

Attitude of Student towards Technical Education: A Developing Apathy

Osuntuyi Edward Olusola, Olojuolawe Rufus Sunday

Department of Vocational and Industrial Technology Education, Bamidele Olumilua University of Education, Science and Technology, Ikere-Ekiti, Ekiti State

DOI: https://dx.doi.org/10.47772/IJRISS.2023.7012123

Received: 03 December 2023; Revised: 13 December 2023; Accepted: 16 December 2023; Published: 13 January 2024

ABSTRACT

This study examines the importance of technical education in the school curriculum as a tool for developing the intellectual and psychomotor capacity of youth, as well as its relation with entrepreneurship education in promoting self-reliance. Additionally, the paper observes the current attitudes of students and teachers towards technical subjects at the secondary school level. Finally, it examines the correlation between students' enrolment in tertiary institutions and their interests in technical subjects. A qualitative research approach was implemented, using a combination of semi-structured interviews, questionnaire-based surveys, and document analysis. The sample population comprised 50 secondary school students, divided into 2 groups of 25 students each: technical education among both students and teachers, as well as a discrepancy between student enrolment in tertiary institutions and their interests in technical subjects. The study suggests that there is a need to promote technical education in the school curriculum to foster an appreciation of technical subjects among students and teachers. Moreover, there should be measures in place to support those who are interested in pursuing technical courses in tertiary institutions, to improve enrolment and ensure a more equitable representation of technical subjects in the higher education system.

INTRODUCTION

In Ondo State as in other parts of Nigeria, technical education is a post-high school programme designed to train technicians who represent a classification of workers having responsibilities in such areas as testing, development, research, design, production, maintenance, sales, and supervision. It is also meant for the training of an individual to be mentally sound and useful in society to achieve success in their personal chosen career. Technical education is any form of education whose primary purpose is to prepare persons for employment in recognised occupations. It provides the skills, knowledge, and attitudes necessary for effective employment in specific occupations. Subjects on the school curriculum that are drawn from various disciplines in technical education are expected to make some impact on the lives of the individuals studying them, but the impact of these subjects has not been felt in our technical colleges in Ondo State.

The findings from studies conducted by earlier researchers revealed that the performance of students in a given subject highly depends on the types of attitudes students demonstrate toward the subject. In other words, students who possess favourable attitudes towards subjects present better content in our educational institution than students with poor attitudes as a predisposition.

Thus the more positive a learner's attitude is towards a particular subject, the more likely is to succeed in learning the subject. [1] argued that if a child has any distasteful experience in his academic pursuit, his learning may be greatly hampered, for the child may develop a negative attitude as a social thing and confirmed that it is the society as a whole that shapes an individual's attitude and the ideal that education realises. [2], [3] in his contribution to the study of attitude concluded that attitude is an acquired tendency to react covertly or overtly in a manner that is expressive of a certain degree of favourability concerning



certain objects, persons, ideas, or situations in our environment.

However, the non-challant attitudes of students towards technical education have contributed to the technological setback of the nation. In light of the above problems, there is therefore an urgent need to look into the issues with the view of finding a solution to them.

BACKGROUND OF THE STUDY

The emphasis on behaviour in most definitions of attitudes can be traced to the historical roots of the concept of attitudes. The concept of attitude has been with us since the beginning of the social sciences but according to [4], "It was the influence of this, that endowed attitudes with vitality, equating them with longing, hatred, and love, with passion and prejudice, in short with the onrushing stream of unconscious life".

To me, without guiding one's attitude, an individual will be confused. Some kind of preparation is essential before one can make a satisfactory observation pass suitable judgment or make any, but the most primitive reflex type of response". Attitude therefore determines for each individual what he will think and what he will do.

[5], [5], [6]describe the changes that have taken place in technical education and the attitudes towards this type of education as being unable to keep pace with these changes. He expressed further that technical education in Nigerian society has been seen for too long as useful only to a highly restricted sample of students and that its image has been that of the second-class alternatives for those with low verbal skills or with interest in working with their hands rather than their minds. The purpose of this research is to study the attitudes of students towards technical education in Ondo State. This is a test of the affective domain dealing with one's feelings, interests, perceptions, and values concerning a specific social or psychological object.

STATEMENT OF PROBLEM

In Nigeria, the system of education changes from time to time. In 1975, the education policy changed to 6:3:3:4. This means that a child will spend 6 years in primary school, 3 years in junior secondary school, and 4 years in the university. Within the context of the 6:3:3:4 system of education, emphasis was placed on the teaching of introductory technology in all our secondary schools to prepare students for the future.

Machines and equipment that were supplied to secondary schools through Federal and State science equipment centers were left to rust in their corridors while the few ones that were installed were not maximally utilized by technical teachers. Today hardly can find any of them working.

Again, most of our secondary school principals have no time for technical subjects thereby frustrating both the teachers and students who have an interest in technical education. Another major issue in present-day education is the question of the general fall in the standard of education. It is believed in many quarters that the low level of academic performance of students in our various educational institutions has been of great concern to many experts, teachers, parents, and even some students themselves in the country. Education today in Nigeria is not to train her youth for gainful employment but to be able to read and write. This pattern of education has only succeeded in producing thousands of Nigerian youths who roam about the streets seeking white-collar jobs.

The poor performances of students in both internal and external examinations, however, are attributed to many variables. For instance, indiscriminate expansions in our educational programmes, which are not commensurate with proper physical and academic planning, are highly responsible. This also is due to



inadequate provision of necessary laboratory and other equipment in our schools and shortage of qualified personnel such as teachers and counselors as well as social, psychological, financial, and health problems.

It is this general issue of uncared attitude, poor performance, and the factors affecting students' choice that have almost placed vocational courses in a precarious position in most of our institutions of learning where technical subjects are offered.

Research Questions

The following research questions are raised to probe into the problems confronting technical education:

- 1. Why do students patronize secondary education better than technical education?
- 2. Why more males are inclined the study technical education?
- 3. What are the attitudes of female students towards the study of technical education?
- 4. How does the public assess females undergoing technical education?
- 5. Is there any significant difference between the attitudes of male and female students towards the study of technical education?

Research Hypothesis

There is no significant difference between the attitude of male and female students towards the studying of technical education.

Purpose of the Study

The main purpose of the study was to examine the causes of non-challant attitudes of students toward the studying of technical subjects at the technical college level.

Significant of the Study

The result of this study would be beneficial to teachers of technical education to appreciate the remote difficulties and apathy that technical education is facing to change their orientation and make it more attractive to many students. It is hoped that the findings of this study will shed light for parents, school authorities, the government, and curriculum planners on the problems facing the teaching of technical subjects and the attitudes of the students towards learning them even right from the secondary school level.

It would also reveal the student's inability to choose any of those subjects as a course in a higher institution. When the problems are identified, they can be removed, thereby enhancing effective teaching and learning of any of those courses and subjects attached to such a course as chosen by an individual. It is hoped also that the study will contribute to knowledge in general:

METHODOLOGY

The population of this study consisted of all students of five Government Technical Colleges in Ondo State. The choice of the Technical Colleges was a result of the time and resources available to the researchers [7].

A sample of four hundred students based on 60 students per College was randomly drawn from the total number of Technical Colleges mentioned above.

The sample was made up of an equal proportion of both males and females in parts 1-3. An instrument designed on the Likert method on a four-point scale: Strongly Agree (SA-1), Agree (A-2), Disagree (D-3), and Strongly Disagree (SD-4) was used to obtain the relevant data.



The instrument was made up of ten items. Students were requested to tick one of the four options provided against each statement. The relatively high scores indicate a negative attitude towards the studying of technical courses while relatively low scores indicate a positive attitude. The instrument was found reliable and valid through a pre-test exercise at one of the technical schools.

Based on the pattern of scoring, two critical ranges of scores were used to categorise the subject into having either a positive attitude from (20-49) or a negative attitude from (50-80) towards the study of technical subjects. Frequency and percentage distribution of attitude types was used to answer research question 1-3 while the chi-square (X²) technique was used to answer research question 4 which had also been restated as a hypothesis.

RESULTS

Students who scored 50 marks and above were regarded as having a negative attitude towards the studying of technical courses while those who scored less than 50 marks were regarded as having a positive attitude towards studying of technical courses.

Table 1: Frequency Counts and Percentage Distribution of Students Attitude to Technical Subjects.

Types of Attitudes	Frequency	Percentage
Positive attitude	18	4.5%
Negative attitude	382	95.5%
Total	400	100%

Table 1 above shows that 95.5% or 382 students out of 400 students sampled claimed to have a negative attitude towards the studying of technical courses while 4.5% or 9 students claimed a positive attitude towards technical courses.

Table II: General Attitude of Male Students towards the Studying of Technical Courses.

Types of Attitudes	Frequency	Percentage		
Positive attitude	04	2%		
Negative attitude	196	98%		
Total	200	100%		

In Table II above, 98 males, or 98% of the males sampled claimed a negative attitude toward studying technical courses. Two of the male students (i.e. 2%) demonstrated a positive attitude towards the studying of technical courses. Therefore, the majority of male students were negatively predisposed towards technical courses.

Table III: General Attitude of Female Students Towards the Studying of Technical Courses.

Types of Attitudes	Frequency	Percentage
Positive attitude	14	7%
Negative attitude	186	93%
Total	200	100%



The percentage of female students according to Table III above expressing a negative attitude is 93% while only 7% of the girls samples had a positive attitude towards the studying of technical courses. Therefore, the majority of the female students also were negatively disposed towards technical subjects.

Table IV: Chi-squares result for the difference between the attitude of male and female students to the learning of technical subjects.

	Types of Attitudes									
Sex	Positive		Negative							
	Observed	Expected	Observed	Expected	Total	Calculate	Observed	DF	Alpha	Decision
Male	02	4.5	196	95.5	200	2.91	3.8	1	0.05	Not Significant
Female	07	4.5	186	95.5	200		4			
Total	09		382		400					

DISCUSSION

In answer to the question of the attitude of students towards the studying of technical courses, Table I revealed that students were quite unfavorable to those courses. This justified 95.5% of the students who showed a negative attitude. This corroborated the findings of researchers that poor funding and lack of motivation of technical personnel hinder the growth of technical education in Nigeria [8]–[13]. The government should realize that technical education is the engine room of national development [14]–[22]. Similarly, research has shown evidence of the acute equipment and facilities gap in technical education in Nigeria [23], [24], [33]–[35], [25]–[32]. This no doubt could be responsible for the low enrolment and lack of interest in the programme as indicated in Table I and Table II. The acceptance rate of 2% against the negative attitude of 98% for male students in Table I is not encouraging for a country that is desirous of technical education than their male counterparts. Table II indicates that 7% of the female students developed a positive attitude toward the programme as against the 93% that was lukewarm. The implication is that more female students possessed positive attitudes towards technical education than their male counterparts.

Therefore, the finding of a negative attitude in this study shows that learners' attitude requires proper handling. The results in Tables II and III indicated that the majority of male and female students were negatively disposed towards the studying of technical courses. The teacher's attitude might have contributed to the negative attitude of both male and female students as it can be buttressed by the finding in a research carried out by [36]–[41]in respect of the attitudes of parents/teachers. She observed that the positive attitude of teachers formed the bedrock of students' better performance in the subject that the child was learning.

The table value of X^2 (3.8) is greater than the calculated X^2 (2.91) value hence the null hypothesis is retained while the alternate is rejected. This means that there was no significant difference between the attitude of male and female students towards the learning of technical subjects. Both males and females seem not to be bothered about the importance of technical education in helping them to grow. Students seemed not to be aware that some Colleges of Education, Polytechnics, and Universities are offering technical courses such as Woodwork, Electrical/Electronics, Building Metal Work, and automobile.

It is observed from the findings of this study that the student's motivation as regards integration, instruction,



and self-confidence in technical education are not enough.

Findings

The findings of this study showed that:"

- 1. A great majority of students were negatively disposed towards the studying of technical courses.
- 2. There was no significant difference between the attitudes of male and female students towards the studying of technical courses.

Implication of the study

The result of this study has negative implications on the life of our youth most especially those who studied liberal arts courses because they stand a chance of searching for jobs for a longer period. While the few ones that studied Vocational and Technical courses can withstand the test of time by being self-employed and at the same time looking for white collar jobs if necessary.

RECOMMENDATION

Based on the findings of this study and inferences drawn from them, the following recommendations are made to further encourage the students to study technical courses not only at the Technical Colleges but also to pursue them at higher levels.

Teachers

One can say that attitude or interest is a good predictor of academic performance in any school subject. Vocational and technical teachers should use the appropriate teaching methods such as demonstration and field trip methods to impart knowledge to students and enhance their interest. There must be rewards for students based on those articles produced by them during workshop practice. Teachers must be masters of their subject matters.

Parent

Parents should develop a positive attitude towards the studying of technical education courses. They should develop in their children favourable attitudes towards the learning of these subjects. These can be done by stimulating the interest of the children in learning the subject and encouraging them through the provision of relevant hand tools, textbooks, and other educational materials when necessary. They should be concerned about the performances of their children by paying their school fees or by visiting them at school to verify their performances through their teachers/instructors and workshop officers.

Policymakers and the school authorities

Technical subjects need the aid of instructional materials for thorough understanding. There is a need for school authorities to increase the number of practical periods on the timetable and equip schools with effective and adequate resources in the school workshop and library. Suitable foreign and indigenous textbooks, hand tools, and equipment for the teaching of practicals in the various fields of vocational-technical education should be adequately taken care of.

Entrepreneurship education was introduced into our educational system a few years back and was made compulsory at all levels. The policy-making body however should show interest in the teaching of the trade subjects. They should make sure that anybody who wants to specialise in any trade must have good background knowledge of introductory technology and pure sciences. There must be qualified vocational



and technical personnel who should act as inspectors to supervise the teaching of the subjects both in the secondary schools and technical colleges as it is done in tertiary institutions in Nigeria today under the agencies of the National Commission for Colleges of Education (N.C.C.E.) and National University Commission (N.U.C.) for accreditation [8], [30], [42]–[44]

Academicians and Writers

This study has shown that technical courses pose a lot of problems to students due to their interrelationship with mathematics, chemistry, and physics which are their backbone. To appreciate the value of technical courses, one must have a deep knowledge of mathematics and pure sciences. There is a need for writers of vocational and technical education to improve the production of indigenous textbooks in a simple language made understandable to average students [8], [37], [45]–[49].

These books should be relevant to the current curriculum of the post-primary and tertiary institutions. The books should always be related to the indigenous materials around the students to make them familiar with their immediate environments.

CONCLUSION AND RECOMMENDATION

The issue of overcoming students' negative attitudes towards technical subjects is a function of the readiness of all concerned to tackle the problem. Doubtless, students' negative attitudes are a setback to our national development and except urgent steps are taken to overcome the problem, the much-needed industrial breakthrough will continue to elude the nation. Therefore, it is important that various factors which, this study has identified to be responsible for students' negative attitudes towards technical subjects must be arrested.

On the other hand, the modern technological economy requires the development of a high level of complex mental abilities. Education for the next millennium should aim at producing students who will engage in the studies of the mechanism of modern technology. One effective way of achieving such an objective would be to give both males and females equal opportunities and encourage females to exercise their mental capacities in science and technical subjects.

In this way, the child-rearing practices of the society have to undergo some radical changes. In other words, both boys and girls are to be socialised to develop the same type of cognitive and social behaviour within their generic and environmental opportunities.

For the purpose of generalization, a broader study of the phenomenon is recommended. The scope could be extended to the teirs of tertiary institutions. The effects of facilities could the attitude of students toward technical education could be single out for consideration in the future study.

REFERENCES

- 1. K. L. Elina E. Ketonen a, Julia Dietrich b, Julia Moeller c, Katariina Salmela-Aroad, "The role of daily autonomous and controlled educational goals in students' academic emotion states: An experience sampling method approach," *Learn. Instr.*, vol. 53, no. 2, pp. 10–20, 2018.
- 2. N. Mohamed and S. Mistima, "Assessing engineering technology students' attitude towards problemsolving in mathematics using Rasch model," *Aust. J. Basic Appl. Sci.*, vol. 6, no. 7, pp. 200–203, 2012.
- 3. H. Awg, Y. Hj, and A. Mohamad, "Understanding Students' Attitudes Toward E-Learning : Evidence From Bruneian Vocational and Technical," *Seavern Journals*, vol. 2, no. 1, 2010.
- 4. Kemetrian Kesehatan Republik Indonesia, "Basic Health Research 2018," 2018.
- 5. G. Sarıçoban, "Attitudes of Technical Vocational School Students towards the Course of History of



Atatürk's Principles and Revolutions," Procedia - Soc. Behav. Sci., vol. 116, pp. 3180-3183, 2014.

- 6. S. R. Acharya and Y. Chandra, "Entrepreneurship Skills Acquisition through Education : Impact of the Nurturance of Knowledge, Skills, and Attitude on New Venture Creation," *Int. J. Educ. Pedogogical Sci.*, vol. 13, no. 2, pp. 186–196, 2019.
- 7. D. Collector and F. G. Module, "Qualitative Research Methods Overview," *Fam. Heal. Int.*, no. January, pp. 1–12, 2011.
- 8. D. Seyi, "An Overview Of Vocational And Technical Education In Nigeria Under Secondary School Education System," *Int. J. Technol. Enhanc. Emerg. Eng. Res.*, vol. 2, no. 6, p. 119, 2014.
- 9. "Allen, J. E.," Vocat. Tech. Educ. J., vol. 2, no. 1, pp. 273–278, 2020.
- 10. N. Jonathan C., "Entrepreneurship Education and the Challenges of Graduate Employability in Nigeria," *Int. J. Innov. Manag. Technol.*, vol. 9, no. 5, pp. 189–193, 2018.
- 11. L. Amusan, A. Afolabi, I. Omuh, R. Ojelabi, and A. Oluwatobi, "Remodularising Technical Institutions Towards Manpower Delivery in Construction Sector in Nigeria," in *INTED Conference*, 2016, no. March, pp. 4991–4996.
- 12. O. S. Rufus, T. Ajayi, B. Joseph, and A. E. Olorunfemi, "Failure Factors Quality in Vocational and Technical Education in Nigeria Higher Institutions : The Use of Rasch Model," no. 9, pp. 186–192, 2020.
- 13. M. A. Yasim, A. Hatib, L. M. Tahir, and N. Rosmin, "A FRAMEWORK FOR ASSESSING THE WORK ENVIRONMENT," *Turkish Online J. Des. Art Commun.*, no. September, pp. 1707–1711, 2018.
- 14. C. Pardo-Garcia and M. Barac, "Promoting employability in higher education: A case study on boosting entrepreneurship skills," *Sustain.*, vol. 12, no. 10, pp. 1–23, 2020.
- M. J. Al Shobaki, S. S. Abu Naser, Y. M. A. Amuna, and S. A. El Talla, "The Level of Promotion of Entrepreneurship in Technical Colleges in Palestine," *Int. J. Eng. Inf. Syst.*, vol. 2, no. 1, pp. 168–189, 2018.
- 16. M. Lin, "Challenges and Opportunities for Technical and Vocational Education and Training in the Local Communities: Education and Labour Market for Young People," *Int. J. Soc. Sci. Stud.*, vol. 7, no. 3, p. 1, 2019.
- 17. E. Owais, A., Alabidi, S., Hatamleh, Z. & Hussein, "Technical and Vocational Education and Training in the UAE," *J. Emerg. Technol. Learn.*, vol. 15, no. 13, pp. 264–288, 2020.
- 18. A. Idris and M. Rashid Rajuddin, "An Assessment of Employability Skills among Technical and Vocational Education Students in Nigeria," *Arch. Des Sci.*, vol. 65, no. 7, pp. 392–1661, 2012.
- 19. R. M. Cacho, R. D. Abenes, R. R. Dejapa, and H. R. D. Mapula, "Employability of technology and livelihood education graduates," *Int. J. Eval. Res. Educ.*, vol. 11, no. 4, pp. 2165–2173, 2022.
- 20. L. Prifti, M. Knigge, H. Kienegger, and H. Krcmar, "A Competency Model for "Industrie 4.0" Employees," *Wirtschaftsinformatik*, 2017.
- K. W. Lam and A. Hassan, "Instructional Technology Competencies Perceived by Technical and Vocational Education and Training (TVET) Students in Malaysia," *Int. J. Acad. Res. Bus. Soc. Sci.*, 2018.
- 22. P. A. Ukachi and S. O. Ejiko, "Importance of Vocational Technical Education in Present Day Nigeria Economy," *Glob. Sci. Journals*, vol. 6, no. 8, pp. 530–534, 2018.
- 23. "olojuolawe Sunday Rufus Determination of Employability Skills Required by Electrical Technology Students in," pp. 0–2, 2016.
- 24. S. Rufus, A. Tunde, A. O. Emmanuel, and N. B. Mohd, "Failure Factors Quality in Vocational and Technical Education in Nigeria Higher Institutions : A Rasch Analysis Approach," no. X, pp. 1–8, 2019.
- 25. S. Rufus, A. Tunde, and A. O. Oluwadamilola, "Rebasing Technical Education towards Technopreneurship : A Review of Graduate Employability in Nigeria," vol. 7, no. 4, pp. 13352–13357, 2020.
- 26. V. Education and J. Bahru, "TVET Towards Industrial Revolution 4.0: Proceedings of the Technical and ... Google Books," no. Tvetic 2018.



- 27. S. R. Olojuolawe, N. Bt, M. Amin, A. A. Latif, and H. A. Sani, "Structural Classification of Employability Skills Hierarchy using Rasch Analysis Model," no. 3, pp. 3581–3591, 2019.
- 28. S. R. Olojuolawe, N. Btmohd, and A. Fadila, "Determination of Employability Skills Required by Electrical Technology Students in Colleges of Education in," vol. 1, no. June, pp. 57–66, 2019.
- 29. S. Rufus Olojuolawe and F. N. B. Amin, "Determination of Employability Skills Required by Electrical Technology Students in Colleges of Education in Nigeria," *Int. J. Eng. Educ.*, vol. 1, no. 1, 2019.
- 30. S. R. Olojuolawe, N. B. M. A. Fadila, and A. Abdul Latif, "Soft Skills Needed by Electrical Technology Students for 21st Century Jobs," *Int. J. Entrep. Res.*, vol. 2, no. 3, pp. 14–21, 2019.
- O. S. Rufus, "Unemployment Trend and Employability Skills of Technical Students : Implication for School Managers in Nigeria Colleges of Education," pp. 1–11.
- 32. S. R. Olojuolawe, N. Bt, M. Amin, and T. A. Babatunde, "Employability Skills Framework for Navigating the Challenges of IR4 . 0," no. August, pp. 1–5, 2020.
- 33. R. S. Olojuolawe, N. F. Amin, A. Abdul Latif, and M. Arsat, "Employability skills of higher education graduates: A review and integrative approach," *TVET Towar. Ind. Revolut. 4.0*, pp. 113–120, 2020.
- 34. S. R. Olojuolawe, F. Bt, M. Amin, and M. G. Adewumi, "IR4 . 0 : The Challenges for Graduate Employability in Nigeria," vol. 9, no. 1, pp. 1–5, 2019.
- 35. S. Olojuolawe and O. V. Adeoluwa, "Equipment and Facilities Gap in Vocational Technical Education of Higher Institution: Implication for Graduates Employability in Nigeria," *Sains Humanika*, vol. 14, no. 2, pp. 13–21, 2022.
- 36. K. Paadi, "Perception on employability skills necessary to enhance human resource management. Graduates prospects of securing a relevant place in the labour market," *Eur. Sci. J.*, vol. special ed, no. August, pp. 129–143, 2014.
- 37. B. Aida, A. W. Norailis, and R. Rozaini, "Critical Success Factor of Graduate Employability Programs," *J. Econ. Bus. Manag.*, vol. 3, no. 8, pp. 767–771, 2015.
- 38. A. Clemans, A. Newton, R. Guevara, and S. Thompson, "Lifelong learning and employment prospects: an Australian case," no. September, 2012.
- 39. T. Chinyere and C. Faith, "Entrepreneurship and Employability Among Nigerian Graduates," vol. 3, no. December, pp. 68–74, 2012.
- 40. P. C. Chukwurah and C. Akpo, "Institutions for National Economic Development," vol. 6, no. 2, pp. 41–50, 2019.
- 41. G. M. Burdina and I. E. Krapotkina, "Distance Learning in Elementary School Classrooms : An Emerging Framework for Contemporary Practice," vol. 12, no. 1, pp. 1–16, 2019.
- 42. D. W. Legg-Jack, "Employability skills of technical college graduates: A case for government technical college (GTC) in Ahoada Rivers State Nigeria by," *Int. NGO J.*, vol. 5, no. 3, pp. 059–064, 2014.
- 43. "and Vocational Education : a Case Study of Electrical," 2019.
- 44. S. R. Olojuolawe, N. Bt, M. Amin, and A. A. Latif, "Structural Classification of Employability Skills Hierarchy Using Rasch Analysis Model," no. X, pp. 1–12, 2019.
- 45. R. M. Yasin, Y. F. Amin Nur, C. R. Ridzwan, H. T. Ashikin, and R. M. Bekri, "Current trends in technical and vocational education research: A meta-analysis," *Asian Soc. Sci.*, vol. 9, no. 13, pp. 243–251, 2013.
- 46. Suwiyadi, S. Riyadi, and Sukrisno, "Teacher's innovation: Efforts to improve lecturer performance through competence, motivation, and innovation," *Int. J. Innov. Creat. Chang.*, 2020.
- 47. J. E. Edokpolor and R. O. Owenvbiugie, "Technical and vocational education and training skills: An Antidote For Job Creation And Sustainable Development Of Nigerian economy," *Probl. Educ. 21st Century*, vol. 75, no. 6, pp. 535–549, 2017.
- 48. C. J. Fraser, G. Duignan, D. Stewart, and A. Rodrigues, "Overt and covert: Successful strategies for building employability skills of vocational education graduates," *J. Teach. Learn. Grad. Employab.*, vol. 10, no. 1, p. 157, 2019.



49. R. Okoye and M. O. Arimonu, "Technical and Vocational Education in Nigeria : Issues, Challenges and a Way Forward," *J. Educ. Pract.*, vol. 7, no. 3, pp. 113–118, 2016.