Predictors to Students' Enrollment Pattern into Technology Education Programmesin Tertiary Institutions in Rivers State, Nigeria

Abstract

This descriptive survey examined the factors influencing students' enrollment pattern into technology education programs in tertiary institutions in Rivers State. From a population of 522 students, using proportionate random sampling techniques sample size of 120respondents was selected. A 4-point rating scale questionnaire with a reliability index value of 0.820 that had been validated by two measurement and evaluation specialists was used to collect the data. Two additional research assistants who work for the institutions helped administer the instrument to the respondents. 113 of the 120 administered copies were deemed suitable and sufficient for the descriptive mean and standard deviation data analysis, while the remaining 7 were deemed not useable. The study established a threshold of 2.50 for agreement or disagreement in response to research questions. To test the null hypotheses at significant levels of 0.05, an analysis of variance (ANOVA) was utilized. The findings demonstrated that factors such as parental influence, peer pressure, lack of career awareness, interests and personal preferences, and the social status of technology education programs all had a substantial impact on students' decision to enroll in the programs. It's recommended to reframe public opinions regarding the potential of technology programs through career awareness, advocacy initiatives, and public awareness campaigns.

Keywords: Career Awareness,Students' Enrollment, Technology Education Programmes, Technical Skills, Tertiary Institutions

Introduction

Technology education programs aim to develop skilled craftsmen, technicians, and technologists in technical and vocational fields, which are crucial for economic development and individual prosperity (Chukwuedo&Omofonmwan, 2015). In fact, the workplace preparatory characteristic of technology education should be a driving force for national development (Amaechi& Thomas, 2016).However, there is a lack of attention on harnessing the full potential of these programs, which have the mandate and capacity to produce the required and demand-driven industrial/technological manpower for Nigeria. Despite over 167 technical colleges nationwide, students' enrollment in various trades offered in Nigerian tertiary institutions, such as automobile, building, electrical/electronic, metalwork, and woodwork technology education programs, is still below capacity (Federal Republic of Nigeria, FRN 2013; Yusuff&Soyemi, 2012).This lack of attention has raised concerns among stakeholders about the implications for national manpower development and the need for more attention to this subsector of education (Suleiman, Adeniyi, Kamal, Oluwaseun, &Abiodun, 2022).

Enrolment patterns are crucial indicators of educational advancement, but infrastructural poverty can lead to degradation in both lecturers and students' performance (Onwumere, 2020). Global trends show significant growth in student enrollment, but in Nigeria, metalwork technology

education has seen low enrollment patterns since its introduction (Bold, Filmer, Martin, Molina, Stacy, Rockmore, & Wane, 2017). Gender dominance syndrome and factors such as lack of career awareness, discrimination against graduates, government lukewarm attitude towards technical and vocational education (TVE), lack of candidate interest, inadequacies of facilities/infrastructural materials, and lack of career counselors contribute to this disparity. Factors such as career awareness, personal preference, students' interests, peer pressure, parental influence, and socio-economic status of the programs also predicts students' choice of vocational education-related fields of study (Ozioma, 2011; Ediagbona, Agbaji&Suberu, 2012; Ragojos, Singson&Hupa, 2016; Dokubo&Deebom, 2017).

Career awareness is a service that helps individuals makes informed decisions about their education, training, and careers (Oviawe, 2017). It involves helping individuals reflect on their aspirations, interests, competencies, personal attributes, qualifications, and abilities to match these with available opportunities. Career awareness is beneficial for technical education students, graduates, and individuals in several ways. It provides students with knowledge of the advantages and limitations of each occupation, helping them make informed choices. It also helps students understand the characteristics, functions, duties, and rewards of the occupations they choose, enabling them to make intelligent choices. It also helps students understand their abilities, skills, and qualifications required for their chosen occupation.

School staff and counselors can interpret and use information about students' characteristics, needs, and opportunities. Career awareness helps students understand themselves better, develop the ability to handle human relationships, secure knowledge of facilities used in their chosen field, and develop the habit of analyzing information before making decisions.Research shows that access to information influences students' college decisions, but many students, especially those from disadvantaged schools, lack the necessary information to make informed decisions about post-secondary education in Nigeria (Olugbenga, 2021; Suleiman et al., 2022). In a similar study by Ragojos, Singson&Hupa (2016) career awareness is also found to influence students' choices of vocational education-related fields of study.

Interest and preference play a crucial role in students' decisions regarding their careers and higher education programs (Shepard, 2018). Interests refer to patterns of likes, dislikes, preferences, and indifference regarding career-relevant activities and occupations. Studies have shown that interest and academic preference significantly influence students' choices of

vocational education related fields of study (Ragojos, Singson&Hupa, 2016; Wright, 2018). Peer pressure on students also influences their behavior in everyday life, as they are the second most close to students. In Malaysia, peer influence has a significant impact on students' decisions regarding Technical and Vocational Education and Training (TVET) in Malaysia (Awang, Sail, Alavi and Ismail, (2011) and Buang, Majid, Abdul Wahab, MohdTohid, Adrutdin, Yacob, &. Zahid,2016). However, skill training isgenerally not negatively attached to student education.

Parental influence is the worst, as many technical college occupations are perceived as ignoble and unbecoming by parents. In Nigeria, for example, parents may not want their children to pursue vocational tracks with high weighted mean, preferring academic tracks instead (Ragojos, Singson&Hupa, 2016). This disparity is noticeable in general enrollment into technology education programmes, especially in metalwork technology at both senior secondary school levels and tertiary institution levels. Rather, these parents prefer their children/wards to become medical doctors, accountants, lawyers, engineers, administrators and politicians (Igbenedion&Ogeage, 2012).

Social status also plays a role in students' perceptions of technology education-based programs like metalwork technology. Socio-economic factors have a poor influence on students not to choose technology education courses with low mean, suggesting that some students from poor families who cannot afford college enroll in vocational education to obtain income-generating job skills (Ragojos, Singson&Hupa, 2016; Shemsedin, 2022; and Suleiman et al., 2022). Empirical evidence is not exhaustive, but these authors did not focus on specific technology programs like metalwork technology. To achieve economic and technological development, it is necessary to re-examine the factors affecting students' enrollment patterns in technology education programs, particularly in the context of metalwork technology in tertiary institutions.

Statement of the problem

The Federal Republic of Nigeriahas set a national policy on education, aiming to ensure equal opportunities for Nigerian students(FRN, 2013). However, the enrollment in metalwork technology education in tertiary institutions is declining. The record of students' enrolments in three tertiary institutions shows that only 39 students enroll in metalwork technology, which is about 7.5% of the total number of 522 students in technology education in the three institutions under study. This low rate is significantly lower than other programs like electrical/electronic and building technology education. The low enrollment rate is attributed to the public's misunderstanding of the rationale behind technology education, leading parents to view technical and vocational educationinstitutions as inferior to conventional higher institutions.Additionally, students seem to lack understanding of technology education, leading to contempt and aversion

towards metalwork technology programs (Ozioma, 2011; Ayonmike, 2014; and Thomas &Ameachi, 2017).

This study sought to identify the factors affecting students' enrollment pattern in metalwork technology education programs in technical institutions in Rivers state.

Purpose of the study

The purpose of this study was to investigate predictors to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state. Specifically, this study will seek to find out:

1. How is career awareness a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?
2. How is students' interest and preference a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?
3. How is peer pressure a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?
4. How is parental influence a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?
5. How is social status of technology education a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?

Hypotheses

The following hypotheses were postulated and tested at 0.05 significance level

1. There is no significant difference in the mean responses amongst students in three tertiary institutions on career awareness as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.
2. There is no significant difference in the mean responses amongst students in three tertiary institutions on students' interest and preference as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.
3. There is no significant difference in the mean responses amongst students in three tertiary institutions on peer pressure as apredictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.
4. There is no significant difference in the mean responses amongst students in three tertiary institutions on parental influence as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

5. There is no significant difference in the mean responses amongst students in three tertiary institutions on social status of technology education as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Methodology

Research design

The study used a descriptive survey design

Population of the study

The population consisted of 522 students enrolled in technology education programs at three tertiary institutions in Rivers state in the 2022/23 academic session.

Sample and sampling techniques

The sample consisted of 120 respondents, 20 from RSU, 30 from IAUE, and 70 from FCET.

Method of data collection

The questionnaire, "Factors Affecting Students Enrollment in Technology Education Survey (FASTES)," was developed and used for data collection. FASTES was validated by experts from the Department of Educational Foundations at Niger Delta University. The reliability of the instrument was achieved using a representative sample of 30 respondents from vocational education areas in RSU, IAUE, and FCET. The Cronbach Alpha Coefficient Reliability Test was used to establish a reliability index value of 0.820 which means that the items of the instrument were of high consistency. The researchers administered the instrument to respondents with the help of two research assistance. Out of 120 instruments, 7 were badly completed and not usable and 113 were found to be useful and good.

Method of data analysis

The data analysis was conducted using descriptive statistics and on a cut-off mean response score of 2.50, with mean response scores above or equal to 2.50 being agree and scores below 2.50 being disagree. ANOVA was used to test the null hypotheses at 0.05 significant levels.

Results

Students Enrollment Pattern in Technology Education Programme

Table1: Distribution of students in five technology education programmes in tertiary institutions in Rivers state

Institutions	Year of Study	Automobile	Building	Elect/elect	Metalwork	Wood work	Total (F)

	Sex		M	F	M	F	M	F	M	F	M	F	
1.	**FCET**	100 level	15	0	8	2	43	2	7	0	3	0	80
		200 level	11	0	5	2	25	1	6	0	2	0	52
		300 level	14	2	7	1	40	2	8	0	4	0	78
		400 level	12	0	9	0	35	3	5	0	3	0	67
		Total (C)	**52**	**2**	**29**	**5**	**143**	**8**	**26**	**0**	**12**	**0**	**277** (15)
2.	**IAUE**	100 level	12	0	18	3	31	2	7	0	2	0	75
		200 level	3	1	4	1	19	2	1	0	1	0	32
		300 level	4	0	7	0	15	4	2	0	0	0	28
		400 level	5	0	6	1	25	3	2	0	1	0	38
		Total (C)	**24**	**1**	**25**	**5**	**90**	**14**	**12**	**0**	**4**	**0**	**173** (16)
3.	**RSU**	100 level	3	0	4	1	10	3	1	0	0	0	22
		200 level	1	0	1	0	5	0	0	0	0	0	7
		300 level	0	0	2	1	8	3	1	0	0	0	15
		400 level	5	0	4	1	13	3	1	0	1	0	28
		Total (C)	**9**	**0**	**11**	**3**	**36**	**9**	**3**	**0**	**1**	**0**	**72** (12)
Grand total			**85**	**3**	**64**	**12**	**269**	**28**	**39**	**0**	**17**	**0**	**522** (43)

Source: *Students' mark and attendance register 2022/2023 session (office of the Deans/Head of Department of Technical education)*

Data in table 1 above shows the students' enrolment pattern in the five technology education programmes in tertiary institutions in Rivers state. From the table the enrollment of students in metal work technology is 26, 12, & 3 for FCET, IAUE & RSU respectively. While the total number of students in metal work technology across the three institutions in 39 this figure represents about 7.5% of total number of students in technology education in the institutions under study.

Research question one

How is career awareness a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?

Table 2: Mean Responses on career awareness and students enrollment pattern in technology education in tertiary institutions

SN	CAREER AWARENESS	RSU		IAUE		FCET		Average		Decision
	Item statements	M_1	SD_1	M_2	SD_2	M_3	SD_3	M_t	SD_t	
1	Technology education was not clear to me during career guidance advocacy.	2.58	1.017	3.08	.845	2.93	.654	2.90	.779	Agree
2	I am not aware of potential careers and employment opportunities after completing technology education.	2.53	.964	2.81	.895	2.94	1.077	2.84	1.023	Agree
3	I think technology education will not guide me to develop my full career potential.	2.26	.562	2.65	1.093	2.62	1.210	2.57	1.101	Agree
	Grand mean	**2.45**	**.568**	**2.84**	**.801**	**2.82**	**.872**	**2.76**	**.819**	**Agree**

Source: field survey 2023

Keys to the tables: RSU: N1 = 19; IAUE: N2 =26; FCET: N3 = 68

M1, SD1 = Mean and standard deviation RSU; M2, SD2 = mean and standard deviation IAUE

M3, SD3 = Mean and standard deviation FCET;Mt ,SDt = Grand mean and standard deviation

Results on research question one in Table2 showed that respondents in RSU had a lower mean response score of 2.45 whereas their counterparts' in FCET & IAUE had higher means response score of 2.82 and 2.84 respectively. However, the mean response scores ranged from 2.57 to 2.90 in the three items statements, while the grand mean response score of 2.76 which was above the cut-off mean response score of 2.50, showed that respondents agree with the item statements that career awareness was a factor affecting low students enrollment into technology education in tertiary institutions in Rivers state. Also the respondents' standard deviation of 0.568, 0.801 and 0.872 were not very far apart. Likewise, the average standard deviation range of 0.779 to 1.101 was also not far apart, which showed homogeneity in their responses.

Research question Two

How is academic interest and preference a predictor to students' enrollment pattern into technology education programs in tertiary institutions in rivers state?

Table 3: Mean Responses on academic interest and preference and students' enrollment pattern in technology in tertiary institutions

S/N	ACADEMIC INTEREST and PREFERENCE	RSU		IAUE		FCET		Average		Decision
	Item statements	M_1	**SD_1**	M_2	**SD_2**	M_3	**SD_3**	M_t	**SD_t**	
4	Technology education is less attractive to me.	3.00	.816	3.00	.400	2.84 .784		2.90	.719	Agree
5	My career choice is to be an academic professional.	2.79	.855	2.81	.634	2.82	1.092	2.81	.959	Agree
6	I am anxious to take skills assessment.	3.26	.806	2.88	.516	2.72	0.595	2.85	.644	Agree
7	I like to study other education programmes than technology education.	3.11	0994	3.04	1.038	3.10	0.577	3.09	0.774	Agree
8	I can perform better in other education courses than technology education courses.	3.32	.820	3.27	.724	3.37	0.621	3.34	0.676	Agree
9	I feel that I can be less prepared for higher learning in the technology education track.	2.47	.513	3.15	.834	2.84	1.002	2.85	0.918	Agree
	Grand mean	**2.99**	**0.498**	**3.02**	**0.482**	**2.94**	**.318**	**2.97**	**0.391**	**Agree**

Source: field survey 2023

The results on Research Question Two in Table 3 showed that the respondents had higher mean response scores of 2.94, 2.99 and 3.03 for RSU, IAUE and FCET respectively. The average mean means response scores ranging from 2.81 to 3.34 in items 4 to 9 were also above the cut-off mean response score of 2.50. In addition, the grand mean response score of 2.97 was also above the cut-off mean response score of 2.50. This, therefore, means that the respondents agree with the item statements on academic interest and preference as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state. Also the standard deviation of the respondents of 0.318, 0.482 and 0.498 were close to each other. And the average standard deviation range of 0.644 to 0.959 was not far apart, which showed homogeneity in their responses.

Research Question Three

How is peer pressure a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?

Table 4: Mean Responses on peer pressure and students enrollment pattern in technology education in tertiary institutions

S/N	PEER PRESSURE	RSU		IAUE		FCET		Average		Decision
	Item statements	M_1	SD_1	M_2	SD_2	M_3	SD_3	M_t	SD_t	
10	My friends agreed to pursue other technology education courses.	2.42	1.071	3.00	0.57	2.69	0.7977	2.72	0.818	Agree
11	My social status with my friends will not go down if I enroll in technology programme.	1.89	.737	2.50	.812	2.32	1.165	2.29	1.041	Disagree
12	Most of my successful friends have pursued technology programme.	2.11	.737	2.92	.484	1.88	1.000	2.16	0.960	Disagree
	Grand mean	**2.14**	**.678**	**2.80**	**.433**	**2.29**	**.561**	**2.38**	**.600**	**Disagree**

Source: field survey 2023

The results on Research Question Three in Table 4 showed that the respondents from RSU and FCET had lower mean response scores of 2.14 and 2.29 respectively while respondents from IAUE had mean response score of 2.80 which was above the cut-off mean response score of 2.50. . However, they had average mean response score of 2.72 and 2.29 for in items 10 and 11; and 2.16 in item 12 with a grand mean response score of 2.38 which was lower than the cut-off mean response score of 2.50. This therefore, means that the respondents disagree with the item statements on peer pressure as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state. Also the respondents' standard deviation of 0.678, 0.433 and 0.561 were in close range. Also the average standard deviation range of 0.818 to 1.041 was not far apart, which showed homogeneity in their responses.

Research Question Four

How is parental influence a factor affecting low students enrollment in metalwork technology education in tertiary institutions in Rivers state?

Table 5: Mean Responses on parental influence and students enrollment pattern in technology education in tertiary institutions

SN	PARENTAL INFLUENCE	RSU		IAUE		FCET		Average		Decision
	Item statement	M_1	SD_2	M_2	SD_2	M_3	SD_3	M_t	SD_t	
13	My parentsdream is for me to pursue an academic programme other than technology education.	2.95	0.705	2.85	0.543	2.46	1.014	2.63	0.898	Agree

14	My parents did have regard of technology education especially metalwork technology.	1.74	0.653	2.46	0.811	2.04	0.905	2.09	0.872	Disagree
15	My parents and some members of family circle have keen interest in technology programme.	2.32	0.820	2.88	0.864	2.29	1.066	2.43	1.008	Disagree
	Grand mean	**2.33**	**0.444**	**2.73**	**0.573**	**2.26**	**0.795**	**2.38**	**0.721**	**Disagree**

Source: field survey 2023

The results on Research Question Four in Table 5 showed that the respondents from RSU and FCET had lower mean response scores of 2.33 and 2.26 respectively while IAUE had a mean response score of 2.73 isabove the cut-off mean response score of 2.50. However, they hadaverage mean response score of 2.63, 2.09 and 2.43 in items 13, 14 and 15 respectively and a grand mean response score of 2.38 which was lower than the cut-off mean of 2.50. This means that the respondents disagree with the item statements on parental influence as apredictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state. Also the respondents' standard deviation scores of 0.444, 0.573 and 0.795 are not far from the mean. With the average standard deviation range of 0.872 to 1.008 which was not far apart, showed homogeneity in their responses.

Research Question Five

How is social status of technology a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state?

Table 6: Mean Responses on social status of technology education andstudents enrollment pattern in technology in tertiary institutions

S/N	SOCIAL STATUS OF TECHNOLOGY EDUCATION	RSU		IAUE		FCET		Average		**Decision**
	Item statements	**M_1**	**SD_1**	**M_2**	**SD_2**	**M_3**	**SD_3**	**M_t**	**SD_t**	
16	I think technology education will not let me obtain income generating job skills.	2.05	1.026	2.69	1.123	2.47	.969	2.45	1.026	Disagree
17	My parents cannot afford the possible cost of setting up technology workshop on graduation.	2.32	1.003	2.65	.977	2.65	1.076	2.59	1.041	Agree

18	I think technology education will not help me improve my economic status.	2.26	.653	2.50	0.906	2.47	0.855	2.44	0.834	Disagree
19	The society has low perception/regard of technology education graduates.	3.00	.745	2.85	0.881	3.25	0.436	3.12	0.637	Agree
20	The society has few establishments to cater internship in technology education.	2.95	.780	3.58	0.578	2.94	0.453	3.09	0.606	Agree
21	The society does not see the demand of technology education careers.	2.58	.902	2.96	1.148	2.81	1.040	2.81	1.042	Agree
	Grand mean	**2.52**	**.500**	**2.87**	**0.536**	**2.76**	**0.597**	**2.74**	**0.574**	**Agree**

Source: field survey 2023

The results on Research Question Five in Table 6 showed that the respondents from the three institutions had higher mean response scores of 2.52, 2.87 and 2.76 for RSU, IAUE & FCET respectively, with the average lower mean response scores of 2.45 in items 16 and 18 and higher mean response scores ranging from 2.59 to 3.12 in items 17, 19 to 21, and a grand mean response score of 2.74 which was above the cut-off mean response scores of 2.50. This, therefore, means that the respondents agree to the statements on social status of technology education as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state. Also, the respondents' standard deviation of 0.500, 0.536 and 0.597 were not far apart. With the average standard deviation ranging from 0.606 to 1.042 which was clustered together, showed homogeneity in their responses.

Hypotheses testing

Ho1: There is no significant difference in the mean responses amongst three groups of students on career awareness as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Table 7: ANOVA comparison of mean responses of three groups of students on career awareness and students' enrollment pattern

Source of variance	Sum of squares	Df	Mean squared	F-cal	F-critical (p<.05)	Remark
Between Groups	2.255	2	1.127	1.702	3.09	**Not sig.**
Within Groups	72.874	110	.662			**Accepted**
Total	75.129	112				

Source: field survey 2023

Result in Table 7 showed that F-calculated value (1.702) is less than the critical table value (3.09)which is notsignificant at the level of probability. That is to say since the obtained F-ratio is smaller than critical F-value, so we conclude that the obtained F-ratio is not likely to occur by chance with a *P*<.05. Hence, we fail to reject the null hypothesis that there was no significant difference in the mean responses scores amongst the three groups of students on career awareness as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Ho2: There is no significant difference in the mean responses amongst three groups of students on academic interest and preference as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Table 8: ANOVA comparison of mean responses of three groups of students on students' interest and preference and students' enrollment pattern

Source of variance	Sum of squares	Df	Mean squared	F cal	F-critical (p<.05)	Remark
Between Groups	.119	2	.060	.383	3.09	**Not sig.**
Within Groups	17.079	110	.155			**Accepted**
Total	17.198	112				

Source: field survey 2023

Result in Table 8 showed that F-calculated value (.383) is less than the critical table value (3.09)which is notsignificant at the level of probability. That is to say since the obtained F-ratio is smaller than critical F-value, so we conclude that the obtained F-ratio is not likely to occur by chance with a*P*<.05. Hence, we fail to reject the null hypothesis that there was no significant difference in the mean responses scores amongst the three groups of students on students' interest and preference as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Ho 3: There is no significant difference in the mean responses amongst three groups of students on peer pressure as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Table 9: ANOVA comparison of mean responses of three groups of students on peer pressure as and students' enrollment pattern

Source of variance	Sum of squares	Df	Mean squared	F cal	F-critical (p<.05)	Remark
Between Groups	6.283	2	3.142	10.122	3.09	**Sig.**
Within Groups	34.140	110	.310			**Rejected**
Total	40.423	112				

Source: field survey 2023

Results in Table 9 shows that F-calculated value (10.122) is greater than the critical table value (3.09)which is significant at the level of probability. That is to say since the obtained F-ratio is greater than critical F-value, so we conclude that the obtained F-ratio is likely to occur by chance with a *P*<.05. Hence, we reject the null hypothesis that there was no significant difference in the mean response scores amongst the three groups of students on peer pressure as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Ho 4: There is no significant difference in the mean responses amongst three groups of students on parental influence as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Table 10: ANOVA comparison of mean responses of three groups of students on parental influence and students enrollment pattern

Source of variance	Sum of squares	Df	Mean squared	F cal	F-critical (p<.05)	Remark
Between Groups	4.143	2	2.071	4.210	3.09	**Sig. Rejected**
Within Groups	54.128	110	.492			
Total	58.271	112				

Source: field survey 2023

Results in Table 10 shows that F-calculated value (4.210) is greater than the critical table value (3.09)which is significant at the level of probability. That is to say since the obtained F-ratio is greater than critical F-value, so we conclude that the obtained F-ratio is likely to occur by chance with a *P*<.05. Hence, we reject the null hypothesis that there was no significant difference in the mean response scores amongst the three groups of students on parental influence as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Ho 5: There is no significant difference in the mean responses amongst three groups of students on social status of metalwork technology as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Table 11: ANOVA comparison of mean responses of three groups of students on social status of metalwork technology and students' enrollment pattern

Source of variance	Sum of squares	Df	Mean squared	F cal	F-critical (p<.05)	Remark
Between Groups	1.351	2	.675	2.084	3.09	**No Sig**
Within Groups	35.656	110	.324			**Accepted**
Total	37.007	112				

Source: field survey 2023

Results in Table 11 shows that F-calculated value (4.210) is greater than the critical table value (3.09)which is significant at the level of probability. That is to say since the obtained F-ratio is greater than critical F-value, so we conclude that the obtained F-ratio is likely to occur by chance with a *P*<.05. Hence, we reject the null hypothesis that there was no significant difference in the

mean response scores amongst the three groups of students on social status of metal work technology as a predictor to students' enrollment pattern into technology education programs in tertiary institutions in Rivers state.

Discussion

From the results in table 2 and 7, career awareness was found to be a significant factor, as it was not clear to students during career guidance advocacy about potential careers and employment opportunities after completing technology education. Students believed that technology education would not guide them to develop their full career potential. This finding was in line with Ragojos, Singson&Hupa (2016) who also found career awareness to be a factor having influencing effect on students' choices of vocational education related fields of study.

The results in tables 3 and 8 students' interest and preference were found to be factors affecting low students' enrollment into technology education. The results indicated that technology education was found to be less attractive to students, and they were anxious to take skills assessments. Students preferred to study other education programs rather than technology education, feeling less prepared for higher learning and performing better in other courses. This result was in agreement with Ragojos, Singson&Hupa (2016) and Wright (2018) who also found that preferences and interests were the main influencing factors in students' choice of courses in higher institutions.

The results ii table 4 and 9 revealed that peer pressure was not a significant factor affecting low students' enrollment into technology education. The results showed that students were not influenced by friends or family members who pursued other technology education courses. Parents had a preference for their children/wards to become medical doctors, accountants, lawyers, administrators, engineers, and politicians, and students did not find their friends who pursued technology programs successful. This finding agrees with Awang et al. (2011) and Buang et al. (2016) who opined that peer influence had no significant impact on students' decision regarding TVET.

The results in table 5 and 10 revealed parental influence was another factor affecting low students' enrollment in technology education. It showedthat parents would prefer their children/wards to become medical doctors, accountants, lawyers, administrators, engineers, and politicians. This result confirmed the findings of Ragojos, Singson&Hupa (2016) and Igbenedion&Ogeage (2012). From the findings students attest that their parents did not have

regard for technology education, especially metalwork technology education, and that some members of their family circle had no interest in the program.

The results in table 6 and 11 revealed social status was found to be a factor affecting low students' enrollment in metalwork technology education. It revealed that socio-economic factors had poor influence for students not to choose technology education, but the social status of the program informed most decisions to enroll in the program. This result is in agreement with Ragojos, Singson&Hupa (2016) and Igbenedion&Ogeage (2012). From the findings students believed that technology education would help them obtain income-generating job skills, but they also believed that their parents could not afford the cost of setting up a metalwork technology workshop upon graduation. Their fear that society has low regard for technology education graduates and that society has few establishments to cater for internship in technology education was highly influencing their choices. In conclusion, the study found that society does not see the demand for technology education careers, and students are more likely to pursue other academic programs.

Conclusion

Technology education enrollment pattern in tertiary institutions is attributed to factors such as poor career awareness, academic interest, personal preferences, peer pressure, parental influence, and social status. The absence of proper awareness and public enlightenment campaigns is misleading the public about the potential of technology education.

Recommendations

Based on the findings above, the study recommends the following:

1. Establishing career awareness and advocacy programs in tertiary institutions to provide students with quality information about the potential of technology education.
2. Educational institutions should make technology education attractive to students, inviting successful graduates to showcase their skills.
3. Public campaigns should promote the image of technology education, especially metalwork technology, to enhance parents' regard for the profession and society's perception of graduates.
4. Establishing technology-based businesses can cater to students' internship programs during their studies

Consent

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

Competing interests

Authors have declared that no competing interests exist.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript

References

Ajibuwa, J. A. (2014). Metal Work Technology: An Effective Tool for Resolving Security Challenges in Nigeria. *Watari: Multidisciplinary Journal of Science and Technology Education, 2* (1), 107-113.

Amaechi, J.O. & Thomas, C.G. (2016). Strategies of effective teaching and learning practical skills in technical and vocational training Programmes in Nigeria. *International Journal of scientific research Engineering & technology (IJSRET)*, 5(12), 598 – 603.

Awang, A. H., Sail, R. M., Alavi, K., & Ismail, I. A. (2011).Image and students' loyalty towards technical education and vocational training. *Journal of Technical Education and Training*, *3*(1), 13-28.

Ayonmike, C. S. (2014). Factors affecting female participation in technical education Programme: A study of delta state University, Abraka. *Journal of education and Human development, 3*(3),227 – 240.

Bold, T., Filmer, D., Martin, G., Molina, E., Stacy, B., Rockmore, C., & Wane, W. (2017). Enrolment without learning: Teacher effort, knowledge, and skill in primary schools in Africa. *Journal of Economic Perspectives***,** *31*(4), 185-204.

Buang, R. R., Majid, M. K., Abdul Wahab, M. I., MohdTohid, M., Adrutdin, K. F., Yacob, S., & Md. Zahid, M. (2016). Factors affecting students' intention to study at higher learning institution of technical and vocational education and training. *Australasian Journal of Business, Social Science and Information Technolo*gy, *2*(1), 19-33.

Chukwuedo, S., &Omofonmwan, G. (2015).Developing Industrial and Technological Manpower via Technical. *University Of Mauritius Research Journal, 21* (2), 207-224.

Dokubo I.N &Deedom, M. T. (2017). Gender disparity awards students enrolment in Technical Education in Rivers State: causes, effects and strategies. *International Journal of Research – Granthaulayah, 5*(10),1 – 10.

Ediagbonya, K., Agbaje, M, &Subernm, A. K. (2012).Analysis of factors influencing business education students' enrolment pattern in NCE programme in federal college of education, Okene, Kogi state. *International Journal of Arts and Combined Sciences, 3*(1), 30 - 45.

Federal Republic of Nigeria (2013.*National policy on education 6th edition*. Lagos NERDC press

Igbinedion, V.I and Ojeaga, 1.1 (2012). Use of career education and occupation information services in boosting enrolment into vocational and technical education programmes in Nigeria. *International education students, 4*(5), 229 – 236.

Olugbenga, N. (2021). Students' enrolment in Nigerian private universities: the pull effect of corporate image and promotional appeal. J*ournal of Educational Planning, 4(2),* 23-56.

Onwumere, M. (2020).Strategies for improving students' enrolment into vocational technical education programmes of universities in south east, Nigeria. *Social Education, 2(2),* 58–68.

Oviawe, J. I. (2017). Fostering Students' Enrolment in Technical Education Programmes through Career Guidance and Occupational Awareness. *Education Journal, 6*(4), 125-132.

Ozioma, C. A. (2011). Influential factors affecting the attitudes of students towards vocational and technical subjects in secondary schools in South Eastern Nigeria. *Journal of Educational and Social Research, 1*(2), 201 – 217.

Ragojos, R. O.; Singson, G. S. &Hupa, L. B (2016). *Perceptions and factors influencing students' choice on vocational education of grade 10 students in Kabatan national high school.* Unpublished action research presented to the division research quality assurance committee Dao, Pagadian City

ShemsedinZiyad Mohamed (2022). Factors Affecting the Attitude of Students towards TVET Education in Bedesa Town, Western Harerge Zone, Oromia Regional State. *Psychol J Res Open, 4 (4),* 4–8.

Suleiman, Y.; Adeniyi, S.T.; Kamal, O.; Oluwaseun, L. S.; &Abiodun, O. M. (2022). An Assessment of Students' Enrolment Rate In University Of Ilorin, Nigeria from 2019-2021: Implications for Management. *Journal of Educational Leadership in Action, 8* (2), 4 -19.

Thomas, C.G. &Ameachi, O.J. (2017) demographic differences in postgraduate students attitude and use of ICT facilities in Rivers State University of Science and technology, Port Harcourt. *International Journal of Scientific Research Engineering & Technology (IJSRET), 6*(1) 1-6.

Wright, Cameron. 2018. "Choose Wisely: A Study of College Major Choice and Major Switching Behavior." Santa Monica, California: Pardee Rand Graduate School. https://doi.org/10.7249/RGSD414.

Yusuf, S., Mustapha, A. I., Dewumi, A. A., &Abiola, A. A. (2021). Pattern of students' enrolment and graduation rates in al-hikmah university, Nigeria: implications for management. *Journal of Economics and Management Research, 9*(1), 100-123.