**A Critical Perspective on TVET Teachers' Pedagogical Practices: Insights into the Guiding Pedagogical Principles in Practice**

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**Abstract**

This study explores the technical and vocational education and training (TVET) teachers' pedagogical practices and how such practices can help the teachers' use of relevant guiding pedagogical principles in practice in Nigerian TVET system to facilitate quality learning. Employing a three-tiered ethnographic case study approach, we learned how 24 TVET teachers from purposively selected six Nigerian public universities used guiding pedagogical principles in practice to facilitate quality student learning. Focusing on five guiding pedagogical principles in practice identified from the thematic analysis, we analyzed different pedagogical practices that teachers can adopt to facilitate quality TVET learning which include: demonstration of learning, problem-based learning, seeing learners as knowers, active learning, and questioning. Drawing upon the thematic analysis, participants made recommendations for the continuous professional development of TVET teachers to enable them to improve in their use of the guiding pedagogical principles in practice to facilitate quality learning and graduate outcomes.

**Keywords:** TVET, Pedagogical Practices, TVET teaching and Learning,

**Introduction**

Technical and vocational education and training (TVET) is a planned education and training that aims to provide knowledge and skills for productive employment (Hiim 2020; Mbagwu, Chukwuedo, and Ogbuanya 2020). The TVET policy context as contained in the national education policy of the Federal Republic of Nigeria (2014) has been characterized by two complementary themes: the drive for greater social inclusion through developing knowledge, attitudes, and practical skills relevant for gainful employment or self-employment and greater support for students at risk of exclusion; thus, increasing participation in skills development programmes for unemployment and poverty reduction. This study adopts OECD's (2010, p. 149) definition of TVET as "an education program that can have a major impact on economic competitiveness, by helping to produce qualified workers whose skills are relevant to the labour market, preparing the younger generation for work and developing the skills of older workers". The literature has recognized the role of TVET in promoting economic development, expanding employment size and reducing unemployment (e.g., Broad 2016; Köpsén 2014; Okolie et al. 2020a; Zancajo and Valiente 2019). Nevertheless, TVET in Nigeria faces numerous challenges (e.g., low perceptions of TVET programme, low acceptability of TVET, poor funding of TVET programme, inadequate and obsolete teaching resources, low funding of professional development of TVET teachers, lack of qualified TVET teachers, etcetera) that remain at the forefront of public debates (e.g., Ayonmike 2013; Nwogu and Nweanomo 2011; Okolie et al. 2020a; Ojimba 2012; Rufai, Umar, and Idris 2013).

A key priority in these debates concerns the need to improve TVET teachers' pedagogical practices in order to provide insights into relevant guiding pedagogical principles for quality TVET learning (Akinseinde 2004; Yusuff and Soyemi 2012). Teacher pedagogical practices are increasingly recognized as a teacher's multiple teaching strategies that help to address the students' learning needs. It involves instructional approaches such as active learning, constructivist model, student-to-student engagement, etcetera, which enable students to construct learning on their own (Harris and de Bruin 2018). The literature has shown many useful ways to improve TVET programme for quality graduate outcomes, yet a relevant issue remains absent: the role of TVET teachers' pedagogical practices and its implications for guiding pedagogical principles in practice in Nigerian TVET systems. Evidence suggests that TVET learners are more likely to acquire knowledge and develop the right skills for entry to the world of work when the quality of TVET learning improves (Billett 2014; Okolie et al. 2020a; Ojimba 2012), but how relevant is this to debates around TVET teachers' pedagogical practices?

The concept of pedagogical practices has been well research given its centrality to quality teaching and graduate outcomes (e.g., Epstein and Yuthas 2012). When assessed from students' perspectives, innovative pedagogical practices, quality pedagogical practices stipulate the notion of perceived teaching quality, which can motivate learners to construct learning on their own (Debs et al. 2018; Maass et al. 2019; Serdyukov 2017). Pedagogical practices have been associated with many benefits for both teachers (e.g., increased openness and trust, innovation and creativity, student engagement, reflective practice) and students (e.g., deeper learning, increased motivation to learn and opportunity to address students' diverse learning needs) (e.g., Hennessy and Deaney 2009; Starkey 2010). Despite these benefits, we lack adequate insights on the guiding pedagogical principles in practice in Nigerian TVET systems that TVET teachers adopt to facilitate quality TVET delivery. This indicates a crucial empirical gap that should be explored systematically.

Our study seeks to fill the gap, exploring multiple case studies of TVET teachers in TVET departments of Nigerian higher education institutions, to learn the various pedagogical practices and the implications for quality TVET delivery, as well as guiding pedagogical principles in practice in Nigerian TVET systems. This study enriches the literature in many ways. First, it provides deeper insights into the pedagogical practices that TVET teachers adopt for quality delivery of TVET and how such practices can inform relevant guiding pedagogical principles in practice in Nigerian TVET systems. The present study addresses an important research gap, highlighting useful ways to improve quality TVET learning in Nigerian TVET system. However, while this study focuses on Nigerian TVET system, the issues discussed as well as the findings apply to other countries.

**Pedagogical practices in TVET Context**

Pedagogical practices in TVET involves learning by real-life problem-solving, learning through enquiry, learning by critical thinking, learning through virtual environments amongst other things. To improve TVET student learning, effective teaching is essential, and to ensure effective teaching, teachers have to use various innovative pedagogical practices both in classrooms and at workplaces (e.g., Harris and de Bruin 2018). In the current study, we define pedagogical practices in TVET as teachers' actions, practices and approaches to teaching that supports student-centred learning, facilitate critical thinking and deeper learning, align teaching with curriculum, meet the expectations of students and society, focus on quality pedagogy and evaluation of learning outcomes, and enhance inclusive and collaborative learning.

Previous studies have reported the effectiveness of good pedagogical practices (e.g., Epstein and Yuthas 2012) and claimed that teachers can enhance students' deeper learning by making teaching more activity-based. For example, Okolie et al. (2020b: 13) explains that good pedagogical practices include pairing students into "small groups to make meaning of the lessons, supported by the teacher's skill in eliciting information, asking questions to make students reflect on previous lessons, and adopting a problem-based learning approach to encourage students' development of higher-order thinking skills". Other studies added that good pedagogical practices include: using appropriate instructional aides to make teaching more interesting, providing timely feedback to students, initiating classroom activities that can encourage students to believe in their abilities and knowing the relationship between efforts and successes, building good relationships between teachers and students and regularly evaluating teaching effectiveness through feedback and student performance (e.g., Careless 2019; Harris and Bruin 2018; Hussain and Ali 2010). However, this study argues that TVET teachers' ability to adopt these good pedagogical practices can help to improve quality TVET delivery (e.g., Voogt, Pieters, and Handelzalts 2016).

**TVET in Nigerian Context**

In Nigeria, formal TVET programmes are higher education (university, polytechnics and colleges of education technical) and technical colleges (upper secondary education) based (Okolie, Igwe, and Elom 2019; Rufai, Umar, and Idris 2013). According to Okolie et al., 2020a: 2), at technical colleges (upper secondary level) TVET programmes are run in modules, "which include local crafts, computer education, applied electricity, book-keeping and accounting, building construction, auto mechanics, commerce, electronics repairs, clothing and textiles, food and nutrition, painting and decoration, carpentry and joinery, home management, metalwork and fabrication, technical drawing, shorthand, typewriting, and fine art". These course modules prepare learners either for advanced studies into the TVET departments in higher education institutions or to set up small businesses to earn livelihoods and possibly train others. However, at the higher education level (the advanced TVET programme), undergraduate and postgraduate students take TVET courses specifically in eight areas, namely: agricultural education, business education, home economics, woodwork technology, building technology, electrical/ electronics technology, and mechanical/metal works technology (e.g., Ayonmike 2013; Okolie et al. 2020a; Rufai, Umar, and Idris 2013).

At the higher education level, TVET is offered as a fully National Universities Commission accredited course of study from bachelor's degree to PhD degree. Also, TVET is largely taught in the classrooms like every other higher education programme or course of study and in workshops for practical experiments (Okolie et al. 2020b; Okolie, Igwe and Elom 2019; Seyi 2014). At the third year into the TVET programme, the undergraduate students are sent to industry for a six months internship or workplace learning, which is known in Nigeria, as student industrial work experience scheme (SIWES) - an initiative of the Industrial Training Fund of the Federal Republic of Nigeria (Industrial Training Fund 2013). As Okolie et al., (2020a: 2) explains, "master's and PhD degree holders in TVET are usually recruited in the TVET departments of Colleges of Education (Technical) and Universities to teach students who have completed the technical college TVET programmes, while the bachelor's degree holders are employed as workers in industry or technologists in TVET departments of higher education institutions to be in charge of the workshops, practical experiments, tools and equipment and machines." Also, holders of TVET bachelor's, masters' and PhD degrees who are unable to get teaching jobs in the higher education institutions, work in the industry or start-up small businesses to be self-employed and practice in their specialized TVET areas to earn livelihoods. Such TVET practitioners can run apprenticeship centres where people can be trained on relevant vocational skills or offer consultancy services to industries. Overall, TVET in Nigerian higher education institutions lead to the production of crafts trainers, TVET teachers, technicians, and other skilled individuals who can be enterprising, work in industry or be self-employed (Okolie et al. 2020a).

Given that the quality delivery of TVET has been a major priority to TVET institutions, policymakers and employers, particularly, in Nigeria, (Okolie et al. 2020a), it is, therefore, essential to explore the TVET teachers' pedagogical practices to understand how such practices can facilitate. Specifically, this study addresses the following research questions:

1. What pedagogical practices can TVET teachers adopt for quality learning?
2. How can TVET teachers plan their pedagogies focusing on innovative pedagogical practices for quality learning?

**Methodology**

This study adopts ethnographic case study approach (e,g, Fusch, Fusch and Ness 2017; Hughes et al. 2017; Reeves et al. 2013), which enables interpretation of a real situation from the perspective of informers in the study (Dowlatshahi 2010). We adopted ethnographic case study approach on the notion that it enables clearer interpretation of information gathered during the case study (i.e., direct observation of how TVET teachers apply various pedagogical practices to facilitate student learning). However, we employed a three-tiered ethnographic case study approach: first, purposive research (Denzin and Lincoln 2005) was adopted for the case study selection process. To be selected, the TVET teachers agreed to participate in the study and they met the requirement (at least 10 years of teaching experience in the higher education TVET department). Second, observational fieldwork involving the research team spending 53 days in the classrooms and workshops alongside the TVET teachers and learners, taking a full part in the teaching activities. Third, semi-structured interviews with a selected number of TVET teachers from the same sample of TVET teachers in the current study were conducted to substantiate information collected through the observational fieldwork (field notes) (e.g., Fusch, Fusch and Ness 2017; O'Sullivan, Robson, and Winters 2019). We employed the following five well-established methods of an ethnographic case study, to offer experiential approaches to understanding certain cultures (e.g., De Castro, Khavul, and Bruton 2014; Fusch, Fusch, and Ness 2017; Hughes et al. 2017):

***Step 1:* *Case study selection, site and informant Selection***

Drawing on Fairhurst and Good's (1991, p. 17) assertion, "the ethnographic case study should centre around people and worksite. The site and informant should be selected for field observations." The case studies were selected based on the areas of specialization in the TVET system of Nigerian higher education. The cases represent TVET teachers in the purposively selected six Nigerian public universities that offer TVET programme from bachelor's degree to doctorate. Purposive sampling technique (Denzin and Lincoln 2005) was used in selecting the six public universities (sites). The choice of selecting the public universities is on the notion that they admit more students in TVET programme and have produced several TVET graduates. Secondly, we invited 37 TVET teachers who handle courses in each of the areas of TVET specialization in the selected public universities through face-to-face contacts; explained the aim of the research to them and allowed them time to declare their interest in the study. They were assured of anonymity and confidentiality. After 4 weeks, 29 of the 37 teachers accepted to participate in the study. Applying purposive sampling technique, we selected only 24 of the 29 TVET teachers (informants; 18 males, 6 females; between the ages of 42 to 61; from the rank of senior lecturers) to participate in the current study. Table 1 summarizes the information about the cases.

**Table 1: Case Studies**

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| **Case 1**  A TVET teacher (Professor)  Area of specialty: Building/Woodwork Technology  11 third-year students  Classroom lesson | **Case 2**  A TVET teacher (Senior lecturer)  Area of specialty: Agricultural Education  21 fourth-year students.  Classroom lesson |
| **Case 3**  A TVET teacher.  Area of specialty: Electrical/Electronic Technology  16 fourth-year students  Workshop practical lesson | **Case 4**  A TVET teacher (Senior Lecturer)  Area of specialty: Building/Woodwork Technology  7 third-year students  Workshop practical lesson |
| **Case 5**  A TVET teacher.  Area of specialty: Metalwork Technology  6 second-year students  Tools and equipment handling lesson | **Case 6**  A TVET teacher.  Area of specialty: Business Education  34 fourth-year students  Computer laboratory practical lesson |
| **Case 7**  A TVET teacher.  Area of specialty: Business Education  44 second-year students  Classroom lesson | **Case 8**  A TVET teacher.  Area of specialty: Metalwork Technology  13 third-year student  Tools and equipment lesson |
| **Case 9**  A TVET teacher.  Area of specialty**:** Home Economics  31 second-year students  Laboratory practical lesson | **Case 10**  A TVET teacher.  Area of specialty: Agricultural Education  33 third-year students  Agricultural farm practical lesson |
| **Case 11**  A TVET teacher.  Area of specialty: Building/Woodwork Technology  6 fourth-year students  Workshop practical lesson | **Case 12**  A TVET teacher.  Area of specialty: Building/Woodwork Technology  9 third-year students  Classroom lesson |
| **Case 13**  A TVET teacher.  Area of specialty: Home Economics  33 second-year students  Classroom lesson | **Case 14**  A TVET teacher.  Area of specialty: Electrical/Electronic Technology  19 third-year students  Workshop practical lesson |
| **Case 15**  A TVET teacher.  Area of specialty: Metalwork Technology  11 fourth-year students  Tools and equipment handling lesson | **Case 16**  A TVET teacher.  Area of specialty: Electrical/Electronic Technology  8 fourth-year students  Tools and equipment handling lesson |
| **Case 17**  A TVET teacher.  Area of specialty: Agricultural Education  23 second-year students  Classroom lesson | **Case 18**  A TVET teacher.  Area of specialty: Home Economics  20 second-year students  Laboratory practical lesson |
| **Case 19**  A TVET teacher.  Area of specialty: Home Economics  28 second-year students  Classroom lesson | **Case 20**  A TVET teacher.  Area of specialty: Building/Woodwork Technology  7 third-year students  Workshop practical lesson |
| **Case 21**  A TVET teacher.  Area of specialty: Electrical/Electronic Technology  14 third-year students  Workshop practical lesson | **Case 22**  A TVET teacher.  Area of specialty: Home Economics  22 second-year students  Classroom lesson |
| **Case 23**  A TVET teacher.  Area of specialty: Metalwork Technology  5 fourth-year students  Workshop practical lesson | **Case 24**  A TVET teacher.  Area of specialty: Business Education  37 third-year students  Computer laboratory practice |

**Note:** In Nigerian HEI system, TVET's core areas of specialization include electrical/electronic technology, metalwork technology, business education, building/woodwork technology, home economics and agricultural education.

***Step 2:*** *Identifying research questions*

Following Strauss and Corbin's (1990) step, we identified two research questions to guide the field research, and we established the research questions from the literature on the TVET teachers' pedagogical practices for effective curriculum implementation.

***Step 3:*** *Direct observation and field notes*

Building on ethnographic case study data collection techniques by Jackson (1990), we employed direct observation to inspect how TVET teachers handled their classes such as to facilitate student learning. We observed the following: classroom lessons, workshop practical lessons, computer laboratory practice, tools and equipment handling, agricultural farm/practical lessons, and home economics laboratory practical lessons. During the observation (fieldwork), we ensured that every step taken by the teachers during the teaching and learning processes were clearly understood. In most cases, further questions like, *is that what you meant? Do you mean to say that…?, etc. were asked* to the TVET teachers for clarity (e.g., Rubin and Rubin 2012). The process of confirming information from the TVET teachers helped to avoid researchers' perspectives and bias, and to validate meaning in order to avoid words misuse and ensure that observers did not leave gaps in understanding the phenomenon (e.g., Onwuegbuzie, Leech and Collins 2010). To avoid misunderstanding the fieldwork process; experienced TVET graduates served as observers and helped to take notes (e.g., Abolafia 2010). We, however, assembled the observation notes and personal notes (field notes) during the observation phase of the data collection (e.g., Holloway, Brown, and Shipway 2010) to capture what was observed and heard, and to write ideas that reoccur during the fieldwork (e.g., Walford 2009).

***Step 4:*** *Interviews*

Drawing on Fusch, Fusch, and Ness's (2017) guidelines on ethnographic case study interviews, 15 of the 24 TVET teachers (informants) who were observed during the fieldwork were purposively selected for further interviews. The motive for conducting interviews was to ask further questions through face-to-face methods to the informants. This process helped to ask the 'how, what, or why questions' to elicit substantial information (perspectives, thoughts, opinions) from the TVET teachers who were observed (e.g., Rubin and Rubin 2012). Also, through this medium, it was easier to discuss concepts, questions, and gain clarification from the field notes and observations.

While the fieldwork was ongoing, the TVET teachers were intermittently interviewed in their offices at convenient times. This helped to reinforce our role in the study (e.g., Onwuegbuzie, Leech and Collins 2010). To avoid bias, we tried not to project our ideas. The informants were allowed to express their views and to discuss the issues thoughtfully. Also, interview protocol, which guided the semi-structured interviews with the TVET teachers was established and implemented to mitigate bias and miscommunication (e.g., Abolafia 2010). Some of the questions asked during the interviews include: please, can you explain what you know about pedagogical practices in TVET learning? What pedagogical practices do you use to facilitate student learning? How do you plan pedagogies for quality TVET delivery? How do you focus on vocational learning methods to plan your teaching? The interviews helped to ensure triangulation of data from observations conducted. However, we acknowledge that it is difficult to completely rule out bias because of individual differences, but adequate efforts were made to mitigate it (e.g, Abolafia 2010; Onwuegbuzie, Leech and Collins 2010). Interviews lasted an average of 49 minutes. Upon the participants' consent, all interviews were recorded using an electronic device.

***Step 5:*** *Coding and generating themes*

Drawing on Braun and Clarke's (2006) idea of thematic analysis and coding, where analysis is driven by research questions, major categories were drawn up and then broken down into interlocking concepts that captured the essence of the overarching category. We transcribed the recorded field notes and interviews data verbatim. The transcript was coded using Nvivo-12 Plus to search for reoccurring issues which were turned into themes. Through the thematic analysis, which focused on answering the earlier proposed research questions, interesting themes where identified. Illustrative quotes and short stories about how TVET teachers' pedagogical practices facilitate quality TVET delivery and student learning were presented through the themes.

**Findings**

From the data analysis, we concluded that the TVET teachers' ability to facilitate quality learning through innovative pedagogical practices depended on what they perceived as guiding pedagogical principles in practice in Nigerian TVET system. From the analysis, we identified five guiding pedagogical principles in practice in Nigerian TVET system which includes; demonstration of learning, problem-based learning, seeing learners as knowers, active learning, and questioning. However, the analysis shows that there are some of the participants who adopt traditionally planned pedagogical approaches. We defined guiding pedagogical principles as principled approaches toward improving the quality of TVET teaching to facilitate students' deeper learning and development of the right skills. Guidingpedagogical principles in practicein the study context is about how TVET teachers can present their teachings to learners using challenging pedagogical practices to align with the learners' needs and cultures. From the data analysis, it appeared that the TVET teachers' major concern was to achieve their pedagogical principled approach during TVET instructional delivery. In line with the participants' views, the guiding pedagogical principles in practice can impact learners' perception, encourage collaborative and deeper learning to enhance graduate outcomes. Also, it enables the TVET teachers to engage in the process of constructing quality learning materials and associated activities in a way that will enact sound principles of pedagogy. The TVET teachers pointed out that through these guiding pedagogical principles, they can choose quality teaching resources, design better teaching and learning activities that use such resources and support such teaching and learning activities while they take place.

These guiding pedagogical principles have been largely in practice by TVET teachers in the present study to facilitate student learning in Nigerian TVET system. These guiding pedagogical principles inform the TVET teachers' choice of pedagogical practices or approaches, and there appeared to be overlaps between the guiding pedagogical principles identified and the views of the teachers. This can be seen in the following excerpt:

*Through these guiding pedagogical principles, I set clear goals…produce quality teaching contents that directly impact on the quality of student learning outcomes…, together with assessments, marking criteria and assignments to motivate and inspire my students. This has helped me in ensuring quality TVET delivery and student learning* (Case-17).

This TVET teacher's explanation was analysed as a principled approach aimed at improving quality TVET delivery and learning. The teachers' pedagogical approach may support student-centred learning approach which focuses on learners; facilitate critical thinking and deeper learning, boost students' interests and aspirations, facilitate group or independent problem-solving. This pedagogical practice addressed what kind of guiding pedagogical principles would best fit students to enhance quality learning and development of right skills. The teachers' ability to align with the identified guiding pedagogical principles is a factor in planning lessons and teaching to ensure quality TVET delivery and student learning.

***Pedagogical Principle 1:******Demonstration of Learning***

Some of the participants emphasized encouraging students to *demonstrate their learning.* They viewed this as a pedagogical practice that offers supports and encouragements to students' development of skills. The participants who frequently adopted this practice explained that it helped their students to present what they've learned in order to determine whether they have achieved expected learning outcomes or skills mastery. This is clearer from the following excerpt:

*I mostly adopt learning by watching and imitating approach (demonstrating learning). I make my students create and demonstrate drawings and designs of the type of building structures they can develop on their own. My class is usually very interactive…and I make my class very challenging. This helps my students to demonstrate learning through active participation* (Case-23).

This participant expressed an encouraging approach in which he makes students demonstrate their learning. This pedagogical practice helped many TVET students to construct learning on their own through watching their teacher and peers and demonstrating skills mastery for work:

*It has become a tradition in my class to make my students* *learn by practising (trial and error) and to make them demonstrate what they've learned. It takes a high-quality guiding pedagogical principle in practice to succeed with this sort of teaching* (Case-13).

Our field notes suggest that the majority of the learners need their teachers to confirm that they can demonstrate what they've learned correctly. For example, during workshop practical experiments, many students relied on their teachers' slight push to be convinced that they are doing things correctly. The participants that adopted this pedagogical principle in practice pointed to the need for TVET teachers to adopt learning by practising practice during classrooms, laboratories, workshops or workplaces learning as this can help them to develop quality models to match the learning needs of students. Also, our field note shows that participants who used encouraging words or showed faith in the learners' learning abilities were more successful in having the learners demonstrate their learning than those who do not:

*Understanding a new concept and developing that concept is also not easy. Learners need to know that their teachers are ever willing to assist them. I do tell my students words like; yes, I am convinced that you can fabricate this metal object…it's no big deal…even though that you're having difficulty…I am here to guide you. Show me what you can do* (Case – 23).

While this particular participant explained learners' academic encouragement needs in order to demonstrate their learning, it appeared that students' confidence in their learning is highly linked to the degree of the TVET teachers' guiding pedagogical principles in practice.

***Pedagogical Principle 2: Problem-Based Learning***

While some of the participants emphasized the benefits of encouraging learners to demonstrate their learning*,* the pedagogical principle "*problem-based learning"* refers to real-life projects involving problem-finding, problem-solving and critical discussion in circumstances which encourage learners to co-operate and collaborate in problem-finding, problem-solving and critical discussion. Our field notes suggest that a good number of the participants allowed their students to work in groups to brainstorm in order to solve real problems. One of the participants described these as:

*[…] an essential guiding pedagogical principle in practice that TVET teachers can use to improve learners' self-efficacy, reduce surface learning, enhance mastery of skills and facilitate learning by real-world problem-solving* (Case-17).

This participant reported a need for TVET teachers to plan their teaching such that learners can identify real-life problems and then ask questions, make inquiries to discover solutions through critical thinking and deeper learning. Our field notes suggest that learners have different levels of learning abilities, in that some learn faster, while others learn slowly. Therefore, TVET teachers who adopt this pedagogical practice tend to help every student despite their levels of learning abilities to improve different skills and to learn through inquiry:

*It is difficult to adopt problem-based approach considering the nature of the academic system we run in Nigeria… but, I can tell you that the benefits outweigh the stress in using such a guiding pedagogical principle in practice. For example, many of my students who have learning difficulties significantly do better when I adopt this approach* (Case-11).

As in the excerpt above, a problem-based learning pedagogy can significantly improve learners' academic progression and skills mastery despite the students' level of learning ability. Our findings suggest a need for TVET teachers to research further into the use of this guiding pedagogical principle in practice to develop more innovative strategies for applying it during TVET teaching to enhance quality learning outcomes.

***Pedagogical Principle 3:* *Seeing Learners as Knowers***

As participants noted, this approach encouraging students to seek help from and offer help to one another (co-students). Our field notes show that some of the participants adopted this pedagogical approach can organize their teaching activities such that learners can depend on each other to acquire certain knowledge and develop skills. For example, seeing learners as knowers pedagogical approach helped the participants to divide their classes into smaller groups and give learners group assignments to encourage the sharing of ideas. In most cases, the participants reviewed the group assignments by asking questions like, what has your group done regarding your assignments? Have you discovered any new thing? Are all the group members fully participating in the assignments? The field notes suggest that this learning approach appeared to be effective where participants carefully planned the teaching and tried to ensure that learners adhere strictly to the planned pedagogical approach:

*One thing I always have in mind while planning my teaching is that all students are not fast learners… some students can't even share their views openly in the classroom… so, I consistently use the seeing learners as knowers pedagogical approach* *to make all the students share their views or answer questions due to low self-esteem or fear of interaction in groups* (Case -2).

In the above excerpt, the participant adopted the pedagogical approach to help learners who have low self-esteem to develop self-efficacy and easily communicate their answers or views to topics of discussion among their peers to construct learning. As the participant explained, a guiding pedagogical principle in practice that is driven by seeing learners as knowers supports learning through conversation and competing, and can improve quality learning outcomes and students' skills mastery.

***Pedagogical principle 4: Active learning***

The participants explained that designing teaching which involves and encourages and maximizes active learning discovery learning and trial and error is an important pedagogical practice that TVET teachers can adopt to facilitate quality student learning. Our field notes suggest that some of the participants frequently draw the attention of learners to some of the learners who usually perform better. The teachers' motive was on the notion that such reference might lead learners to learn from their peers. These participants appeared to believe that reviewing and referring to other learners' works can motivate their peers to learn. The participants felt that students can learn even faster and better when their peers explain ideas to them:

*I mostly adopt active learning pedagogy…I have seen that through this approach, slow learners among my students often pick-up faster. So…, while planning my lessons, I include activities that challenge students to construct learning on their own. This makes them to further discuss the subject of study with their peers. I have seen a significant improvement in their cognitive development* (Case-20).

This participant explained the advantages of using an active learning approach to facilitate students' understanding of concepts to higher levels. The participant appeared to encourage other colleagues to adopt this pedagogical practice to motivate students to work collaboratively with their peers, give and receive feedback and evaluate their own learning. One of the participants explains:

*I discovered that when I teach some new topics or concepts, some students do not easily understand…but when their peers who understood me to explain the same thing to them, they tend to learn quicker* (Case – 3).

Drawing on the above excerpt, we argue that TVET teachers who adopt active learning approach during TVET delivery would to an extent facilitate deeper learning by encouraging learners to delve deeper to construct learning on their own. This encourages taking responsibility for their own learning and learning how to learn. Also, our field notes suggest that the TVET teachers use this important pedagogical approach in addition to the range of other innovative teaching and learning approaches presented in this study that can facilitate students' development of skills and acquisition of knowledge.

***Pedagogical Principle 5: Question and Answer Approach***

Participants explained that they use questioning and dialogue during TVET delivery to ensure that all learners can take part by walking through multi-layered and complex questions together with students working in small groups and then sharing their ideas. Our field notes suggest that some of the participants mostly allowed more time for questions and answers during TVET delivery. The participants often welcomed questions in which students were usually allowed to attempt instead of the participants giving straight answers. The participants noted that through this guiding pedagogical principle in practice, learners became highly participatory in teaching and learning, and asked how to do new things, which enhanced learning:

*Question and answer practice help to boost students' participation and encourage quality learning. I keep in mind the goal of my course when planning questions that I will ask during lessons. I make the questions open-ended such that students can think deeper, walkthrough multi-layered and complex questions to communicate new ideas* (Case-7).

This participant's narrative explains the importance of using a question-and-answer approach during TVET instructional delivery to engage learners and create a stronger discourse in the subject of study. Our field notes show that the participants often refrained from answering any of the questions rather, clarified issues if students had misconceptions or shared poor views regarding the questions:

*Yes…I know that my students may not be accurate and specific in their answers most times, but this approach has helped students to stay focused, build interests in the subject of study and experience deeper learning* (Case-7).

The above excerpt shows that adopting a well-planned pedagogy that creates thought-provoking questions in order to motivate learners to think deeper to provide new ideas or answers can help learners to reflect on previous topics learned and learn through enquiry.

***Traditionally Planned Pedagogy***

The analysis shows that some of the participants predominantly adopt the traditionally planned pedagogical approach in which they direct their students to learn through memorization and recitation techniques. We observed that in this planned pedagogical approach, learners usually keenly listen to teachers who transfer the knowledge to them. In many cases, learners were allowed to copy notes while in some cases; they were given some photocopied lecture notes to duplicate afterwards. Many of the participants pointed out that TVET delivery in Nigerian higher education system is largely classroom-based, which makes the teaching mostly theory-based instead of more practical-based. While other TVET teachers adopted the identified guiding pedagogical principles in practice to facilitate quality learning, eleven of the 24 cases studied adopted the traditionally planned pedagogical approaches as best fit for learners. From the **data analysis, we found these participants' reasons for relying on the traditionally planned pedagogical approaches.**

**The results of the analysis show that the eleven participants were mainly concerned about demonstrating that they are the primary information givers to learners rather than facilitators of knowledge and learning. These could be seen through the pedagogical practices they adopted which made learners participate passively during their teaching. This is clearer from one of the participant's view:**

***As you know, I am a lecturer…this means that I give the students information contained in the curriculum while they do their best to learn* (Case-5).**

**Another participant narrates:**

***The truth is that our TVET programme contains far too many theory-based courses with an insufficient number of practical exercises… even the practical experiments are sometimes not conducted due to unavailability or inadequacy of the required tools, machines and equipment. So, I rely mostly on my lecture notes to deliver my lectures* (Case-14).**

**Our field notes show that in most cases, students do not have time to ask real-life questions that help them to learn more during these participants' classes. The classes usually run for 2 hours of intensive note-taking with fewer explanations. Our field notes suggest that students were usually not formed into smaller groups or engage in certain activities that can motivate them to delve deeper into researching solutions to real-life problems to make meaningful contributions and reflect on what was taught. A participant further explains:**

***I have taught this course for many years….and I have consistently used this same lecture note or material for the course. I do make some few changes…like updating the lecture notes. Yes…students make photocopies of the notes to read and they must come to class with the lecture notes* (Case-8).**

**Our field notes show some of the participants (i.e., Cases – 5, 1, 9, 4, 24, 8, 10, 12, 18, 14, and 19, that adopted the traditionally planned pedagogy) predominantly adopted lecture method of teaching and they hardly updated their lecture notes, which they had been using to teach the same courses to new TVET learners every year. Also, these participants do not use any electronic devices to aid teaching. Classes were usually done analogue, learners sit, listen and write down notes while these participants do the talking or reading from the lecture notes. These participants acted** as the primary **information givers, which made learners learn by listening, transcribing and memorizing in order to pass the end of the semester examination for upward promotion to the next level. However, our field notes suggest that while the traditionally planned pedagogy has been adopted by these eleven participants, learners do not collaborate with peers, communicate skills maybe bored and not have opportunity to construct learning on their own. Also, we found that these eleven participants relied more on textbooks for their teaching and teaching preparation, for example, one of the participants explained:**

***[…] how can I prepare my lecture notes without consulting the textbooks? There are some of the topics that may be confusing…so, textbooks help* (Case – 9)**

**Another TVET teacher among the eleven participants explained:**

***I simply tell students to read it up in their textbooks…if you don't have the textbook, borrow from others* (Case- 24).**

**This '**relying more on textbooks', however, was described by a participant as:

A means of covering-up one's teaching inexperience or incompetence (Case- 14)

This participant's position is clearer in the following excerpt below:

Sometimes, teachers may be assigned some courses that they have little knowledge or competence to teach. They simply accept this just to keep their ego or job…so, the only way to survive is to rely completely on textbooks (Case-19).

This participant expressed that the TVET teachers who do not own-up to their incompetence in teaching some of the courses assigned to them tend to rely completely on reading textbooks in their classes. Our field notes suggest that this pedagogical approach does not facilitate students' deeper learning and open inquiry, rather, it promotes learning by listening and memorizing instead of constructing learning to facilitate skills mastery. It makes learners to often focus on writing what the teachers read out from textbooks instead of developing new ideas. The following excerpt explains further:

Sometimes, I enter the class…, read some chapters that I want the students to cover…I try to make some explanations and then encourage them to read-up the remaining chapters (Case- 16).

The above excerpt shows that learners whom teachers often adopt the traditionally planned pedagogy see their teachers as suppliers of knowledge while they passively received the knowledge with little or no emphasis on skills mastery - a perception that limits students' deeper learning.

**Discussion and Conclusion**

This study explored TVET teachers' pedagogical practices and how such practices can facilitate quality TVET delivery and learning. Fieldnotes (classroom observations) from the 24 cases in the study helped to construct semi-structured interviews (e.g., Eriksson, Boistrup and Thornberg 2017) to elicit in-depth information from participants about their pedagogical practices for quality TVET delivery and learning in Nigerian higher education-based TVET system. The analysis of the participants' reports enabled us to generate a set of guiding pedagogical principles in practice in Nigerian TVET system which was mostly used by the TVET teachers in the current study for quality TVET learning. Five main guiding pedagogical principles in practice including; demonstration of learning, problem-based learning, seeing learners as knowers, active learning, and questioning were considered to be largely practised by the participants for quality TVET delivery in a typical Nigerian higher education TVET classroom. The participants' main concerns were to ensure the quality of TVET graduate outcomes. However, the results show that eleven of the twenty-four participants adopted traditionally planned pedagogical approach which shows from analysis to have less impact on TVET learners' deeper learning. The findings of the present study contribute to the field by offering a framework for more studies on TVET teachers' reasons for their choice of planned pedagogies, and how their choices of planned pedagogies affect learners' skills mastery.

These reported guiding pedagogical principles in practice highlight the participants' level of awareness of the impact that their pedagogical practices may have on learners. This awareness level was shown in their illustrations and quotes on the types of pedagogical practices they adopted during teaching. The findings show that of the 24 cases studied; only 13 regularly adopted these five guiding pedagogical principles in practice during TVET delivery. The findings also show that learners were actively engaged and experienced deeper learning which facilitated the acquisition of new knowledge and skills development through the teachers' use of these guiding pedagogical principles in practice during classes. These participants mostly used the five pedagogical approaches to facilitate students' acquisition of knowledge and development of skills. These findings are in agreement with Okolie et al. (2020a) that adopting quality teaching techniques during TVET delivery boosts learners' interests in constructing learning and developing the right skills for future work.

Of the 24 cases studied, 11 predominantly adopted the traditionally planned pedagogical approach during TVET delivery. The findings show an overlap between teachers' use of any pedagogical approach and learners' understanding of their rights to learn. Our findings show that learners whom their teachers were taught using the traditionally planned pedagogical approach were made to perceive their teachers as the centre of knowledge and information that are in charge of learning. As the findings show, such perceptions limited the learners' motivations and abilities to learn how to learn on their own to master new skills. As Muijs and Reynolds (2005) have explained, teachers have to understand the best pedagogical approach to use in order to motivate student learning as learners who are bored due to teachers planned pedagogical approach may likely feel less interested in learning and disrupt learning. Our findings assume that participants who had acted as primary **information givers** or relied more on textbooks for teaching TVET courses may have less impact on learners. Drawing on the findings of this study, it appears that the use of the traditionally planned pedagogical approaches undermines the aim of TVET.

Our findings have implications for higher education-based TVET administrators, TVET curriculum planners, policymakers, TVET scholars and practitioners who are working towards improving the quality TVET delivery and learning in Nigeria and other countries. It is important to acknowledge that while this study was conducted in Nigeria, the issue addressed applies to other countries. Also, while the TVET teachers in this study had good intentions of delivering quality TVET learning using various pedagogical approaches, the findings show that sometimes, teachers may not understand the negative impacts that their pedagogical approaches may have on learners, since many of the TVET teachers appeared not to be adequately trained to use the guiding pedagogical principles in practice. Therefore, we suggest that the Nigerian higher education TVET system should invest on the professional development of TVET teachers to enable them to develop quality pedagogical competencies, be able to continuously adopt and improve these guiding pedagogical principles in practice in TVET delivery for quality learning. Also, this suggestion agrees with Dwyer's (2001) assertion that quality teaching and learning are highly enhanced when the teacher can use quality teaching approaches to meet the learners' expectations.

**Limitations and suggestions for further research**

In this ethnographic case study, the small sample size limits the transferability and generalizability of the findings. However, future research can use a quantitative research approach to include a larger sample of TVET teachers in Nigerian higher education institutions and from other developing countries. Another limitation is that the findings do not provide information on why TVET teachers chose certain guiding pedagogical principles in practices, but a constructed conceptualization of how TVET teachers' pedagogical practices can facilitate quality TVET delivery and learning. Future research can investigate TVET learners' perspectives on their teachers' planned pedagogies regarding their skills development. We hoped that the findings of this study will create opportunities for more studies on improving TVET teaching and learning in developing countries, particularly, Nigeria.

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