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# Identifying the Technical Lecturers' Perception of Students' Engagement in the Application of Interactive Instructional Strategies

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**Abstract:** This study identifies the technical lecturers' perception of students' engagement in applying interactive instructional strategies using the survey method. The study aimed to determine students in technical institutions' level of the meaning of students' engagement in instruction, indicators of students' engagement in instruction, and factors that influence students' engagement in the application of interactive instructional strategies. The population for the study consisted of all ninety-two technical education lecturers in technical universities and colleges of education in South Nigeria. The instrument used for data collection was a twenty item questionnaire derived from past literature reviewed. Five experts validated that instrument. Cronbach alpha analysis was used to determine the instrument's reliability, and the researcher found that the reliability coefficient was 0.83. The research questions were achieved by going through the mean and standard deviation analysis. The findings revealed that the technical students needed to know the interactive instructional strategies adequately. Based on the findings of this study, it was recommended, among others, that students' engagement in instruction should be emphasized in capacity building through mentoring and peer collaboration that offer technical teacher education programs organized within tertiary institutions by the government and other stakeholders.

**Keywords:** Technical education, students' engagement, interactive instructional strategies, descriptive statistics, survey method

## 1. Introduction

Tertiary education is the educational level following the completion of secondary school. Tertiary education includes colleges, universities and institutions that teach specific capacities of higher learning, such as community colleges, nursing schools, research laboratories, centres of excellence, distance learning centres and technical and vocational training institutes (World Bank, 2003). The Federal Republic of Nigeria (FRN) (2014) stated that tertiary education is the education given after secondary education in Universities, Colleges of Education, Polytechnics, and Monotechnics (educational institutions where a single specific technical subject is taught), including those institutions offering correspondence courses. Tertiary institutions are established to strengthen the production of middle-level workforce in national priority areas by implementing educational curricula. In the context of this study, the tertiary institutions covered are universities offering technical teacher education programs and colleges of technical education in South Nigeria.

A technical education lecturer is an individual or lecturer professionally trained to impart knowledge, skills and attitudes to learners in technical education. According to Olaitan et al. (2011), a technical education lecturer is a person who has undergone a teacher preparatory program and was charged with managing students' learning behaviour. The FRN (2014) posited that a lecturer in education is a person who has undergone approved professional training in education at appropriate levels and can impart knowledge, attitudes and skills to the learners. Oviawe (2019) defined a

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technical education lecturer as a person who has undergone professional pedagogical training in the different areas of industrial technical education, such as building construction, electrical/electronic technology, metalwork/automobile technology, woodwork technology, technical drawing, among others and is equipped with skills and competencies which can be used to teach the content of technical teacher education curriculum effectively. Such a person can teach the industrial technical education program at any level appropriate to their qualification (NCE, B.Sc., MEd, or PhD). They perform the following professional responsibilities: planning, organizing, implementing, evaluating, and student-teacher relationships guiding the students in career and occupational choice, among others. For the lecturers to be effective in implementing technical education curriculum towards realizing its stated objectives, there is a need for effective instructional strategies to be adopted by students as guided by their teachers.

Instructional strategies are ways both teachers and students adopt towards presenting/delivering and understanding classroom instructions. There is no instructional strategy that is all-encompassing on its own; an effective learning strategy is one that combines elements of other approaches (Ogbuanya & Onatunde, 2015). An effective learning approach should arouse students' curiosity and interest to learn, develop students' critical thinking ability and enhance learning. With the advent of globalization, emphasis has shifted from teacher-fronted to learner-centered learning. The learners' ability and right to take charge of their learning have been underscored. To this end, the FRN (2014) emphasized learner-centred instructional strategies that enhance students' interaction and engagement.

Creating an interactive class is a small task. Rather, it needs a little time to plan the teaching process, which becomes more enjoyable when together with students. Teachers can collaboratively plan their lessons with peers to ensure students are properly engaged. Removing inactivity from instruction should be topmost in the teachers' minds, considering that interactive classrooms arouse learning and make students autonomous, owning their learning. Often, teachers think that unless technologies are integrated into instruction, students will not gain the required workplace skills. This assumption is wrong because almost all interactive strategies can be adapted to instructions except those using technology. The reason is entrenched in the unavailability of the electricity supply required to power the devices for teachers and students. There is also the issue of poor and non-availability of reliable sources of internet for collaboration between teachers and students and between student and student, as well as a need for more knowledgeable technicians to operate, maintain and repair this equipment. This is not to belittle the importance of employing technology in acquiring skills and competencies relevant in a technology-driven and ever-dynamic world of work but rather to stress that student engagement is possible using local resources.

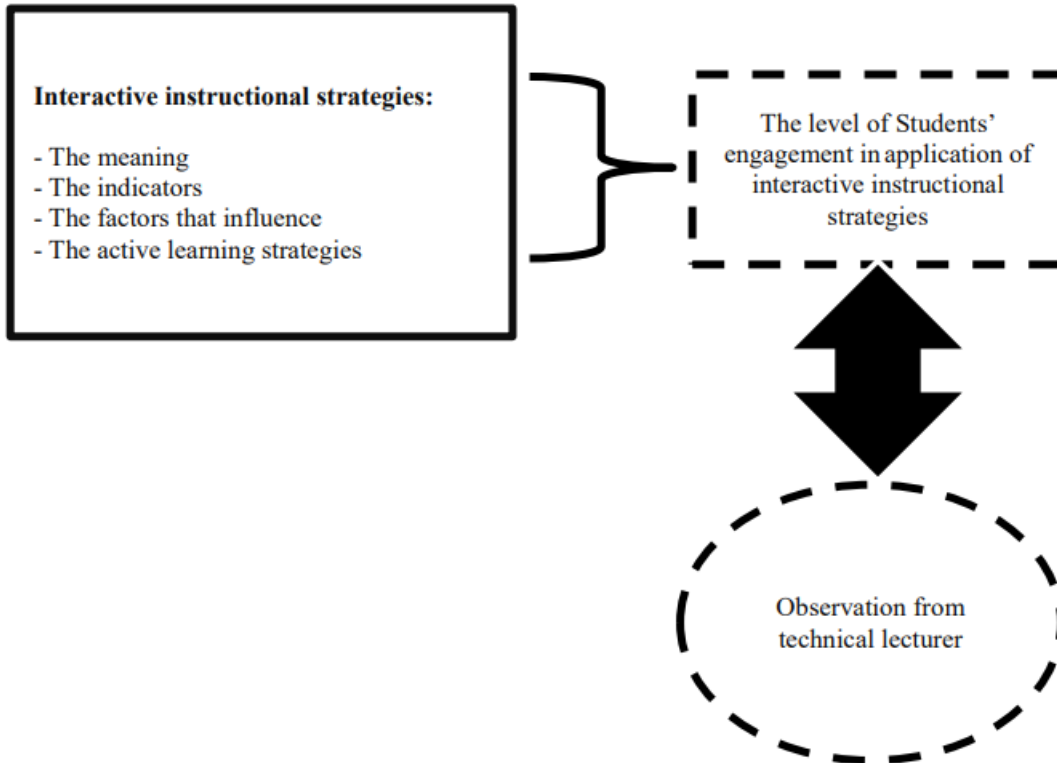
The mode of instruction in public schools in Nigeria is usually the teacher-centred method that encourages the production of passive students, discourages productivity, and fails to teach self-discipline in learning. This culture works against what research shows to be in the best interest of the next generation of students. The maxim that students remember 70% of what they say and write and 90% of what they do is especially true of active learning (Nussbasum-Beach, 2015). The students are then able to analyze, define, create and evaluate. The only way of achieving these outcomes for students will be by using interactive strategies designed to enhance the acquisition of workplace skills and competencies. The shift from teacher-centred to student-centred instruction must happen for meaningful learning. This shift emphasizes learning rather than teaching.

Chika (2011) posited that teachers and teacher educators need to be more knowledgeable of the need for student engagement, and this deficiency is responsible for poor achievements and high dropout rates from schools. Despite Government efforts in funding education especially in Technical Vocational Education and Training (TVET), it is unfortunate that the vision of student engagement is too rare among teachers and students. In many educational institutions in Nigeria, more thought should be given to student engagement. Many see student engagement as a worthless inanity. To this end, Oludipe and Oludipe (2010) asserted that there needs to be more room for student-initiated questions, independent thought or interaction between students in Nigerian educational institutions. The hub of the students is to learn by rote and rehearse the accepted account admonished by the teachers. The consequences of this ineffective instructional method adopted by teachers and teacher educators have led to high drop-out rates, low skill and knowledge levels among many students, and low student engagement in school work. Towards facilitating a paradigm shift, Chika (2011) recommended the following strategies: 1) teachers should design collaborative tasks by giving student teachers should encourage clear, explicit instructions related to the goal of the course and subsequent tests; 2) group learning should be highly valued and encouraged; 3) teachers should encourage peer review when students make presentations which they should frequently do. Students should do networking exercises by allowing students to meet themselves and know each other, and 4) there should be continuous professional development of teachers on the use of technology in the classroom.

Despite these benefits, in many Nigerian secondary schools, it is observed that students are easily distracted in the learning process. Many students sit in the back rows of the class and do not participate in the class learning activities. They may be preoccupied with individual issues or disconnected from the class activities due to the use of teacher-centred methods of instruction, the difficulty associated with the structure of the subject matter and content being taught or the general inability to concentrate. This calls for concern and proper intervention geared towards using instructional strategies that make it clear to all students that their involvement and valid voices are respected. This, in turn, helps to break down the barriers that may be holding students back from participation and helps teachers gain insight into why students may be disengaged. As soon as the barriers begin to break down, students become liberated to

engage with their class's academic content.

The theoretical framework of this study is the researcher's planning to design the dependent and independent variables to be measured and determined. The independent variables in this study were adapted from Shernoff et al. (2003). The dependent variables are the findings to be studied and measured. Fig. 1 shows the theoretical framework of this study summarized, covering the independent and the populations that will be involved in measuring the dependent variables.



**Fig. 1: Theoretical framework**

The purpose of this study was: 1) identify the level of the meaning that students' engagement in application of interactive instructional strategies among technical lecturer in South Nigeria; 2) identify the level of the indicators that students' engagement in application of interactive instructional strategies among lecturer in South Nigeria; 3) identify the level of the factors that influence students' engagement in application of interactive instructional strategies among lecturer in South Nigeria; and 4) identify the level of the active learning strategies that promote students' engagement in application of interactive instructional strategies among lecturer in South Nigeria.

## 2. Literature Review

Engagement is a fundamental issue in teaching because it affects how much students learn daily. Studies have shaped the emergence of engagement as both a strategy for improving educational achievement and an independently valuable outcome of schooling. Engaged students do better than those who are not (Young & Bruce, 2011; Taylor & Parsons, 2011). Researchers have tried to define student engagement in several ways. Many believe that it is multidimensional. Student engagement is a desirable trait that often overlaps with student motivation (Haines et al., 2015; Wilms, 2000), and happens as a result of a teacher's careful planning and carrying out of research based on strategies. According to Deslauriers et al. (2019), student engagement combines short- and long-term engagement. They explain that engagement occurs when students answer in the affirmative to the following questions: How do I feel? Am I interested? Is this important? Can I do this?

Chapman (2019) asserted that student engagement is used to depict willingness to participate in routine activities such as attending classes, submitting required work and following the teacher's direction in class. Pelletier and Rocchi (2016), Valerio (2012), Skinner and Belmont (1993) posited that engaged students show sustained behavioural participation in learning activities accompanied by a positive emotional tone. They select tasks at the border of their competencies, initiate action when given the opportunity, and exert intense effort and concentration in implementing learning tasks. Also, they show enthusiasm, optimism, curiosity, and interest in learning. In the context of this study, the researcher adopted the definition of Skinner and Belmont (1993) because it emphasizes what goes on in the instructional process.

There are various types of student engagement in literature. Finn and Pannozzo (2004) identified two types of student engagement. They are academic engagement and social engagement. Academic engagement refers to learning behaviours, while social engagement refers to pro-social and anti-social behaviour. This presupposes that student engagement covers the four domains of educational learning: affective, cognitive, psychomotor and interpersonal. Since student engagement is targeted to these learning domains, teachers should strive to ensure that students are provided with learning opportunities for their overall development. Taylor and Parsons (2011) identified five core types of student engagement: academic, cognitive, behavioural, psychological and social. However, they supposed that more categories are added each year. Affirming the difficulty experienced in trying to arrive at a consensus definition of the concept of student engagement. Blatchford et al. (2011) identified three levels of student engagement, which they listed as 1) behavioural engagement, comprising following rules, adhering to norms, participation, attention and persistence; 2) cognitive engagement, comprising student's investment in learning, learning goals and self-regulation; and 3) emotional engagement consisting of classroom reactions such as interest, anxiety, and boredom. These are sometimes referred to as multidimensional stages of engagement.

Similarly, Haines et al. (2005) identified five indicators for student engagement. They are academic challenges, active and collaborative learning, student-school interaction, enriching education experiences and a supportive learning environment. Indicators of the absence of student engagement include unexcused absences from classes, cheating on tests, and damaging school property. Shernoff et al. (2003) stated that several phenomenological factors, including the relevance of instruction and perceived control, may influence student engagement. In considering instructional relevance, students are more likely to become engaged with authentic academic work that involves solving real-life problems that extend beyond the classroom using inquiry. Other influences include external influences relating to social background and geographical location, school factors relating to pedagogy and curriculum, and interest in learning (Blatchford et al., 2011). According to Chapman (2019), another feature of student engagement is its measurement and assessment dimension. For example, self-report measures have been used by many researchers in assessing the behavioural, cognitive and affective features of student engagement. Also, the checklist and rating scales are other instruments that have been used and work sample analysis have equally been used to assess levels of learning task engagement, especially students' use of meta-cognitive strategies in confronting learning tasks (Pelletier & Rocchi, 2016; Valerio, 2012; Skinner & Belmont, 1993). Other quantitative measures of students' engagement noted in literature are: 1) attendance/participation rates/punctuality/graduation grades; 2) achievement/academic levels (standardized test scores and grades); 3) time on task, homework completion; 4) checklist/rubrics of completed works; and 5) extra-curricular participation rates/counts – attendance in sports, arts, after school programmed.

Pollack and Fusoni (2005) posited that interactive methods in the instructional process make teachers create a healthy, lively, and respectful environment for learning and achieve the following objectives as expressed by teachers: 1) students to become engaged in the learning process and passionate about the subject matter; 2) classes to be fun and meaningful at the same time; 3) students to learn to work together; and 4) teachers form positive and respectful relationships with their students that make them learn more effectively from their teachers and allow the teachers to learn from them.

Increasing active student involvement results in engagement. Manuel (2011) asserted that the active learning strategies to be integrated are: 1) peer tutoring; 2) small, structured in-class discussion groups; 3) small groups in which student has an assigned role and contributes to the end-product (jigsaw, like a puzzle in which each student has a piece); 4) hands-on activities or projects that illustrate or expand upon instructional content; and 5) building better connections between classroom content and the world outside of the classroom – to students' career interests, the local community, or recent events tapping into students' interest by providing choices on the ways that students may complete projects or assignments. The active learning strategies listed above are not exhaustive but are now delimited to them for this study.

### 3. Methodology

This study adapted questionnaires from previous researchers containing four elements with twenty items. This questionnaire will be distributed among ninety-two technical lecturers from eight universities in South Nigeria and twenty-four technical education teachers in South Nigeria College of Education. This south of Nigeria has six states: Akwa-Ibom, Bayelsa, Cross River, Delta, Edo and Rivers. This questionnaire will conduct validity and reliability by five experts and then preliminary studies to obtain 0.83 reliability. These preliminary studies will be conducted among ten technical education lecturers from Anambra State before the researcher will conduct the survey studies.

The instrument used for data collection in this study was a 20-item questionnaire developed by the researcher based on literature reviewed by previous researchers. The questionnaire had five sections: A, B, C, D, and E. Section A dealt with the respondent's personal data, while sections B to E addressed the objective questions. The questionnaire was structured on a five (5) point Likert scale, which consists of 5-Very highly knowledgeable (VHK), 4-Highly knowledgeable (HK), 3-Knowledgeable, 2-Moderately knowledgeable (MK), and 1-Not knowledgeable (NK).

The questionnaires were administered with the help of five research assistants. All the ninety-two copies of the questionnaire were duly completed and returned after two weeks. This gave a 100% return rate. The collected data were analyzed using SPSS software to obtain the mean and standard deviation values to answer the objective questions. The data was analyzed to obtain the descriptive Analysis and then interpret the results by using this rule of thumb: 4.50–

5.00 (Very highly knowledgeable), 3.50–4.49 (Highly knowledgeable), 2.50-3.49 (Averagely knowledgeable), 1.50-2.49 (Slightly knowledgeable), 1–1.49 (Not knowledgeable).

#### 4. Results and Discussion

Regarding the objectives of this research, the researcher will identify the perception of the lecturer with the element of meaning, indicators, and factors that influence active learning strategies and students' engagement in the application of interactive instructional strategies. Table 1 shows the previous researcher's interpretation of the mean and standard deviation.

**Table 1: Interpretation of mean value**

Mean	Interpretation
4.51 – 5.00	High agreement
3.51 – 4.50	Agree
2.51 – 3.50	Low agreement
1.51 – 2.50	Medium
1.00 – 1.50	No agreement

Source: Guido (2014)

**Research Question 1:** What is the level of meaning of students' engagement in applying interactive instructional strategies among technical lecturers in South Nigeria?

Table 2 shows the Mean and Standard Deviation Analysis for students' engagement in applying interactive instructional strategies among technical lecturers in South Nigeria. Regarding the interpretation in Table 1, the results show that students have high expertise in sustained behavioural involvement in learning activities with the value of mean and standard deviation (M=4.83; SD=0.07). The results also interpret the item of cognitive engagement as less expert among students.

**Table 2: The analysis of the mean and standard deviation for the meaning that students' engagement in the application of interactive instructional strategies among technical lecturers in South Nigeria**

No	Meaning item	Mean	Standard deviation
1	Sustained behavioural involvement in learning activities	4.83	0.07
2	Willingness to participate in routine activities	4.23	0.77
3	Behavioural engagement	2.67	0.93
4	Cognitive engagement	2.08	0.86
5	Self-regulation	2.76	0.05
	Mean	3.31	0.94

**Research Question 2:** What is the level of the indicators of students' engagement in applying interactive instructional strategies among lecturers in South Nigeria?

Table 3 shows the interpretation of the Mean and Standard Deviation for the indicators of students' engagement in the application of interactive instructional strategies among technical lecturers in South Nigeria. Regarding the rule of thumb in Table 1, the results show their lecturer agreed with the student's supportive learning environment with the value of mean and standard deviation (M=3.97; SD=0.80). The results also interpret the item of enriching education experiences and level of students' academic challenge less agreed by their lecturer.

**Table 3: The analysis of the mean and standard deviation for the indicators that students' engagement in the application of interactive instructional strategies among lecturers in South Nigeria**

No	Indicators item	Mean	Standard deviation
1	Level of students' academic challenge	2.07	0.90
2	Active and collaborative learning	2.14	0.93
3	Student school interaction	2.12	0.78
4	Enriching education experience	2.08	0.86
5	Supportive learning environment	3.97	0.80
	Mean	2.48	0.85

**Research Question 3:** What is the level of the factors that influence students' engagement in applying interactive instructional strategies among lecturers in South Nigeria?

Table 4 shows the value of the Mean and Standard Deviation for the factors that influence students' engagement in the application of interactive instructional strategies among technical lecturers in South Nigeria. Regarding the interpretation in Table 1, the results show that their lecturer agreed that the students achieved all these factors, which are the relevance of content and instruction, perceived teacher class control, interest in learning, teaching strategies used, the social background of students' engagement in the application of interactive instructional strategies.

**Table 4: The analysis of the mean and standard deviation for the factors that influence students' engagement in the application of interactive instructional strategies among lecturers in South Nigeria**

No	Factors item	Mean	Standard deviation
1	Relevance of content and instruction	3.97	0.81
2	Perceived teacher class control	3.81	0.91
3	Interest in learning	3.97	0.70
4	Teaching strategies use	3.58	1.07
5	Social background of students	3.99	0.83
Mean		3.86	0.86

**Research Question 4:** What is the level of active learning strategies that promote students' engagement in applying interactive instructional strategies among lecturers in South Nigeria?

Table 5 shows the value of the Mean and Standard Deviation of the active learning strategies that promote students' engagement in the application of interactive instructional strategies among lecturers in South Nigeria. Regarding the interpretation in Table 1, the results show that their lecturer highly agreed that the students achieved learning in small and structured class groups. The lecturer also agreed that their student can perform hands-on activities or projects independently with the value ( $M=2.07$ ;  $SD = 0.94$ ).

**Table 5: The analysis of the mean and standard deviation for the active learning strategies that promote students' engagement in the application of interactive instructional strategies among lecturers in South Nigeria**

No	Active learning strategies item	Mean	Standard deviation
1	Small, structured in-class group	4.83	1.07
2	Peer tutoring	3.23	0.77
3	Small groups (reciprocal peer tutoring) in which students are assigned roles	3.23	0.90
4	Hands-on activities or project	2.07	0.94
5	Building connections between classroom content and the outside world	2.12	0.78
Mean		3.09	0.89

## 5. Conclusion

In conclusion, regarding the analysis, the researcher can conclude that the students' engagement is not only involved in high academic performance, but the student should adapt and explore the various technical and workplace skills that students require to fit into the ever-dynamic world of work upon graduation. It is also stated that the four elements of learning; hence, technical education lecturers and teachers must strive to ensure that students are provided with learning opportunities for their students. Based on the overall findings of this study, it is concluded that students in both universities and colleges of technical education were averagely knowledgeable about the meaning of students' engagement in instruction, less knowledgeable of the indicators of students engagement in instruction, middle knowledgeable of the factors that influence students' engagement in instruction; and averagely knowledgeable of the interactive learning strategies that foster students' engagement in instruction.

Based on the findings of this study, it is recommended that: a) students' engagement in instruction should be emphasized in capacity building through mentoring and peer collaboration that offer technical teacher education programmed organized within tertiary institutions by government and other stakeholders; b) interactive learning strategies should be incorporated into technical teacher education curriculum; c) technical education lecturers' should be encouraged to employ more interactive learning strategies to promote students' engagement; d) retooling programmed should be put in place for technical education lecturers' on the application of interactive learning strategies to foster students' engagement.

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