

ADOPTING EXPERIENTIAL LEARNING FOR EFFECTIVE TEACHING AND LEARNING OF TECHNICAL AND VOCATIONAL EDUCATION FOR SUSTAINABLE DEVELOPMENT

Dr. Catherine Oluyemisi Sanusi

Office of the Special Adviser to the Governor on Technical, Vocational Education and Training [TVET], Governor's office, Abeokuta, Ogun State
catherinesanusi@gmail.com

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Dr. Afolabi Olubela

Department of Arts & Social Sciences Education (ASSED)
Faculty of Education,
Olubisi Onabanjo University, Ago-Iwoye, Ogun State
afolabi.olubela@oouagoiwoye.edu.ng

Abstract

Poverty and graduate unemployment are two of the major issues in Nigerian sustainable development discourse. World Bank statistics observed that the number of poor people in Nigeria was 89.0 million in 2020, and risen to 95.1 million in 2022. This means that 6.1 million more Nigerians have fallen beneath the poverty line between 2020 and 2022. In 2022, the Bureau of Statistics puts the figure of unemployed youths in Nigeria at 52,373,932 (42.91%) which by all standards is very high. Meanwhile, since June 2023, the impact of fuel subsidy removal is another serious challenge. Hence, there is need to reinvent the wheel by repositioning technical, vocational education through innovative models such as experiential learning strategies. World over, technical, vocational education has been a formidable tool for economic recovery and catalyst for job creation and social emancipation. However, if not well taught through innovative strategies it will not achieve the intended outcomes as being observed in many school subjects. Hence, experiential learning model offers greater learning opportunities for technical, vocational education. Experiential learning is a process by which knowledge results from different combinations of grasping and transforming experiences, and students will be provided with relatable and relevant materials. They will also be provided with multiple ways of interacting with the new information from various perspectives, and be active in learning by doing, designing, creating, reflecting, analyzing, evaluating, generating, and suggesting solutions. With these, teaching and learning effectiveness will be guaranteed which would significantly enhance students' job creation capacity for economic sustainability.

Keywords: Experiential Learning, Graduate Unemployment, Poverty, Technical and Vocational Education

Introduction

Unemployment rate in Africa has been described as one of the highest in the world. This has been connected to various social issues such as high insecurity, terrorism, criminality, drugs and addiction, dropout rate, incivility, illicit sexual behaviour, and voter apathy to mention a few. Apart from the social dimensions, the huge and uncontrollable graduate unemployment in Africa has also been attributed to large economic effects among which are poverty, cybercrime,

low productivity and increased mortality while all ages of the population are affected by different types and effects of unemployment, graduates are more affected as than the adults.

Though, researches have highlighted some political and government-oriented issues in unemployment, yet the current university curriculum has been seen not to be at par with the expectations, directions, and interests of the local industries. Industries in the recent years have shown that young graduates lack the basic and required production acumen, quantitative skills, and leadership capabilities. These studies adopted a descriptive survey design using structured questionnaire to elicit responses from the industries in public and private sectors, recent university graduates, and the current undergraduate students in four universities in 'Southwest Nigeria.'

Experiential learning is considered to be a progressive method of instruction that affords students an opportunity to generate a deeper understanding of lecture topics by working on course-related issues that when resolved, benefit their local communities (Williams, 2016). Many researchers have explored the origins and evolution of experiential learning in its various forms, and the literature is ripe with excellent reviews, and position papers covering how fundamental experiential learning theory and practice has changed with time. Students often want to know how to apply theories and lessons from their courses to 'the real world.' Experiential assignments give students a chance to learn-by-doing through recognizing strengths, learning from mistakes, and how to become more skillful learners.

Experiential learning requires the active engagement of the students as well as the instructor who serves as the facilitator of the learning process. It is intended to be an active, dynamic alternative to traditional classroom instruction that should be interactive and collaborative for those involved. However, creating a learning experience that is informative, memorable, and transformative can be a challenge in a traditional classroom. Practice courses can be a natural fit for team-based and transformative learning since they reinforce skill development (Hessenauer and Zastro, 2013), but this pedagogy can be effectively integrated into a broad spectrum of courses.

According to Stephanus, Fajar Pamungk, Indah Widiastuti and Suharno (2019) Kolb [1984] divided learning styles into four types: *First*, diverging [feeling and seeing] means that students prefer to see rather than act and tend to gather information and use imagination to solve problems. *Second*, assimilating [seeing and thinking] means that students prefer to form idealism. Kolb argues that one of the greatest abilities of assimilators is to create a theoretical model in assimilating different observations into integrated explanations. *Third*, converging [thinking and doing] means that students have the ability to overcome practical problems and have advantages in attitude and decision making. *Fourth*, accommodating [feeling and doing] means that students prefer to experience events directly by handling problems and by utilizing their own or other people's experience analysis, conducting simple experiments because they are risk-taking.

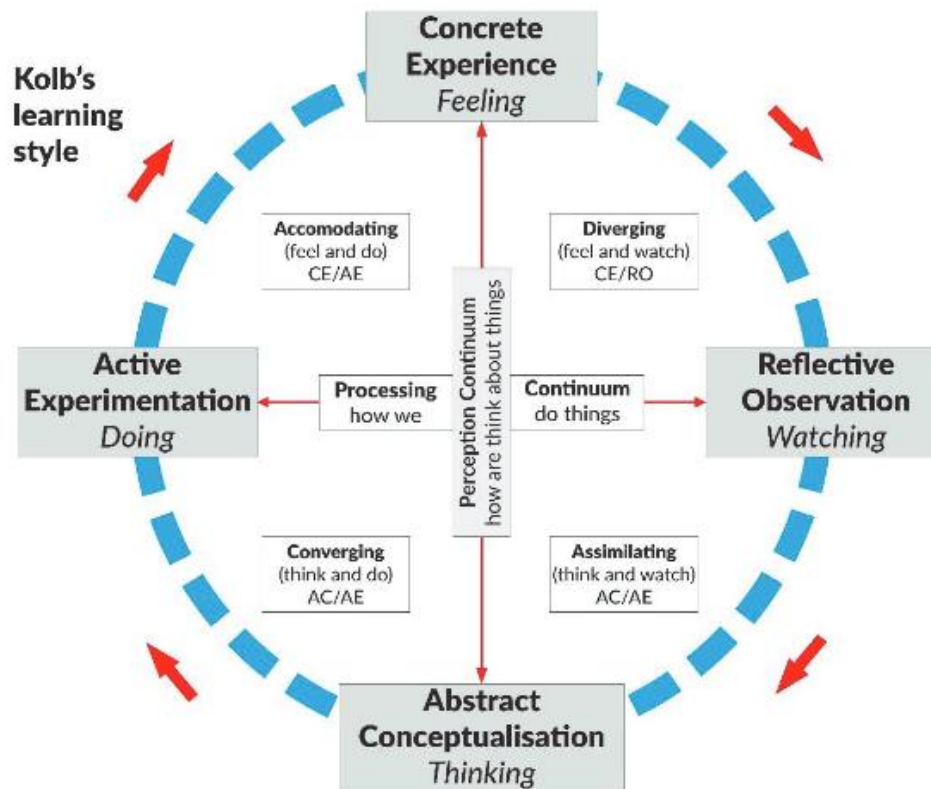


Figure 1: The Learning Model of Experiential learning at Kolb's Learning Styles

Experiential learning includes several steps as a process of transformational learning. This ensures the students integrate the content as well as their own experiences and growth into the learning.

- i. **Experiencing, Exploring and Doing:** Students will actively engage in a learning activity with the instructor serving as a mentor in the process.
- ii. **Sharing and Reflecting:** This step is revisited throughout the process to encourage students to observe and reflect on their experiences, and their reactions to the experience with others in the class or group.
- iii. **Processing and Analyzing:** Students are allotted time in the class to process their experience, and reflections relating them to the process, dynamics, themes, challenges, and successes as well as lessons learned thus far.
- iv. **Generalizing Lessons Learned to Life and/or Their Profession:** This is an important step which may occur throughout, or at the end of the project for students to relate their experiences with connections to real life, and/or their future profession.
- v. **Application of Lessons Learned:** Students will share how they will apply the lessons learned via skills, values, insights, and/or knowledge to their future, and their profession. For some students, this is recognition of the transformation of themselves, their identities, and a greater connection to their profession.

Experiential Learning Theory as a Theoretical Framework

David Allen Kolb is an American Psychologist and Educational theorists who is perhaps best known for his theory of experiential learning. In addition to developing a theory that outlined how experiential learning takes place, Kolb is also known for his learning style inventory that remains quite popular among educator today. Experiential learning is learning by being involved in experience. Kolb (1984, p. 41) defines EL as a learning method that is based on "learning-by-doing, experiencing, and reflecting". Kolb (1984, p. 41) further notes that ELT

perceives learning as “the process in which knowledge is created through the transformation of experience, knowledge results from the combination of grasping, and transforming experience”. So, EL is a collection of teaching-learning strategies that empower students to become actively involved in practical activities through doing. The strategies entail helping students to connect the learning from the real-world situation by applying the ideas, concepts, and theories to the interactive setting (Greene, 2011). In connection with the present study, the argument is that by participating in real-life activities during skills development young people can transform the knowledge learnt from the classroom, and training manuals into their understanding.

The core characteristic of skills development is learning by doing, experiencing and reflecting. For the skills acquisition to happen, learning must be characterized by learning by doing or hands-on learning. Kolb (1984) developed the “experiential learning cycle” with four stages of learning which are relevant to the process of skills development. All four stages are important for active learning to happen, though there is no order for the starting of the stage of the cycle (Herod, 2012).

- i. **Concrete experience (CE):** This stage entails exposing students to experience tangible matters. The stage consists of motivating students to participate in active learning instead of passively receiving information from a facilitator (Herod, 2012; Kolb, 1984). To acquire new knowledge and skills, they participate in real-life activities, or actions while the facilitator, or practical mentors guide them in the process of gaining concrete experience.
- ii. **Reflective observation (RO):** After the involvement in concrete experience during this stage, students reflect on the experience to develop new skills, or new ways of thinking (Kolb, 1984). The stage comprises thinking critically about the experience. The student thoroughly reflects on that experience (Kolb *et al.*, 1999) by noticing what happened, and relating to experience and conceptual understandings.
- iii. **Abstract Conceptualization (AC):** During this stage, students connect the experience to the theory, or concepts learnt from textbooks, or in the classroom (Kolb *et al.*, 1999). The task is for the students to conceptualize a theory from what he/she observed during the experience.
- iv. **Active experimentation (AE):** This stage consists of applying the new knowledge, and skills in real-life situations, and new workplace conditions (Kolb, 1984; Kolb *et al.*, 1999). To accomplish this stage, the students will test a theory, or plan for an upcoming experience (Villarreal *et al.*, 2020). This means that the focus is on the practical application, and implication of the experience to the “ground”, or reality. After explaining the stage of the EL Cycle, the next section briefly selected types of EL mostly used in skills development.

Workplace-based (field-based) learning helps students to familiarize themselves with the world of work within their field of skills training programme. In the context of this article, the examples of workplace-based learning are on-the-job training, workplace learning, internships, cooperative education, fieldwork, practicum, service-learning, project-based learning, team-based learning, situated learning, and place-based learning (O'Shea, 2014). These types of EL have been used as a solution to the skills mismatch between skills development programmes and industries. In the same vein, workplace-based learning approaches foster the competencies, and abilities of students to perform tasks in their future workplaces (Sam and Van der Sijde, 2014). Therefore, the argument from the above scholars suggests that workplace-based learning has a huge contribution to TVET programmes because it helps students acquire job-related skills in the context in which they will be utilized in the workplace. Furthermore, it stresses the significant role that experience contributes to learning by doing.

Integrating Experiential Learning into Vocational Education and Training Programmes

Integrating Experiential Learning (EL) as a major component of skills development programmes into (TVE) can enhance the learning experience, and prepare students for the workforce. Here are some potential ways to integrate EL into TVE: Apprenticeships and internships, Project-Based Learning, Simulation-Based Training, Mentorship Programs, Industry-Partnered Projects, Work-Based Learning, Entrepreneurship Programs, Service Learning, Cross-Disciplinary Projects, and Reflective Practice.

Butler et al. (2019) describe this link by stating that EL enables students to participate in a tangible experience, reproduce that experience and other evidence, cultivate theories in line with experiences, and apply the acquired skills in a new work situation. A study conducted by Abdullah et al. (2019) in the context of Malaysia revealed that the use of EL in TVE empowered students to acquire skills. The results further showed that “learning outcomes have a practical influence on the students applying skills in a new environment” (Abdullah et al., 2019, p. 8). These findings suggest that the application of ELT in TVE yields good results in the process, and outcome of learning which real-world skills are.

In the context of skills development for youths, Lantu et al. (2022) assessed the role of ELT in improving entrepreneurial training programmes. The findings showed that the application of EL improved the effectiveness of the entrepreneurial training programmes by helping the students to start owning small businesses. EL improved the effectiveness of entrepreneurial skills training because the students experienced working in a real business setting (Lantu et al., 2022). The students admitted that the programme effectively improved their entrepreneurial skills to start their businesses. The study concludes that the skills development programme also “prepared the students to enter the workplace, and produce qualified human capital to meet industry needs” (Lantu et al., 2022, p. 122).

In the context of Sweden, Gustavsson and Thunqvist (2019) examined the role that ELT plays in TVE in enabling students to utilize skills and knowledge to work. The findings revealed that during the training in the school workshops the students faced content, and work methods comprising contextualized “real-life” tasks. This is because the training was characterized by “intense interaction between the students and experienced vocational teachers, tools, and machines” (Gustavsson and Thunqvist, 2019, p. 90). Workplace-based learning allowed students to practice skills in workplace conditions under the supervision of experienced teachers, or mentors who helped them to apply skills in the real workplace, and gain specific industrial experience (Gustavsson and Thunqvist, 2019). The study concludes that the school-based environments of learning prepare the students for entrance into the workplaces while workplace-based conditions “provide students with the opportunity to obtain specific industry knowledge and to engage in interactions in the workplace” (Gustavsson and Thunqvist, 2019).

A key component and possible outcome of experiential teaching is the transformative learning experience that occurs with a meaningful and well planned lesson. Slavich and Zimbardo define transformational teaching as “the expressed or unexpressed goal to increase students' mastery of key course concepts while transforming their learning-related attitudes, values, beliefs, and skills” (Slavich & Zimbardo, 2012, p. 576). According to Slavich & Zimbardo (2012), the three overarching principles of transformational teaching are:

1. Facilitate students' acquisition and mastery of key course concepts;
2. Enhance students' strategies, and skills for learning and discovery;
3. Promote positive learning-related attitudes, values, and beliefs in students”

Pedagogical roles of teachers and students in Experiential Learning for Technical and Vocational Education for Sustainable Development

Roles of Instructors

The role of the instructor in experiential learning is very different from most other pedagogies. First and foremost, the students are at the center of the learning, and the instructor serves as a facilitator of the process offering guidance on a limited basis. The instructor serves as an intellectual coach for collaborative student teams to maximize students' learning, skill development, and personal growth (Slavich & Zimbardo, 2012). Also, the teacher serves as a mentor providing guidance, support, and feedback to students during their EL journey. He serves as an Industry Liaisons by collaborating with industry partners to provide authentic learning experiences. As Curriculum Designers, teachers develop curricula that integrate experiential learning and sustainable development principles. As assessors, he evaluates students' learning outcomes and provides feedback on their performance. As Role Model, he demonstrates sustainable development values and practices in their own teaching practices. He serves as Learning Environment Creator by establishing a supportive and inclusive learning environment that fosters EL. The teacher performs the function of a Community Builders by fostering partnerships with local communities and industries to provide real world learning experiences. Lastly, he assumes the position of a Reflective Practitioner, engages in continuous professional development to improve in their teaching practices and students' learning outcomes. In these roles, the instructor should empower students to take ownership of their learning and their project. This is how experiential learning will become transformative and meaningful for the student.

The following responsibilities were identified in the book *Teaching for experiential learning: Five approaches that work* by Wurdinger and Carlson (2010, p. 13):

1. Be willing to accept a less teacher-centric role in the classroom.
2. Approach the learning experience in a positive, non-dominating way.
3. Identify an experience in which students will find interest and be personally committed.
4. Explain the purpose of the experiential learning situation to the students.
5. Share your feelings and thoughts with your students, and let them know that you are learning from the experience too.
6. Tie the course learning objectives to course activities and direct experiences so students know what they are supposed to do.
7. Provide relevant and meaningful resources to help students succeed.
8. Allow students to experiment and discover solutions on their own.
9. Find a sense of balance between the academic and nurturing aspects of teaching.
10. Clarify students and instructor roles.

Roles of Students

Students must be active learners in this process which likely means stepping outside of their comfort zone and taking on challenges and tasks where they are unsure, or question their abilities. Therefore, students play a crucial role in EL, and are actively engaged in the learning process. Some roles of students in EL include: Active Participants, Problem-Solvers, Reflective Practitioners, Critical Thinkers, Self-Directed Learners, Collaborators, Risk-Takers, Feedback Seekers, Knowledge Creators, and Lifelong Learners. However, the students are not left on their own: the instructor is available as the mentor to offer guidance, support, and encouragement throughout the learning process. For students who are particularly ambivalent about experiential learning, the steps on sharing, reflecting, and processing will be particularly important. Below is a list of students' responsibilities adapted from Wurdinger and Carlson (2010), and UC-Davis (2011), and developed by Janet Giesen, Northern Illinois University (October 12, 2011).

1. Students will be involved in problems which are practical, social, and personal.
2. Students will be allowed freedom in the classroom as long as they make headway in the learning process.
3. Students will often be involved with difficult and challenging situations while discovering.
4. Students will self-evaluate their own progress, or success in the learning process which becomes the primary means of assessment.
5. Students will learn from the learning process and become open to change. This change includes less reliance on the instructor and more on fellow peers, the development of skills to investigate (research), and learn from an authentic experience, and the ability to objectively self-evaluate one's performance.

Conclusion

Experiential Learning is a valuable approach in TVE that can enhance students' learning outcomes, employability, and sustainable development competencies. By using EL, facilitators enable students to participate in real-life activities to achieve their learning needs. In the context of TVE, EL may take the forms of school-based learning and workplace-based learning (structured work experience). Some EL approaches that may occur in school or classroom are cooperative learning, role-playing, game-based learning, case-based learning, simulations, presentations, types of small-group work, and workshop practicum. Based on the lesson objectives and outcomes, the lecturer uses a relevant type of EL approach. School-based (classroom-based) EL is not passive, but rather active, and practical resulting in helping students to understand the content of knowledge, and apply it in the world of work. In the context of TVE programmes, school-based experiential approaches contribute to helping students to participate in practical activities by applying the theoretical knowledge learnt from textbooks to their real-life situations. It was observed that while some past studies have found limitations and ineffectiveness EL in TVE, the majority of the literature supports its benefits. To ensure the effectiveness of EL in TVE, it is essential to: Align EL programs with industry needs and standards, provide adequate resources and support for students and educators, monitor and evaluate EL programs regularly, foster collaborative partnerships between education and industry, and embed sustainable development principles and practices in EL programmes.

Recommendations

1. TVE institutions should prioritize EL as a key component of their programmes.
2. Educators and industry partners should collaborate to design and deliver EL programmes that meet industry needs and standards.
3. EL programmes should be designed to incorporate sustainable development principles and practices.
4. TVE institutions should invest in resources and support for EL including facilities, equipment, and teacher training
5. The instructor must create a safe space for students to work through their own process of self-discovery.
6. In EL, the learner is the self-teacher, therefore there must be "meaning for the student in the learning." The learning activities must be personally relevant to the student.
7. Experiential activities must allow the students to make connections between the learning they are doing and the world. Activities should build in students the ability see relationships in complex systems, and find a way to work within them.
8. Students should be able to reflect on their own learning, bringing "the theory to life", and gaining insight into themselves and their interactions with the world.

9. Students must be fully immersed in the experience not merely doing what they feel is required of them. The “process needs to engage the learner to a point where what is being learned, and experience strikes a critical, central chord within the learner.”
10. By working within a space that has been made safe for self-exploration, students can begin to analyze, and even alter their own values.
11. Learning is enhanced when students are given the opportunity to operate outside of their own perceived comfort zones.” This doesn’t refer to just physical environment, but also to the social environment. This could include for instance, “being accountable for one’s actions and owning the consequences.”
12. Educators should receive training and support to effectively facilitate EL experiences.
13. EL programmes should be tailored to meet the diverse needs of students including those with disabilities and from diverse cultural backgrounds.
14. Regular monitoring and evaluation of EL programmes should be conducted to ensure quality and effectiveness.
15. TVET institutions should recognize and reward innovative and effective EL practices.

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