Assessment of Enrolment Factors in Technical Education: Implication on Graduate Employability

Olojuolawe Sunday Rufus

Abstract: The concern generated by the high rate of unemployment among graduates of tertiary institutions has reached a grievous level. This is borne out of the societal disdain for technical education programmes aimed at boosting the competency level of its recipients in both teaching, handling of tools and machines for gainful employment. Considering the dismal level of response to technical education programmes, this study assesses some factors related to enrolment in technical education programmes of Colleges of Education in southwestern Nigeria. Two research questions were drawn to guide the study. A total of 402 academic staff and students were used for the study. The students were randomly selected. A structured questionnaire was used for the data collection with a reliability coefficient of 0.97 using correlational analysis. Findings revealed that poor awareness, incentives, and inadequate facilities discourage and prevent people from enrolling in technical education. Thus, the place of both print and electronic media was stressed in sensitizing the general public about the importance of Technical Education in solving the problems confronting the Nigerian public.

Keywords: Assessment, Enrolment, Technical Education, Graduate, Employability.

I. INTRODUCTION

Before the advent of the whites, education had a place in Africa particularly, in Nigeria. Many leaders and policymakers in developing countries accepted the fact that education is an important tool for national development. [1] reasons that an educated population is a prerequisite for the socioeconomic development of society as a whole. The lack of education may be a greater obstacle to industrialization and national development than a lack of infrastructure. In essence, education is crucial for the overall national development of any nation. [2] while noting the relevance of technical education to national development opines that general education had failed to deliver any tangible thing for Nigeria. According to him, general education had failed the “cost-benefit test.” He observed that its long existence in the polity had stagnated the nation’s development. Consequently, the solution to the worsening situation can only be met when the economy is productive.

The productivity agenda can only be realized through technical education. While the importance of education is already accepted by many, technical education in Nigeria is still regarded as education for the weak [3]. [4] lends credence to the assertion by arguing that the urgent problem confronting developing countries is how to channel the abundant human and material resources into the productive sectors of the economy to enhance national development. An important sector of the national economy is technical education. In an attempt to ensure that the nation moves in the right direction technologically, considerable attention has been given to technical education in recent years by the Federal government. This was a sequel to the introduction of Vocational and Technical Education courses into the curriculum of Junior Secondary Schools. The aim was to catch the youth young. Equally, following the increasing rate of unemployment and the need to expand the nation’s technological capacity, the Federal government in 1986 reaffirmed its stand on the extension of a technical education programme to a teacher’s education programme in Colleges of Education and Universities. Thus, there was a massive importation of tools, machines, and equipment as well as the training of personnel for the technical education programme. The training was done both locally and overseas. The overall aim was to ensure the effectiveness of the programme. Technical Education involves the application of basic scientific knowledge [5]. This forms the basis for making credit passes in both physics and mathematics a condition for gaining admission into technical education programmes in Colleges of Education. Despite the palliative measures put in place by the government to ensure that young people enroll and learn science and science-related courses, the response towards technical education has been abysmally poor [6], [7]. Data from the admission and Statistics Department of the College of Education, Ikere-Ekiti in 2001 shows that out of the number, only eighteen (18) students enrolled for technical education. This is equally corroborated by the statistical digest on Colleges of Education in Nigeria released for 2000/2001. The release indicates that a total of 10,642 students were given admission into Colleges of Education in Nigeria. Out of the number, only 130 students (1.35%) enrolled in technical education. While others went for courses considered to be lucrative and less energy-sapping. This is not too good for a country that is yearning to join the League of industrialized nations of the World. Therefore, to save the country from being a dumping yard for finished goods from the rest of the world, and ensure its technological emancipation is capable of providing breakthrough and employment opportunities for its nationals, there is an urgent need to assess the factors responsible for low enrolment in technical education to recommend appropriate solution.
1. Youth Unemployment Rate in Nigeria, 2014-2017

The youth unemployment rates in Africa are higher than those of adults [8]. Adults are those aged 25 years and above. Figure 1 describes the rate of youth unemployment in Nigeria between 2014 and 2017. Several researchers such as [9]–[14] have given a series of reasons such as corruption, poor funding, and a dearth of infrastructural facilities for the high level of unemployment among youth in regional, subregional, and country levels. The major reason advanced for the lack of jobs among the youth of today is their lack of skills for employment. This is essentially the absence of employability skills. Employability skills are the employment skills needed by the youths not only to make them employable but also to ensure their sustainability and advancement on the job [14].

![Figure 1. Nigeria Youth Unemployment rate](image)

2. Government Intervention and Justification

The Federal government of Nigeria in her bid to ensure that more jobs are created and expanded for the youths has been investing heavily in the power sector of the economy. The data released by the National Bureau of Statistics [15] indicates that the power generation output in Nigeria attained 7,000 megawatts of electricity for the first time in decades. This was due to the unbundling of the power sector to give room for efficiency and expansion. This has created vacancies in the various sub-sectors of the electricity supply chain such as generation, transmission, and distribution. Thus, more job opportunities were opened to graduates from tertiary institutions especially, Electrical Technology Students. The stability in the power sector has a multiplying effect. It grows the level of foreign direct investment in the economy. This translates to more job opportunities for graduates. For instance, the Federal government through the Minister of Culture and Information announced the creation of 7 million jobs in the last three years [16]. Related to this is the improved budgetary allocation for education which has increased from millions of naira to billions since 2011. Specifically, the 56 billion naira budgetary allocation to education in 2017 increased to 102.9 billion naira in 2018. This has brought about improved government intervention in both facilities and training to improve outcomes which is to make the graduates employable. This role is effectively being handled by the Tertiary Education Trust Fund (TETFUND). The quality of a school is a function of the employability of its graduates [17]. One expects an improved educational outcome in terms of the ability to secure jobs based on the available job opportunities in both the public and private sectors of the economy. It is therefore worrisome that the employers of labour continue to lament about the poor quality of graduates which has made them a misfit for the labour market. This has earned them some unprintable names such as half-baked graduates or, graduates who are not graduates [18]–[20] notes that the vacancies exist but, the people to fill them are not there. There is, therefore, a huge waste of government investment in Technical Education due to the non-existence of students to be trained for the workforce [21]. This has resulted in an unprecedented rate of unemployment [18]. Therefore, the school should be concerned with the process of transition from school to the workplace [22]. To realize the local content policy of the government, the school must be alive to its responsibility of developing students to be job-ready and fit for the labour market. This can only be achieved when there are people to be trained.

II. PURPOSE OF THE STUDY

The main objective of the study is to investigate some factors related to enrolment in technical education in South West Nigeria. Specifically, the study seeks to determine the factors influencing enrolment patterns in technical education programmes of Colleges of Education and propose strategies for improving the level of enrolment in technical education programmes of Colleges of Education in Nigeria.

Research Questions

The following research questions were raised to guide the study:

(a) What are the factors influencing enrolment patterns in Colleges of Education?
(b) What are the strategies for improving the level of enrolment in technical education programmes of Colleges of Education?

III. METHODOLOGY

The study adopted descriptive survey research for the identification of some factors related to enrolment in the technical education programme. Survey research is utilized where a researcher’s interest is in the identification of and selection of variables, constants, subjects, or elements which he considers relevant to his study and for making a broad and provisional choice or decision [7][23][24].

1. Population and sample of the study

The population for the study consists of all the twelve Colleges of Education in Southwestern Nigeria because of the educational advantage that the region enjoys over other parts of Nigeria and the need to complete the study within the time frame. All the one hundred and sixty-two (162) academics and two hundred and forty (240) students in the Colleges of Education in the southwest of Nigeria were used as a sample because of the size [25].

2. Research Instrument

Data were obtained through the use of a self-administered validated questionnaire. The instrument is a four-point Likert scale consisting of closed-ended questions aimed at eliciting responses from the respondents on enrolment factors affecting technical education programmes in Colleges of Education in South West Nigeria.
3. Validation of Research Instrument

The draft of the instrument was given to three technical education experts in two Nigerian Universities to ensure its face and content validity. This also ensures that there are no grammatical errors and ambiguities such that the respondents would easily understand and respond to the questions objectively. The inputs from the experts were used for the final draft of the instrument before administering it for the reliability test and the final respondents.

4. Reliability of the Instrument

The reliability test of the questionnaire was obtained using the split-half method of odd and even-numbered items with data collected from fifteen (15) subjects who were not part of the study. The subjects were randomly selected from among the part III students of the College of Education, Ikere-Ekiti, Ekiti State. The computation was done using the Spearman-Brown (or prophesy) formula to estimate the reliability of the whole test: \( r_w = \frac{2r}{1+r} \)

5. Administration of Questionnaire

The questionnaire was administered to the respondents by the researcher personally and through the efforts of the researcher's assistant. This process removes mix-ups and enhances the process of instrument recovery. Personal contacts help to remove any difficulty in understanding the questions in the instrument.

6. Statistical Analysis of Data and Decision Rule

Mean and Standard Deviation were used in analyzing the data. Mean \( \frac{4+3+2+1}{4} = \frac{10}{4} = 2.5 \)

Decision Rule: (a) \( \geq 2.5 = \) positive factor
(b) \( < 2.5 = \) negative factor

Research Question 1

What are the factors influencing the enrolment pattern in Colleges of Education?

The summary of the analysis of factors influencing the enrolment pattern in Colleges of Education is shown in Table 1.

<table>
<thead>
<tr>
<th>S/n</th>
<th>Student Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>x</th>
<th>SD</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There is adequate information before admission.</td>
<td>50</td>
<td>91</td>
<td>162</td>
<td>99</td>
<td>2.23</td>
<td>0.96</td>
<td>Rejected</td>
</tr>
<tr>
<td>2</td>
<td>Guidance and counseling services are available.</td>
<td>38</td>
<td>63</td>
<td>210</td>
<td>91</td>
<td>2.13</td>
<td>0.86</td>
<td>Rejected</td>
</tr>
<tr>
<td>3</td>
<td>Parents encourage their children to enroll in technical education programmes.</td>
<td>49</td>
<td>57</td>
<td>199</td>
<td>97</td>
<td>2.14</td>
<td>0.92</td>
<td>Rejected</td>
</tr>
<tr>
<td>4</td>
<td>The student pays for consumables.</td>
<td>148</td>
<td>102</td>
<td>83</td>
<td>69</td>
<td>2.82</td>
<td>1.11</td>
<td>Accepted</td>
</tr>
<tr>
<td>5</td>
<td>The student enjoys easy access to the workshops.</td>
<td>99</td>
<td>115</td>
<td>98</td>
<td>90</td>
<td>2.55</td>
<td>11.09</td>
<td>Accepted</td>
</tr>
<tr>
<td>6</td>
<td>Technical education is meant for male students.</td>
<td>-</td>
<td>-</td>
<td>192</td>
<td>210</td>
<td>1.47</td>
<td>0.50</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

The summary of the analysis of lecturers' and students' perceptions of the influence of society on enrolment in technical education is illustrated in Table 2.

<table>
<thead>
<tr>
<th>S/n</th>
<th>Societal Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>x</th>
<th>SD</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical education is meant for academically deficient students.</td>
<td>90</td>
<td>52</td>
<td>163</td>
<td>97</td>
<td>2.33</td>
<td>1.07</td>
<td>Rejected</td>
</tr>
<tr>
<td>2</td>
<td>Technical education is too expensive.</td>
<td>185</td>
<td>147</td>
<td>61</td>
<td>97</td>
<td>3.26</td>
<td>0.92</td>
<td>Accepted</td>
</tr>
<tr>
<td>3</td>
<td>Technical education is inferior to other courses.</td>
<td>-</td>
<td>29</td>
<td>162</td>
<td>211</td>
<td>1.55</td>
<td>0.63</td>
<td>Rejected</td>
</tr>
<tr>
<td>4</td>
<td>Graduates of technical education are easily employed.</td>
<td>82</td>
<td>93</td>
<td>147</td>
<td>80</td>
<td>2.44</td>
<td>1.03</td>
<td>Rejected</td>
</tr>
<tr>
<td>5</td>
<td>They are well paid with special packages.</td>
<td>29</td>
<td>47</td>
<td>111</td>
<td>215</td>
<td>1.73</td>
<td>0.93</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

The summary of the analysis of government factors affecting enrolment in a technical education programme in Colleges of Education is shown in Table 3.

<table>
<thead>
<tr>
<th>S/n</th>
<th>Government Factors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>x</th>
<th>SD</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Facilities and equipment are adequate in schools and colleges.</td>
<td>75</td>
<td>89</td>
<td>96</td>
<td>142</td>
<td>2.24</td>
<td>1.12</td>
<td>Rejected</td>
</tr>
<tr>
<td>2</td>
<td>Government policies on technical education are matched with actions.</td>
<td>77</td>
<td>91</td>
<td>132</td>
<td>102</td>
<td>2.35</td>
<td>1.05</td>
<td>Rejected</td>
</tr>
<tr>
<td>3</td>
<td>Technical education enjoys wider publicity from the government.</td>
<td>44</td>
<td>58</td>
<td>104</td>
<td>196</td>
<td>1.87</td>
<td>1.03</td>
<td>Rejected</td>
</tr>
<tr>
<td>4</td>
<td>Technical workshops are well-equipped and functional.</td>
<td>42</td>
<td>51</td>
<td>99</td>
<td>210</td>
<td>1.81</td>
<td>1.02</td>
<td>Rejected</td>
</tr>
<tr>
<td>5</td>
<td>The government provided in-service training for technical teachers.</td>
<td>101</td>
<td>211</td>
<td>61</td>
<td>29</td>
<td>2.95</td>
<td>0.83</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

The summary of the analysis of how teacher factors influence enrolment in technical education is shown in Table 3.
Research Question 2
What are the strategies for improving the level of enrolment in technical education programmes in Colleges of Education?

<table>
<thead>
<tr>
<th>S/n</th>
<th>Teacher’s Factor</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>x</th>
<th>SD</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There are enough technical teachers in trade areas.</td>
<td>91</td>
<td>131</td>
<td>141</td>
<td>39</td>
<td>2.68</td>
<td>0.93</td>
<td>Accepted</td>
</tr>
<tr>
<td>2</td>
<td>The teachers enjoy the good condition of service.</td>
<td>49</td>
<td>74</td>
<td>99</td>
<td>180</td>
<td>1.98</td>
<td>1.05</td>
<td>Rejected</td>
</tr>
<tr>
<td>3</td>
<td>The teaching environment is conducive to learning.</td>
<td>94</td>
<td>122</td>
<td>90</td>
<td>96</td>
<td>2.53</td>
<td>1.09</td>
<td>Accepted</td>
</tr>
<tr>
<td>4</td>
<td>Teaching is mainly theoretical.</td>
<td>168</td>
<td>146</td>
<td>51</td>
<td>37</td>
<td>3.11</td>
<td>0.95</td>
<td>Accepted</td>
</tr>
<tr>
<td>5</td>
<td>The teacher needs re-training.</td>
<td>151</td>
<td>130</td>
<td>98</td>
<td>23</td>
<td>3.02</td>
<td>0.92</td>
<td>Accepted</td>
</tr>
<tr>
<td>6</td>
<td>A harmonious relationship exists between the teachers and the students.</td>
<td>127</td>
<td>204</td>
<td>41</td>
<td>30</td>
<td>3.06</td>
<td>0.84</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 4: Mean and Standard Deviation of Teachers Factor

The summary of the analysis of the strategies for improving the level of enrolment in technical education programmes in Colleges of Education is shown in Table 5.

Table 5: Strategies for Improving Enrolment

<table>
<thead>
<tr>
<th>S/n</th>
<th>Factors for Improvement</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>x</th>
<th>SD</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The government should provide more infrastructures and facilities for the teaching and</td>
<td>126</td>
<td>161</td>
<td>98</td>
<td>17</td>
<td>2.98</td>
<td>0.85</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>learning of technical education programmes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Enough funding should be provided for the running of the technical education programme.</td>
<td>81</td>
<td>142</td>
<td>93</td>
<td>86</td>
<td>2.54</td>
<td>1.04</td>
<td>Accepted</td>
</tr>
<tr>
<td>3</td>
<td>There should be industry collaboration in the technical education programme.</td>
<td>134</td>
<td>123</td>
<td>94</td>
<td>51</td>
<td>2.84</td>
<td>1.03</td>
<td>Accepted</td>
</tr>
<tr>
<td>4</td>
<td>Guidance and counseling services are important to the technical education programme.</td>
<td>96</td>
<td>132</td>
<td>68</td>
<td>10</td>
<td>6</td>
<td>2.54</td>
<td>1.12</td>
</tr>
<tr>
<td>5</td>
<td>Study allowance for technical students will encourage others.</td>
<td>90</td>
<td>133</td>
<td>89</td>
<td>90</td>
<td>2.55</td>
<td>1.07</td>
<td>Accepted</td>
</tr>
<tr>
<td>6</td>
<td>Active campaigns on both print and electronic media will boost the image of technical</td>
<td>77</td>
<td>141</td>
<td>98</td>
<td>86</td>
<td>2.52</td>
<td>1.03</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

IV. FINDINGS

(1) The students lack adequate information about technical education programmes.
(2) Technical education is not meant for male students only.
(3) Technical education is not inferior to other programmes.
(4) Graduates of technical education are poorly remunerated.
(5) Facilities and equipment in Colleges of Education are inadequate.
(6) There are enough teachers in each of the trade areas.
(7) The teachers need a re-training programme.
(8) There is a need for the active involvement of the government in a technical education programme to enhance enrolment.

V. DISCUSSION OF FINDINGS

The findings reveal that 90% of the students received ratings below 2.50 on the four-point Likert Scale 2.50 cut-off point while 10% was positive. The finding corroborated [26], [27] which reported the lack of awareness of the importance of technical education as a major problem of the development of its programme. The findings equally show that technical education is not meant for male students alone. This is in contrast to the view that certain careers are most suitable for men while catering and secretarial studies are for women [27], [28]. Technical education is not inferior to another programme with an SD of 0.65. Technical education has the potential to solve the problem created by general education and launch Nigeria into the path of technological development [29]. Findings equally revealed that there is a shortage of facilities and equipment for technical education with a standard deviation of 1.12. Nigeria Colleges of Education (technical programme) lacks adequate machines and equipment [30]. Effective technical training can only be given where the training is carried out in the same manner and with the same tools as it is expected to be performed in the occupation itself [31]. The mean score of the respondents on the remuneration of technical graduates is 1.98. This suggests a poor pay package for teachers. This supports [32], [33] that poor salary is a problem facing teachers worldwide. Teaching can be made attractive by giving teachers an enhanced pay structure [34]. Theoretical-based teaching may be due to the shortage and inadequacy of facilities, tools, machines, and equipment [26]. Findings also revealed that there are enough technical teachers in each of the trade areas with a mean score of 2.68 and a standard deviation of 0.93. This shows a deviation from the assertion of [25], [35] who posited that inadequate supply of technical teachers in their right proportion and numbers for different vocational programmes such as agriculture, home economics, technical and business studies at the secondary, tertiary and teacher training levels has continued to stand out as a major impediment to smooth implementation of government policy on technical education. The study also revealed that technical teachers need retraining. 50 percent of the staff of technical schools cannot perform the activities of instruction effectively [36]. This again gives credence to the submission of [37] that the neglect of technical education gave rise to the increasing rate of unemployment in Nigeria.
All the factors on research question 2 received positive ratings with their mean scores standing above 2.50. Factors such as; the provision of more infrastructure, more funds, industry collaboration, guidance and counseling services, study allowance, and active role of the print and electronic media indicate that active involvement of government and government agencies will bring improvement in the technical education programme and ultimately results in improve in the level of enrolment in technical education.

VI. CONCLUSION AND RECOMMENDATION

The low enrolment in technical education is largely due to a lack of awareness and adequate information about the value and relevance of technical education. Other factors inhibiting enrolments are the poor state of facilities and equipment in Colleges of Education and the lack of incentives for both students and teachers of technical education. Technical education is good for both male and female students, and it is not inferior to other courses in schools, Colleges, and Universities. The government needs to show more passion for technical education to boost the level of intake. The government should improve the quality and quantity of facilities and equipment in schools to make them fascinating. An awareness campaign should be mounted on both electronic and print media to raise the awareness level of parents and prospective students. The National Orientation Agency (NOA) can be an asset in this regard. Special incentives should be worked out for both students and teachers of the technical education programme. This can be informed of bursary awards, scholarships to students, and special allowances (enhanced) for technical teachers. The College curriculum should be geared towards the 21st-century job demands of employers. There should be a linkage between the Colleges and the Employers so that they can contribute to the College’s programme and activities. This is essential to assure them about the qualities of the graduates. This mechanism will serve the purpose of boosting students’ enrolment in technical education and equally ensure their fitness for 21st-century jobs.

DECLARATION

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Ethical Approval Consent to Participate No, the article does not require ethical approval and consent to participate with evidence.


Authors Contributions I am only the sole author of the article.

REFERENCES


AUTHORS PROFILE

Dr. Olojuolawe Rufus Sunday, is an Associate Professor of Technical Education at the Bamidele Olumilua University of Education, Science and Technology, Ikere-Ekiti, Nigeria. He attended the Universiti Teknologi Malaysia (UTM). He obtained his Master’s degree in Technical Education at the University of Benin, Edo State, Nigeria. Dr. Olojuolawe has published many papers both locally and internationally. He won the Tertiary Education Trust Fund grant for research to develop the entrepreneurship skills framework for fostering the employability of Electrical Technology Students in Colleges of Education in Nigeria. His research activities revolve around solving the problems confronting humanities through the instrumentality of technical education. He has served and presided on many committees at the University. Dr. Olojuolawe teaches courses in both Electrical and Electronics and general courses like Occupational Analysis, Research Methods, and Material Technology. His research interests include technical education, employability, entrepreneurship, and sustainability.

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