot opportunity given the various needs in which their prototypes are set to address which aligns with Katz and Green (2007) definition that opportunity should be what others have not yet exploited. The findings revealed that the students were able to develop their creative and innovative abilities as indicated by their prototypes which are the translation of their imaginative ideas into reality. The findings revealed that the students were highly motivated to present their creative work with majority responding that they will take the work beyond the classroom to serve as a source of income for them which aligns with Jones and Iredale (2010) assertion that the interest of the students should be arouse. It also aligns with the main goal of the course which is to nurture job creators as posited by Samuel and Rahman (2018) that attention should be given to the objective of the course.

6. Conclusion

The study sought to inspire third year students of Akwa Ibom State University to produce creative and innovative

prototypes of products and services that will address the need of the society. Using innovative teaching method which involves the use of group work, the students were required to develop prototypes to show case the need they have identified and the creative solutions to fill that need. Findings revealed that the modules on creativity, innovation and opportunity recognition used in tutoring them yields much benefits as indicated in the various display of innovative prototypes by the students. The findings imply that such modules should be encouraged in the teaching of entrepreneurship to boost students' creative and innovative skills which could help them to generate jobs and be employers of labour when they graduate. The findings contribute new knowledge to the entrepreneurship literature by bringing new contextual knowledge and angle of approach to the teaching of entrepreneurship at the undergraduate level. This research could be replicated in other contexts to compare findings.

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