

Intrinsic Motivation and Thinking Styles as Additional Measures for Admitting Students into Qualitative Technical Education Degree Programme

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Abstract

Technical and Vocational Education programme is meant to train personnel to acquire skills either for self employment or for industrial and national economic development. Despite the importance of technical and vocational Education to the individual and the entire nation, it is being faced with poor enrolment in schools with low standard of performance and withdrawal to another discipline later in life. This is as a result of poor method of admitting students into the programme which exclude consideration for students' interest (intrinsic motivation) as well as their thinking styles. Whereas, personal interest and innovative or creative thinking styles actually work together to produce creativity. This study therefore was meant to justify the need to include students' intrinsic motivation (interest) and their thinking styles as part of the measures for admitting students into a qualitative Technical Education Degree programmes. The sample of the study consisted of 45 technical education Degree students of College of Education, Ikere Ekiti in a programme affiliated with University of Nigeria, Nsukka and Ekiti State University, Ado Ekiti Nigeria. The study utilizes both psychometric instrument and in- depth interview to collect data from its subjects. The study was out to determine the quality of the students' personal interest in the course as well as their their creative thinking style or domain. Why data collected was analyzed using both the qualitative and quantitative methods of analysis. The study found that most students' creative performance was low, and that most of them were admitted not because of their interest but because it was the last option for them. It was therefore recommended that additional psychometric tests should accompany the aptitude test for admission as this will enhance qualitative Technical Education Degree programme.

Key Words: *intrinsic motivation ; Innovation Thinking styles; Technical Education; Degree programmes; creativity.*

INTRODUCTION

Technical and Vocational Education is needed at every level of education in order to train manpower for economic growth and development of a nation. Ozienga (2009) stated that technical and vocational education is any form of education whose purpose is to prepare person (s) for employment in a specific skill. In Nigeria content, vocational education is viewed as training and retraining programme which is given in schools or classes under public schools supervision and control(Federal Government of Nigeria,2004)

Some authors gave clear distinctions between Vocational and Technical Education. For example, Oranu (2000) viewed it as the skilled based programme designed for sub-professional level of education and based on specific vocation. While the author saw Technical Education on the other hand as that which facilitates the acquisition of practical and applied skills as well as basic scientific knowledge. The major difference between the two terms according to this author, is that whereas vocational education is designed for a particular vocation, technical education does not target any particular vocation, but gives general technical knowledge. Thus, while every vocational programme is technical in nature, not all technical education programmes vocational. (Oranu, 2000).

Vocational Education in another perspective 'is training for all occupations requiring less than a bachelor's degree. This type of education is obtainable at sub-professional level.(Okoro, 1993; 2004). Vocational Education is different from technical education in the sense that while Vocational education is concerned with the training of craftsmen in some specific occupations, technical education is meant to train technicians at post-secondary level(Okorie,2001). Technical Education requires some specific theories and Mathematics. It is also meant to bridge the gap between the craft-men and the engineers. The summary of the definition is that vocational education is obtainable at the primary , the Junior secondary school (JSS) , the senior secondary school(SSS) or technical colleges up to the Ordinary National Diploma level (OND) Whereas Technical education is obtainable at the Higher National Diploma (HND) and the Degree level.

Technical education at the degree level is meant for dual purposes. First, to train technical teachers who will be creative in thinking and competent enough to train the younger ones in secondary schools and technical colleges. The essence is to help them acquire technical skills as well as to assist them to enhance creativity and innovation. Papers (2011) described creative thinking is the advance form of thinking which must be cultivated in students through teaching.

The second aim of The Technical degree programme is to train personnel, who will be competent enough to work in the industry or establish on their own. Hence, emphases are laid on technological courses such as Building Construction, Metal work, Automobile Technology, Electricity Electronics Woodwork Technology etc.

In Nigeria, the National University Commission (NUC) also approved that the degree programme be run in some colleges of education who must be affiliated with a university. Thus degree certificate at the college of education is equivalent of the degree certificate obtainable in any Nigerian university. Students are supposed to transit from either a technical college or a Senior Secondary School with minimum of five credits in relevant subjects, including Mathematics and English language obtainable at not more than two sittings. The students are to transit by writing the University Tertiary Matriculation Examination (UTME) handled by Joint Admission Examination Board (JAMB).

Despite the fact that vocational/technical education is an education for work, and national economic development, yet, it is faced with many challenges globally. The perception of people towards technical and vocational education appears to be negative generally. The report of The Guardian(2008) on the survey done by City and Guide in nine countries including Australia, Canada, Denmark, Germany, Hungary, India, Malaysia, South Africa and the United Kingdom showed that, with the exception of Hungary, the image of vocational training was seen to be generally poor in these countries (Awang, Sail, Alavi, & Ismail, 2011). While in many African countries, especially in Nigeria, Technical Vocational education is viewed by many people as a Cinderella (a woman whose beauty is not admired).

Many factors have been identified to influence student's decision to pursue a vocational training programme. Such factors include the image formed towards technical vocational education. Many perceive that the program is meant for low academic achievers and the school dropouts who want to go into the workforce (Hoxer, 2002). Also, it is considered by some people for the youth having curriculum challenges (Hoxer, 2002) and (Beltran, 2007). The impact of which will result into producing technical graduate who will be less creative in developing the technology of the nation.

Many countries have tried to promote technical and vocational education programmes. For example, in Nigeria, Part of the emphases laid by the Federal Government on Vocational Technical Education is that at least a Technical College should be established in each Local Government Area of the thirty-six states of the nation. Taking Ekiti State as an example, there are sixteen Local Government Areas in the state. Going by the policy statement, there suppose to be at least sixteen public Technical Colleges in the state. At present, there are only six Technical Colleges established since the creation of the state in 1996, whereas, the technical colleges are meant to feed the university with their graduates.

In the entire Technical Colleges, a recent research found that only 524 students were in enrolment in the year 2007 with 79 teaching staff, putting the teacher-students ratio in 1:7. This enrolment was found to be low as compared to ratio 1:20 recommended by the National Board for Technical Education (NBTE) Ayodele, and Abiodun-Oyebanji(2007). While the statistics obtained from the state National Board for Technical education in year 2013 showed that a total of 531 students are in enrolment in the entire technical colleges.

In addition, poor societal enlightments and lack of intrinsic motivation appears to be major factors contributing to the low enrollment of the students. This problem will in no doubt create unproductive technological and industrial development in Nigeria. The low level of enrolment is equally affecting the Quality of Technical education at the degree level.

No matter the level of enrolment into Technical Education programme in any University, candidates should be allowed to enter into the career based on their own interest rather than compelling them. It is an established principle that technical education can only be made available for those who need it, interested in it and also hope to profit in it. (Olaitan, 1996).

Inner motivation (intrinsic motivation) played a major role in one's achievement in life. Intrinsic motivation (IM) has been one of the concepts studied in motivational research in various fields. Intrinsically motivated behaviors are engaged in for their own sake, for the pleasure and satisfaction derived from the process of engaging in the activity. Intrinsically motivated behaviors are associated with psychological wellbeing, interest, enjoyment, fun, and persistence (Ryan and Deci, 2002). Thus students who are motivated intrinsically have the chance to work and perform well in their chosen career.

In addition, vocational and technical education should be geared towards admitting students who have interest in creativity. Kufman (2008) opined that the creative thinking style of a person is similar or is a reflex of one's personality. They determine the way by which people choose and use their creativity¹⁷ and vocational interests. Hence, Baer, Kaufman and Gentiles(2006) in a study carried out asked students to rate their domains in areas of domain which would help them determine their areas of creativity. About 56 careers were grouped under seven categories. The categories which were called Domain Factors include: Artistic Verbal (VER); Artistic Visual (VIS); Entrepreneur (ENT); Interpersonal (IP) Mathematics / Science (MS) Performance (PER) Problem Solving (PS). The instrument is found to be good in determining the creative thinking style or domain of students.

The creative potential of an individual can also be determined using a test instrument called the Creative Potential Profile (CPP). The file according to Rowe, shows four intelligence or thinking styles as well as individual preference for each of the intelligence styles. The categories of the intelligence styles are identified as intuitive, innovative, imaginative and inspirational¹⁸.

People with innovative thinking style are usually resourceful and are typically managers, actors, and politicians. While innovative style describes inquisitive people such as scientists, engineers, Technicians inventors. This set of people is usually persistent in experimentation and analysis. Imaginative people rely on humours to convey ideas to others. They are typically artists while the inspirational style is used to describe people who are visionary. Examples are the educators ,leaders and writers(Rowe, 2003).

The response of people to a particular problem or situation depends on their areas of creativity and interest hence the need to serve as additional basis for admission into school progames.

OBJECTIVE OF THE STUDY.

The purpose of this study is to determine the need to utilize intrinsic motivation factor and creative thinking styles or potentials of individuals as part of pre- requisite for admission into university Technical Degree programme .Specifically, the study sought to:

1. Determine whether students were admitted into technical degree programme based on their interests.
2. Measure the creative thinking abilities or styles of the current degree students.

METHODOLOGY

The research design was a descriptive type utilizing both qualitative and quantitative methods.

Sample

The study was purposely carried out in Ekiti state university Ado(EKSU) and Ekiti state college of Education , Ikere Ekiti. in Ekti State, Nigeria. The two institutions chosen run a full degree programme in Technical Education and Industrial Technical Education respectively. The programme of the college of Education is an affiliated programme run by the University of Nigeria Nsukka.(UNN/COE) The sample for the study consisted of 43 Technical Education students and 45 Industrial Technical studens in EKSU and UNN/COE respectively. The study utilized a simple random sampling technique.

Instrument / Data collection

The study made use of an in-depth interview and a psychometric instrument (Creative Domain Questionnaire) developed by Kfman(2006) and Kufman, cole & Baer,2008) to collect information from its targeted sample.The instrument was adjudged to possess a high reliability coefficient.

Data analysis

Data Collected were analyzed using content analysis for the qualitative part and the static mean and Standard Deviation for the Quantitative parts.

RESULT AND DISCUSSION

Research Question1: What courses did the Technical students originally applied to pursue?

Table 1 Courses applied to pursue originally.

EKSU STUDENTS	UNN/COE STUDENTS
Biology, , Microbiology, Computer Science Biology Education, Civil Engineering Technical Education, Computer/ICT,	Physics Education, Technical Education, Health Education, Civil Engineering, Chemical Engineering, Biology Education, Economics, Computer science, Geology and Chemistry.
NOTE ; Only one candidate signified to have applied for Technical Education through UTME	NOTE: Only two candidates signified to have applied for technical Education through UTME

From Table 1, one can deduce that the students in the two schools had some other courses in mind to pursue, but for one reason or the other, were offered admission into Technical Education.

Research Question 2.

What conditions led the students into Technical Degree programme?

Table 2 Factors that lead the students into technical education.

SUMMARY OF EKSU STUDENTS' RESPONSES.	SUMMARY OF UNN/COE STUENTS' RESPONSE.
I was changed into the course. I changed my mind to read it because I just wanted a course. I had D7 in Chemistry, so I was not able to secure	I Changed my course due to low UTM score. I could not secure admission to read Civil Engineering so I decided to opt for it since Building Tech is close to civil Engineering.

admission to read the course of my choice.	I changed to Technical Education because I later discovered it can lead to self employment.
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Most students indicated that they never heard about Technical Education before and so, they did not know what it is all about until find themselves in it. Though the change of course granted by the University authorities was justifiable in the sense that it prevented to an extent the admission quota for the course from being wasted.

Research Question. 3 What the self estimated creative thinking abilities of the current degree student

Table 3 Showing the values of thinking abilities and the domain of EKSU students

DOMAIN FACTORS	MEAN	SD	REMARK
<i>Artistic Verbal (VER)</i>	3.50	1.18	ALC
<i>Artistic Visual (VIS)</i>	4.65	0.03	SC
<i>Entrepreneur (ENT)</i>	3.75	0.93	ALC
<i>Interpersonal (IP)</i>	6.15	1.50	VC
<i>Maths / Science (MS)</i>	5.06	0.38	SC
<i>Performance (PER)</i>	3.57	1.11	AC
<i>Problem Solving (PS)</i>	6.10	1.42	VC
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From the table above, it could be seen that the technical students in EKSU rated themselves to be a little creative in Artistic Verbal skills and IN Entrepreneurial skills. While they are somehow creative in Visual Art together with Mathematics and science. The study also revealed that they possess a little creative ability in performance and very creative in problem solving.

Table 4. showing the values of creative thinking abilities and the domain of EKSU students

DOMAIN FACTORS	MEAN	SD	REMARK
<i>Artistic Verbal (VER)</i>	3.34	0.81	NVC
<i>Artistic Visual (VIS)</i>	3.72	0.42	ALC
<i>Entrepreneur (ENT)</i>	4.53	0.41	SC
<i>Interpersonal (IP)</i>	4.17	0.03	ALC
<i>Maths / Science (MS)</i>	4.42	0.28	ALC
<i>Performance (PER)</i>	5.12	0.41	SC
<i>Problem Solving (PS)</i>	3.73	0.68	ALC

From the table above, it can be seen UNN/COE are not very creative in courses Artistic verbal, while they are little creative in Artistic visual, interpersonal relationship, Mathematics/Science as well as in problem solving. it is also shown on the table that they are somehow creative in Entrepreneur and performance.

NOTE: NA = not Applicable; NAC = Not at all creative; NVC= Not Very Creative; AC = A little Creative; SC= Somewhat Creative; VC= Very Creative; EC= Extremely Creative

CONCLUSION.

The study has actually revealed that many students Secondary school, are not aware of the importance of technical Education to themselves and the entire nation .The career itself seems to be less attractive to the society as it is being faced by low enrollment over the years. It is also obvious from the study that many of the students who finally opted for the career do so out of their personal interest. It has also been found in this study that those who opt for the career are weak in science, mathematics and entrepreneurial creativity which form the basis for technical and vocational career. It is theretofore suggested that, students should not be forced into the discipline neither should it

be made a last option during admission process. The same prestige given to Engineering globally should be accorded the career as this will enable people to understand that it is as important as engineering for nation building. Lastly, the interest and creative abilities of the people entering into the course should be ascertained before they are offered admission, otherwise they will find it difficult to cope while people will keep seeing it as the career for academically half-baked people.

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