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Review Paper

The Transformative Power of Experiential Learning: Bridging Theory and Practice

Priyanka Malik[1]*, Swarnaprava Behera[2]

ABSTRACT

A popular pedagogical strategy in today's classrooms is experiential learning, based on learning by doing. This study investigates the complex character of experiential learning and its transformational potential across multiple areas of education and beyond, drawing on the theoretical frameworks of scholars such as Jean Piaget, David Kolb, and John Dewey. The importance of experience, introspection, and active experimentation in the learning process is emphasized by theoretical foundations. The fundamental ideas of experiential learning are explained by its principles and components, which emphasize the importance of practical experiences, introspection, and learner-centeredness. Empirical examples highlight the various ways that experiential learning is used in STEM education, the humanities, social sciences, professional development, and lifetime learning environments. Experiential learning has the power to change people by bridging the gap between theory and practice and encouraging social responsibility, creativity, critical thinking, and personal development. Even though there are obstacles like resource limitations and fairness concerns, teamwork can get over them and create a future where experiential learning enables people to prosper in a world that is always changing. To develop engaged learners and spark constructive social change, this study advocates for ongoing research into and integration of experiential learning approaches.

Experiential learning, developed by Kolb in 1984, is a paradigm for resolving the contradiction between how information is gathered and how it is used. It is focused on learning through experience and evaluating learners in line with their previous experiences (Sternberg and Zhang, 2014). The paradigm highlights the importance of learners' participation in all learning processes and tackles the idea of how experience contributes to learning (Zhai et al., 2017). It is a method of teaching that allows learners to learn while "Do, Reflect, and Think and Apply" (Butler et al., 2019). Experiential learning is a teaching technique that views learning as a continuous process and highlights the important connections that can be made between the classroom and the outside world (Kolb, 1984). It is crucial in medical education, promoting the development of the 'knower' and fostering

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[1]Lecturer in Education, Salipur Autonomous College, Salipur
[2]Research Scholar, Department of Education, Regional Institute of Education, NCERT, Bhubaneswar
*Corresponding Author

connections between classroom and real-world experiences (Wooding, 2019). Additionally, it is a learner-centered method with elements of circumstance, action, reflection, comprehension, and subjectivity that entail experiencing and reflecting (Li, 2004). Experiential learning theory evolved into a general theory by decoupling it from its roots in social practice and ideology and focusing on technical problems (Seaman et al., 2017), it also promotes knowledge creation through experience transformation, engages students in real-world problems, and enhances their motivation to learn (Dernova, 2015). A conceptual framework for experiential education facilitates the integration of theory and practice by enabling a thorough grasp of its interconnected components and facilitating the sharing and blending of learning across contexts and cultures (Carver, 1996). It helps bridge the gap between theory and practice, helping students realize the importance of process capability analysis and control charts in manufacturing industries (Vijayakumar et al., 2015). Outdoor environmental education program leaders in the Czech Republic apply three distinct experiential learning theories to their practice, influencing their beliefs and practices (Cincera et al., 2020). Experiential learning in teacher professional development leads to meaningful changes in classroom practice and influences teachers' beliefs, resulting in significant curriculum reform changes (Girvan et al., 2016).

Theoretical Foundations
Experiential learning theory can guide course design to meet diverse learner needs by incorporating concrete, reflective, abstract, and active experimentation modes, promoting mastery and learning how to learn (Murrell, & Claxton, 1987). These are following some theory:

John Dewey's emphasis on active engagement
The foundation for experiential education approaches that value practical experiences, critical reflection, and the fusion of theory and practice was laid by Dewey's emphasis on active participation in the learning process. His theories continue to shape pedagogical practices and educational philosophy, highlighting the lasting value of experiential learning in creating memorable and life-changing learning opportunities (Dewey, 1938), and also emphasizing the importance of active engagement, social experimentation, intervention, reflection, and thought for understanding organizational behavior and change in human activities (Miettinen, 2006). Active engagement in education can be achieved by creating a community of inquiry in the classroom, emphasizing student engagement in doing research rather than passively receiving information (Liszka, 2013).

David Kolb's experiential learning theory
Kolb's experiential learning model has fundamental graphic syntax errors, a lack of graphic sufficiency, and other issues, suggesting a need for recasting and integration of the field (Bergsteiner et al., 2010). The four components of Kolb's learning cycle, concrete experience, reflection observation, abstract conceptualization, and active experimentation, transform and internalize students' learning experiences (Chan, 2012). A key issue in Kolb's model is a lack of clarity regarding what constitutes a concrete experience, exactly (Morris, 2019).
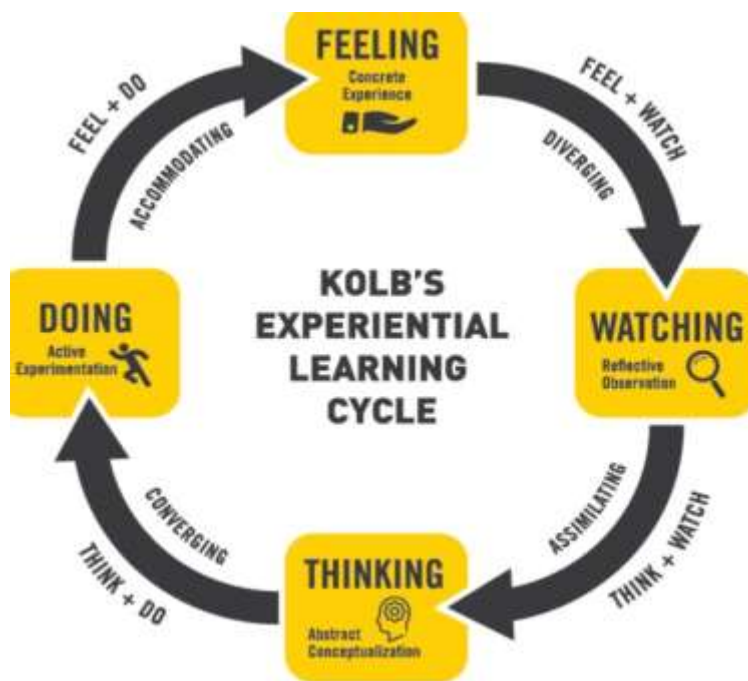
Source: University of Windsor

Jean Piaget's constructivist perspective

Piagetian theory has significantly influenced our perspective on learning and learners over the past 25 years, and continues to be a significant foundation for emerging theories about the personal construction of knowledge and learning (Nurrenbern, 2001). This constructivist theory offers a comprehensive understanding of human development, encompassing complex and abstract understandings of various aspects of the world (Miller, 2010). Jean Piaget's constructivism and stage theory theories still provide valuable insights into conceptual development, but have been transformed by cognitive science and cognitive neuroscience (Carey et al., 2015). Constructivism holds that an individual's brain is continuously attempting to strike a balance between newly acquired knowledge and experiences and previously learned information. Piaget proposed several hypotheses about child development in addition to the constructivist theory. The theories behind Piaget's four stages were developed as a result of his investigations and experiments. The way children view their environment changes with each stage, and different teaching strategies are offered based on these changes.

- Sensorimotor: Birth to 24 months Object permanence
- Pre-operational: 2 to 7 years old Symbolic thought
- Concrete operational: Ages 7 to 11 years Logical thought
- Formal operational: Adolescence to adulthood Scientific reasoning (Mcleod, 2020).

Components of Experiential Learning

Experiential learning is a process of knowledge creation through experience transformation, involving focus, reflection, generalizations development, and generalizations verification. The use and efficacy of experiential learning are guided by several fundamental ideas and elements. In the influential book "Experiential Learning: Experience as the Source of Learning and Development," David Kolb outlines four fundamental components of experiential learning: active experimentation, abstract conceptualization, reflective observation, and concrete experience (Kolb, 1984).

Principles of Experiential Learning

According to NSEE, experience and learning are essential in all forms of experiential learning activities. There is a shared responsibility in the learning process between students and facilitators, with all stakeholders empowered to uphold the principles. However, facilitators are also responsible for ensuring the quality of the learning process and output, taking the initiative to assist students in utilizing experiential education pedagogy effectively. These principles are:

- **Intention**: All involved parties must understand why experiential learning is the preferred method for acquiring knowledge, as well as how that knowledge will be applied, demonstrated, or derived from it. Beyond the aims, objectives, and actions that characterize an experience, the intention is the purposefulness that makes experience into knowledge.

- **Planning and Preparation**: Participants should ensure thorough preparation before the event to ensure a successful outcome. Clear goals, objectives, and activities should be specified and adhered to from the outset, with ongoing reference to the planned intentions. The plan should be adaptable to accommodate changes as the experience unfolds.

- **Authenticity:** The experience needs to be applicable in a real-world setting and/or relevant to a circumstance or application. This implies that it should be created in response to a real-world scenario or in consultation with individuals who will use or be impacted by it.

- **Reflection:** Reflection transforms ordinary encounters into valuable teaching moments, allowing learners to test assumptions, theories, and the outcomes of their choices and actions. By comparing conclusions to prior knowledge and considering potential future ramifications, learners absorb and internalize new knowledge effectively.

- **Orientation and Training:** All participants, including learners, facilitators, and stakeholders, should possess essential background knowledge about each other, the context of the experience, surroundings, and any organizational partners involved. This ensures that everyone can fully engage and benefit from the experience.

- **Monitoring and Continuous Improvement:** Educational endeavors are dynamic and constantly evolving, requiring collective efforts to ensure ongoing validation of learners and optimize comprehensive learning. Crucial feedback on learning goals and quality targets must be incorporated into the experience's adaptable structure to accommodate changes and improvements based on suggestions from the feedback loop.

- **Assessment & Evaluation:** Procedures and results should be methodically recorded about the original goals and high-quality results. While assessment helps to build and improve the precise learning objectives and quality targets that are set during the experience's planning stages, evaluation offers detailed information about the entire process of the experience and indicates whether or not it fulfilled the intended aims.

- **Recognition:** Learning and impact are acknowledged through reflection, monitoring, and sharing of accomplishments throughout the experience. All participants should recognize progress and achievements, culminating in a final celebration of lessons learned and their lasting effects, ensuring the experience's conclusion and sustainability.

Practical Applications

Transformative learning in occupational therapy is primarily experiential and meaning-oriented, with key concepts like scenes, employment, and embodied metaphors guiding the approach (Zafran, 2019). Experiential learning in metrology and quality engineering courses bridges the gap between theory and practice, helping students understand the importance of process capability analysis and control charts in manufacturing industries (Vijayakumar et al., 2015). A practical theoretical framework for STEM education success can help nations develop students with desired 21st-century competencies (Mpofu, 2019). STEM applications have positive effects on students' academic achievement, scientific process skills, problem-solving skills, motivation, self-efficacy perceptions, interests, and attitudes (Eren, & Dökme, 2022). Experiential learning positively influences Life Sciences teaching and learning by connecting theory to everyday life, improving learners' development, and fostering connections between science and society (Pherson-Geyser et al., 2020). Long-term professional development programs using strategies like learning in networks, peer coaching, collaborative action research, and case studies can enhance teachers' practical knowledge and enhance successful reform implementation in science education (Driel et al., 2001). Experiential learning projects in communication education foster key professional skills and social activism by integrating ethically relevant issues and applying talent and communication skills to relevant social debates (Kolotouchkina et al., 2020). Lifelong learning, rooted in psychology and adult education, can enhance communities and society by promoting democratic and emancipatory goals of education (Fleming, 2020). This special issue explores learning environments and practices that shape educational experiences across contexts and stages, highlighting the importance of understanding and embracing lifelong and life-wide learning for school psychologists and administrators (Giraldo-García & Chang, 2023).

Transformative Potential

Transformative learning ideas focuses on the maximum development of a person's abilities and creating a powerful motivation for self-development, promoting critical thinking and self-knowledge (Hanaba & Voitiuk, 2022). Experiential learning bridges the classroom and the real world, enabling students to develop leadership skills and social, psychological, and intellectual skills (Latheesh, 2019). Bridging the theory-practice gap in higher education through well-organized mentorship and active participants is crucial for academic development in the scholarship of teaching (Stigmar, 2010). Key strategies for bridging the theory-practice gap in higher education include focusing on pre-training experience, teaching context, and student needs, and enhancing factors in teacher education programs (Cheng et al., 2010). The problem-based learning model assisted by experiential learning significantly improves students' creative and critical thinking skills in science learning (Dianita, 2023). Experiential learning activities in engineering education can enhance students' creativity and innovative thinking, leading to better problem-solving skills and fostering technology innovation (Ayob et al., 2011). It also works with social entrepreneurs and responsible business professionals, and effectively integrates ethics, responsibility, and sustainability into the curriculum, providing students with inspirational role models and positive social learning opportunities (Baden & Parkes, 2013).

Challenges and Considerations of Experiential Learning

Experiential learning faces challenges in defining its theoretical roots, models, and unique processes. (Hedin, 2010). Through problem-based learning, helps students acquire deeper knowledge through active exploration of real-world challenges and problems, making them independent learners (Umarji et al., 2023). It engages students in firsthand discovery of

knowledge through observation and participation in activities, often in field-based settings outside the classroom (Roberts, 2011). Creating more experiential learning in higher education programs remains a challenge, but the study highlights three pillars of learning environments (Authenticity, Reflection, and Collaboration) and provides recommendations for future theory-building and practical implementation (Radović et al., 2021). The experiential learning model (ELM) is more effective than the direct instructional model (DIM) and their combinations (DIM-ELM) in improving students' conceptual understanding and critical thinking in introductory physics courses (Dessie et al., 2023). Field experiences in graduate teacher education programs for international students are valuable, providing relevant, real-world insights and preparing them for meaningful educational reform when returning to their homelands (Akinde et al., 2017).

CONCLUSION

Experiential learning stands as a dynamic and transformative approach to education, rooted in the theories of Dewey, Kolb, and Piaget, which emphasize active engagement, reflection, and the integration of theory and practice. Through immersive experiences and reflective practices, experiential learning fosters personal growth, social responsibility, and the development of essential skills across various fields, from STEM education to teacher professional development. While experiential learning faces challenges such as defining its theoretical underpinnings and ensuring authenticity, ongoing research, and innovative practices continue to address these issues. Ultimately, experiential learning empowers learners to actively engage with their learning journey, develop critical thinking skills, and become socially responsible citizens, unlocking the full potential of education to inspire, empower, and effect positive change in individuals and society as a whole.

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