ENHANCING ACADEMIC PROGRESSION OF TECHNICAL AND VOCATIONAL STUDENTS INTO TERTIARY INSTITUTIONS IN GHANA

ATSU, A.M.

Department of Mechanical Engineering, Tamale Polytechnic

ABSTRACT

Vocational and technical (VOTEC) education plays a significant role in knowledge acquisition for national development. However, since the inception of education in Ghana, VOTEC education until recently has not seen any improvement in the areas of curriculum or academic progression of its graduates. This study sought to assess factors limiting academic progression of VOTEC students into tertiary institutions. Information was obtained from 20 out of 30 VOTEC teachers, registrars of the 5 existing public universities and the 10 polytechnics, 50 present and past students, 20 parents, directors of West Africa Examination Council (WAEC) and Technical Examination Unit (TEU) by means of questionnaires and interview. Comprehensive literature review was carried out based on the said objectives. Also, lack of recognition and appreciation of importance of the VOTEC certificate hindered them from entering into tertiary institutions. There was a gap in academic progression of VOTEC graduates, which must be addressed through curriculum improvement by introducing the Core courses that are entry requirements for tertiary institutions. Also, Universities should offer a year pre-university course for VOTEC graduates for admission to enhance their progression.

Keywords: Academic Progression, VOTEC, Curriculum, Examination, Tertiary

INTRODUCTION

The history of Vocational and Technical (VOTEC) education can be traced to as far back as 1850. By 1850, positive attempts were also made to introduce other subjects such as industrial, agricultural and trade training to offset the apparently bookish nature of education. This was re-echoed during the reign of governor Guggisberg in 1925, where he outlined sixteen (16) principles of education, one of which states that there is the need for the provision of trade schools with a technical literary education that will fit young men to become skilled craftsmen and useful citizens. Technical institutes have been established at all levels of formal education, and since its inception, VOTEC education have been faced with a lot of challenges among which is the smooth academic progression of its graduates into tertiary institutions. Since time in memorial, VOTEC students have being complaining and expressing their bitterness and disappointment about their inability to enter into the university, but who will listen to them? Even the university where few VOTEC students had the opportunity to read degree programmes, they still complain bitterly about the difficulties, the task and hustles they have to go through to gain admission. It is upon this background that the writers had a strong inner drive to research on
the topic ‘Enhancing Academic Progression of Technical and Vocational (TVET) students into tertiary institutions’ to find out what actually the challenges are and how best it can be addressed or reduced. Article 26, section 1, of the United Nations (U.N) human rights law states ‘inter alia’ that “everyone has the right to education. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit”. From this, one can argue that the inability of the technical students to enter into the tertiary institution is human right abuse.

Now let’s look at the definition of Technical Education as stated in a document presented by the then PNDC secretary for education and mobilization and social welfare in a policy document on technical and vocational education and training (TVET) in Ghana. “Technical education is that type of education designed at upper secondary and lower tertiary levels to prepare middle-level personnel (technicians, middle management etc) and at the university level to prepare engineers and technologist for higher management positions. The component of technical education may vary considerably depending on the type of personnel to be prepared and the educational level”. If that is the case, why is it that the VOTEC students do not have smooth access to tertiary education to also hold managerial positions? No doubt, one of the serious problems militating against the progress of VOTEC in Ghana is that unqualified personnel are at the managerial levels. Definitely they will collapse the sector, so the writers think something seriously must be done to salvage the situation. It can be seen that a lot of educational reforms was made with many laudable ideas on improvement of VOTEC education but implementation has always been the problem. It is the writers hope that, by the end of this research work, the researchers would be able to come out with a workable document to reduce the hindrances of smooth progression of VOTEC students into the University if not totally eliminating it.

**Problem Statement**

Lack of curriculum review is a challenge which limits the progression of TVET students. Asamoah Duodu (2003) noted that neglect in the reviewing technical institutions curricula to meet the demands of industry is creating problem. Most people are of the view that VOTEC students can never enter the University. A lecturer of a University in Ghana came to assess the practical work of students of a Technical Institute, mentioned during discussion with the students that for them to enter University they should forget it, but the writers think it is a wrong statement to be made by a lecturer. VOTEC students are harboring some bitterness in them because they cannot continue their education to the tertiary level. Some of the spillover of the bitterness is as a result of Polytechnic students asking to be equated to first degree holders. VOTEC education since its inception has not seen any major restructuring or improvement for it graduate to get smooth entry into tertiary institution in Ghana. In view of this problems enumerated above which militates against the success of VOTEC education or in order words smooth academic progression of VOTEC students into
tertiary institutions, something must be done to address the situation. This is because the success of Ghana’s vision 2020 depends much on Technology education. This assertion is reinforced by Afful (1998) that participant drafting National Science and Technology Policy should take cognizance of the role set for Science and Technology in vision 2020 policy statement as a catalyst for rapid and sustained national development.

Aim

This study sought to assess factors limiting academic progression of VOTEC students into tertiary institutions.

Objectives

- The objectives are to identify the factors affecting the academic progression
- To identify the critical factors affecting the academic progression.

RESEARCH METHODOLOGY

Purposive sampling was done to obtain information from those involved in technical education or tertiary education. Information was obtained from VOTEC teachers, registrars of public universities and polytechnics, present and past students, parents, directors of West Africa Examination Council (WAEC) and Technical Examination Unit (TEU) by means of questionnaires and interview.

The selection considered a fair representation sample of five (5) registrars (academic) of the six (6) public universities, six (6) registrars out of the ten (10) polytechnics, four (4) heads of department each from the polytechnics, fifty (50) out 100 final year students of technical schools in Tamale, from Technical subject areas (Mechanical, Automobile, Agricultural, Electrical and Electronics, and Welding) director each of West Africa Examination Council (WAEC) and Technical Examination Unit (TEU).

The researchers aimed at achieving valid and genuine results based on facts and truth. This notwithstanding, one instrument is considered incapable of providing the desired results. Therefore the following instruments were used; sixty (60) questionnaires were sent out but fifty (50) were returned. These were used for students, structured interviews were used for registrars of the public universities and polytechnics, directors of examination bodies, unstructured interview was used for parents, discussions, observations alongside study and analysis of valuable related literature were used in gathering information.

Descriptive statistics was used to analyze the data collected and results are shown as mean. Out of sixty questionnaires sent out, fifty were received.
RESULTS AND DISCUSSION

Table 1 shows the results of responses of students on factors affecting the academic progression of technical students into tertiary institutions in Ghana, and three items had the highest mean of 20 during the ranking. These are; items ten which talked about lack of core subjects such as, Mathematics, English, and Science. The writers agreed with them because this is the situation on the ground, and something must be done about it such as, making English, Mathematics and Science examinable in the technical schools to enable their students to gain admission into the university. Though the implementation of this solution has just started, it is not without challenges. To confirm this, the president of Association of Principals of Technical Institutions (APTI) mentioned the challenges TVET graduates are facing with gaining admissions to tertiary institutions and had to make a letter to the examining body to write to such institutions to accept the certificate II of Technical institute graduate which now includes the core subject. This means that, there is a challenge for recognition which must be address. The writers agree with them and as stated earlier that the president of APTI sent a letter to the examination bodies to write to the tertiary institutions to recognize the TVET certificate which is the Certificate II. Also, the Executive Secretary of NABPTEX, mentioned in an interview during VIASAT One evening news on the 17th of May, 2013 that, “Ghanaian look down upon polytechnic graduates, this negative attitude must change”. 

Table 1: Responses of Technical students’ on factors affecting academic progression

<table>
<thead>
<tr>
<th>Items</th>
<th>Strongly Agreed</th>
<th>Agreed</th>
<th>Disagreed</th>
<th>Strongly Disagreed</th>
<th>Total</th>
<th>Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every student desire to enter the university.</td>
<td>35 (140)</td>
<td>15 (45)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>185</td>
<td>18.5</td>
<td>4th</td>
</tr>
<tr>
<td>Technical students do not have access to university education.</td>
<td>0 (0)</td>
<td>42 (126)</td>
<td>8 (16)</td>
<td>0 (0)</td>
<td>142</td>
<td>14.2</td>
<td>11th</td>
</tr>
<tr>
<td>Technical students do not want to further their education to the university.</td>
<td>0 (0)</td>
<td>3 (9)</td>
<td>12 (24)</td>
<td>35 (35)</td>
<td>68</td>
<td>6.8</td>
<td>16th</td>
</tr>
<tr>
<td>Technical/Vocational students do not make any effort to continue their education.</td>
<td>5 (20)</td>
<td>10 (30)</td>
<td>15 (30)</td>
<td>20 (20)</td>
<td>100</td>
<td>10</td>
<td>14th</td>
</tr>
<tr>
<td>Governments do not attach importance to technical education.</td>
<td>30 (120)</td>
<td>16 (48)</td>
<td>4 (8)</td>
<td>0 (0)</td>
<td>176</td>
<td>17.6</td>
<td>8th</td>
</tr>
<tr>
<td>There is a university in Ghana which admits technical students.</td>
<td>20 (80)</td>
<td>15 (45)</td>
<td>10 (20)</td>
<td>5 (5)</td>
<td>150</td>
<td>15</td>
<td>9th</td>
</tr>
<tr>
<td>University education is the preserve for S. H. S. graduates only.</td>
<td>0 (0)</td>
<td>4 (12)</td>
<td>10 (20)</td>
<td>36 (36)</td>
<td>68</td>
<td>6.8</td>
<td>16th</td>
</tr>
<tr>
<td>If Technical/Vocational students are admitted into the universities they can perform better.</td>
<td>45 (180)</td>
<td>5 (15)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>195</td>
<td>19.5</td>
<td>2nd</td>
</tr>
<tr>
<td>VOTEC students do not gain admission into the university due to their poor performance in</td>
<td>40 (160)</td>
<td>10 (30)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>190</td>
<td>19</td>
<td>3rd</td>
</tr>
</tbody>
</table>
English and Mathematics.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes</th>
<th>Neutral</th>
<th>No</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>English, Science and Mathematics should be examinable in Technical schools to enable their students gain admission to the university.</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Technical students can perform in the university if given the chance.</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Technical Education syllabi has not seen any review for the past two decades</td>
<td>32</td>
<td>13</td>
<td>5</td>
<td>177</td>
<td>17.7</td>
</tr>
<tr>
<td>Technical Exams unit has not made any effort to address the situation.</td>
<td>35</td>
<td>10</td>
<td>5</td>
<td>180</td>
<td>18</td>
</tr>
<tr>
<td>Ghana Education Service and the entire country have no recognition for Technical Education.</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Parents of Technical students do not make any effort to let their wards further their education.</td>
<td>7</td>
<td>4</td>
<td>9</td>
<td>88</td>
<td>8.8</td>
</tr>
<tr>
<td>Most parents establish shops for their wards after completing technical schools.</td>
<td>15</td>
<td>12</td>
<td>14</td>
<td>133</td>
<td>13.3</td>
</tr>
</tbody>
</table>
Most of the people at the helm of affairs are secondary school graduates who hate to see the progress of the technical education.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>CI 95%</th>
<th>Std Dev</th>
<th>No.</th>
<th>Weighted Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the people at the helm of affairs are secondary school graduates who hate to see the progress of the technical education.</td>
<td>34 (136)</td>
<td>11 (33)</td>
<td>5 (10)</td>
<td>0 (0)</td>
<td>179</td>
<td>17.9</td>
</tr>
<tr>
<td>The forerunners of technical education are afraid that the young one’s will come and take their positions if they should have access to university education, so that they are not doing anything to help them get access to University.</td>
<td>20 (80)</td>
<td>14 (42)</td>
<td>10 (20)</td>
<td>6 (6)</td>
<td>148</td>
<td>14.8</td>
</tr>
<tr>
<td>Those who went through technical education are their own enemies.</td>
<td>5 (20)</td>
<td>11 (33)</td>
<td>16 (32)</td>
<td>18 (18)</td>
<td>103</td>
<td>10.3</td>
</tr>
</tbody>
</table>

The item eleven, one of the highest mean of 20, talked about technical students not given the opportunity to enter the university, the respondents felt if given the opportunity, they could match their Senior High School (SHS) counterparts. Item fourteen, the last of the three highest mean of 20 which said Ghana education service and the entire country does not take Technical education serious, shows that there is a problem with recognition. This is an indication that these are the highest factors militating against the academic progression of technical students from the responses. Also the least mean of 6.8 was arrived at during the ranking and it indicates that the students do not attach any importance to the factor of technical students do not want to further their education, because they actually want to further their education to the university. They also do not believe that University education is only for Senior High School (S.H.S) graduates. This item too had a least mean of 6.8. This was emphasized by Benneh (2000) that, provision of quality and relevant tertiary education is becoming the focus of developed and developing nations, primary because tertiary institutions produce middle and high level manpower for national development in Ghana most people are becoming more conscious, interested and eager to know what is happening at the tertiary education front. The item on if Technical students are given the opportunity to enter the University they can perform well had
the second highest mean of 19.5 which is an indication that the respondents attach more importance to this item. The writers agree with them and this can be testify by the 2003/04 final year results of the University of Education Winneba – Kumasi campus, Ghana shows clearly that the assertion of the respondents to the item eight is true, since all the four first-class students were technical students. The third highest mean of 19 from the table shows that, the respondents attach more seriousness to their poor performance in Mathematics and English which prevents them from entering the University. The desire of students to enter university had a mean of 18.5 which is the fourth highest mean, indicating that there is a strong desire for technical graduates to enter University. This also goes to support Acheampong (2000) claims when he quoted Aristotle.

“In his metaphysics, Aristotle claimed that all men by nature desire to know and in most cases they also desire to apply knowledge, it is because of man’s insatiable desire to know and apply his knowledge that institutions of higher education exist at all”.

It can be deduced from the above quotation that, human beings by nature desire to climb high, including the academic ladder and the writers also support this assertion. The item on Technical Examinations Unit not making any effort to address the issue had a mean of 18 which is the fifth highest indicates that the respondents seriously blame the lack of progression on the Exams Unit. Item 17 had a mean of 17.9 which shows that the respondents felt that those at the helm of affairs are secondary school graduate who do not understand the Technical system and also do not like to see the progress of Technical and Vocational education. The APTI president also did another letter to the Ghana Education Service in this regards and the writers agree with them. The mean for item 12 which is the seventh on the ranking also indicates that the respondents blame the lack of academic progression on lack of review of the curriculum. As stated by Afeti (2002) that,

“The curriculum for secondary school students aiming for traditional university degree programs of study should not be the same for those who are better inclined for the more practically – oriented, career – focused education in non-university tertiary institutions”.

The horizontal differentiation at the secondary school level should however not prevent the mobility of students between university and non-university tertiary programs with minimum lot of credit, provided the entire educational system is well articulated which is the case in Francophone Africa. Furthermore, Taylor (1999) also stated that, major reforms are required in the programme, structure and curriculum content, if the education and training provided by technical institutions is to be relevant and cost effective. This means that there is the need for review of the curriculum. With this, it can be said now that, the Technical education curriculum saw some work done on it which is moving all the curriculum into Competency Based Training (CBT) curriculum, courtesy Council for Technical and Vocational Education and Training (COTVET).s The eighth ranking had a mean of 17.6 which also indicates that the respondents
felt that, governments upon governments do not attach importance to Technical Education, they only play lip service with TVET that is why The graduates of technical institutions do not have access to tertiary education.

On the question of whether technical students have access to University Education, the mean was 14.2, which indicates that Technical Institute graduates do not have access to University Education. Here, majority of the respondents agreed that TVET students do not have access to university education and the writers also support their view. A lecturer of a University came to assess the practical work of students of a Technical Institute mentioned during discussion with the students that for them to enter the University they should forget it. This is a confirmation that VOTEC students do not have access to tertiary education, so there is the need to develop new programmes so that, access to University education can be increased. This supports the assertion of Opoku-Agyeman (2013) that, ‘creating of new programmes gives access to academic progression’. This means that academic progression is important but this is not the case for TVET students. The Polytechnics which were to absorb the technical students have been taken over by business and arts students in large numbers, making the technical programmes to go down again.

On the statement of the Technical Education syllabi have not seen any review for the past three decades, the respondents strongly agree with it. This shows that the syllabi have not seen any review for the past three decades and the writers also agree with that, but as stated earlier, with the establishment of COTVET, there has been some review during the past few years. Lack of curriculum review is a challenge which limits the progression of TVET students. This was emphasized by the then President of the APTI, Mr Asamoah-Duodu, in his address delivered at the opening of the 19th Conference of the Association of Principals of Technical Institutions (APTI) at the St Paul's Technical Institute, at Kukurantumi in Ghana that “neglect in the reviewing technical institutions curricula to meet the demands of industry is a problem, which should be well addressed” (Asamoah-Duodu, 2003). The responses to the statement, Parents of Technical students do not make any effort to let their wards further their education, which is item fifteen, had a mean of 8.8. This shows that parents are doing their best because; the respondents do not attach any seriousness to the item. On the question of whether most parents establish shops for their wards after completing technical schools, which is item sixteen, the mean was 13.3 which shows that the respondents do not attach much seriousness to this item too, which indicates that it is not because their parent parents open shops for them that is why they do not enter the university.

On the question of whether the forerunners of technical education are afraid that the young one’s will come and take their positions if they should have access to university education, so that they are not doing anything to help them get access to University, which is item eighteen, the mean was 14.8. This result also means that the forerunners in TVET education are not afraid that the
young ones will overtake them in future, and the writers once again agree with them because, just recently, a workshop was organized to draw up a succession plan for the TVET sector if not, the fear that non TVET graduate will take up the sector will come true. The statement those who went through technical education are their own enemies, had a mean of 10.3. This means that, majority disagree with the statement. On the question of can anything be done about the situation, all fifty respondents said yes. In responding to what can be done, most of them said it is the English, mathematics and science, that is preventing them so they should let them write these subjects so that they can also get access to university education.

Registrar, University of Cape Coast.

When asked do you admit technical students, he said no. Why? They do not meet our requirements. Most to the point too, we do not run technical or engineering courses here. Can something be done? He said no, why? We have our entry requirements and we will not compromise that. When asked will you accept them if they have Science, Mathematics and English? He said yes but they have to satisfy departmental requirements too. Is it possible for you to organize a pre-university course for them? He said I do not think we want to do that now. The responses from the University of Ghana, Legon and the others, were almost the same as that of the university of Cape Coast. Legon said they have even started a general engineering programme, but they are picking pure science students from S.H.S but from look of things, the universities is not prepared to compromise their standards at all. From the above discussions, it is clear that no university is ready to compromise their standards and their entry requirement will not change to favour TVET students, but the writers think there should be a way out.

Assistant Registrar, Academic: Cape Coast Polytechnic

When asked, do you do your admissions by departments or central board? He answered central board but the heads of departments are part of it and they do the actual selection. Do you admit technical school graduates to pursue HND programmes? Yes! What are your entry requirements? Apart from the S.H.S aggregate 24, we also take technical students with part III. When asked can you give out the statistics of your admission, which is technical against S.H.S? He said we do not have that now, but obviously it is only a hand full of technical students who apply. Majority of them are secondary school graduates. Why is it so? Most S.H.S graduates, who do not get admission into the university, turn to the polytechnic as the next option. Do you pick all part III? No! Because some of them are referred in a paper, so they have to get it, but all those who have passed are picked. This discussion also shows that, the large number of SHS graduates is hindering TVET graduates from getting access to tertiary education.
Assistant Registrar, Academic: Accra Polytechnic

The responses from other polytechnics are not different from the Cape Coast Polytechnic. When asked how far they have gone about the B'Tech degree programme? Apart from a few who have started, most of them are still at the formation stage. The writer thinks the polytechnics should work had to start the .Tech degree programmes, but another fear is the large number of SHS graduate will invade that area too.

Heads of Department of Polytechnics

Almost all the polytechnic contacted, do their admissions through a central admissions boards, so their registrars answered their questions. The few who were interviewed said they are only implementing policies, they do not formulate them.

Examinations Officer: West Africa Examination Council (WAEC)

When asked whether it is possible for WAEC to draw English, mathematics and science syllabi for technical schools, the public relations officer (P. R. O) said, we are working with G. E. S and we have nothing to do with technical examinations. She was asked; if there could be a way to help technical students to enter the university, she quickly replied, if you want to go to university, why attend technical school? Even if you want engineering courses you can do science and proceed to the university. Do have any other comment? No. From this discussion, it also clear that, the EMS, that is the core subjects are needed to progress to the university.

Examinations Officer, Technical Exams Unit

The head of the unit was asked, technical students are crying foul because they cannot get access to university education. What has your outfit done about this? She said hmm! It is a very big problem we inherited from our predecessors. That is city and guilds of London. But we started something where we asked that the E. M. S should be taught at every technical institute, but the students will have to register privately, for now. Also, something was captured in the government white paper on education and this will soon be a thing of the past. The writers think that this is a laudable idea which has been implementation with challenges.

Unstructured Interview

Some parents were interviewed at random on their view on technical education. These are some of their responses, Technical education is very good because, it is geared towards a particular career, but it does not pay in Ghana, also, our children cannot enter the university. If you can do something about it, we will be happy. Another said, technical education is useless, because his son finished technical school and could not get admission to do HND. He does not think any of his children will attend technical school again.
When a technical institute teacher’s view was sought on the topic, academic progression, he said, it is even over due. Some time ago, technical exams unit brought some syllabi on English, Mathematics and Science, to be taught in technical schools, but the shortfall is that, after teaching it, it is not examinable and students will have to register on their own privately. It is high time the students start writing something like WAEC in collaboration with technical exams unit, if they cannot examine them, and that will give same face left for the technical education because as it is now, it is going down the drain.

CONCLUSION

The researchers were able to gather useful information from the research work. Based on the information and analysis, recommendations were made and conclusions drawn, which when considered and carefully implemented, the Ghana and any other country faced with similar challenges would be in a position to achieve self-sustenance and have more highly qualified personnel.

Recommendations

This research work still is incomplete if no provision is made for some recommendations that will go a long way to remedy the situation. In the conclusion it was stated that several factors re at play and these are the desire of the students, parents and governments efforts and other factors. The following recommendations are hereby made for the success of this work.

1. Curriculum of the technical schools should be reviewed to suit current trends of development and technological advancement. English, Mathematics and science should be made examinable at the technical education level.
2. Universities are encouraged to run at least a year pre-university course to enable Technical students to be admitted into the university to do them further their education upon making good grades. The existing universities should start running engineering or technical programmes as a means of creating chances for technical students to enter the university.
3. Parent should be encouraged to register their wards for the senior secondary school (SSS) examination privately as a short term measure.
4. Selected polytechnics should be upgraded to offer degree programmes in TVET, more public and private universities should established to increase access to tertiary education.
5. TVET graduates should be encouraged to apply to the University of Education, Winneba where foundation courses are offered for such students.

REFERENCES