CASE WESTERN RESERVE UNIVERSITY
University Center for Innovation in Teaching and Education

Experiential Learning

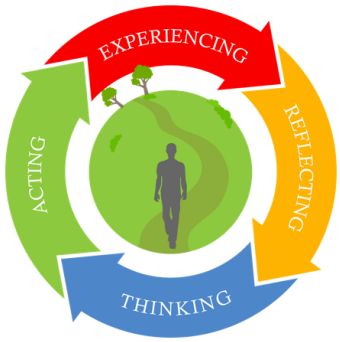
(view online here)

"Learning results from what the student does and thinks and only from what the student does and thinks. The teacher can advance learning only by influencing what the student does to learn" (Lovett et al., 2023, p. 1).

When we talk about effective teaching practices, it is essential to begin with consideration of how students learn. Nobel Laureate and one of the founders of the Cognitive Science discipline, Herbert A. Simon, focused on "what the student does and thinks," and both doing and thinking are active verbs. Ideas for and practices of active learning appear throughout Science of Teaching and Learning literature. But what is the relationship between active learning and experiential learning? How are active and experiential learning referenced in Science of Teaching and Learning research literature? In this brief, I identify definitions of experiential learning—including foundational theory by CWRU Professor Emeritus, David Kolb—provide examples of models in specific contexts and share research documenting the impact of experiential practices on student learning.

What Is Experiential Learning?

"Experiential learning is a category of learning" (Beard & Wilson, 2018, p. 1). While this quote is not a specific definition, I do think the context of experiential learning as a category provides faculty with greater flexibility when considering engaging students with specific practices. Kolb (2015) defined experiential learning as "the process whereby knowledge is created through the transformation of experience" (p. 49). He theorized that individuals take in information through concrete experiences and abstract conceptualizations. This intake is followed by individuals transforming their experience through reflective interpretation and action (see the figure on the right). Kolb described experiential learning as a spiral "where the learner touches 'all the bases'… in a recursive process that is sensitive to the learning situation and what is being learned" (2015, p. 51).



Kolb Experiential Learning Cycle

For a short video explanation of Kolb's Experiential Learning Cycle, click on the figure caption or refer to the reference list.

A team of Swiss educators applied the idea of learning through experience to discipline-specific and vocational settings:

"Learning by doing situations are often expected to develop these skills by creating opportunities for students to connect real-life experience with the concepts and ideas from a discipline. These connections help students to make sense of those experiences and to develop the perspective and skills of experts in that discipline" (Tomey et al., 2022, p. 41).

Students, then, can deepen their learning by, through, and with facilitated experiences. Students also need opportunities to critically reflect on their experiences in order to transform them into new knowledge. In other words, for an activity to be considered a category of experiential learning, students need to transform their doing into new knowledge through reflective exercises (e.g., journaling or communicating with community partners about the impact of an experience).

What do researchers have to say about the impact of experiential learning?

Two professors at Worcester Polytechnic Institute (2013) published an article, "Experiential Learning Environments: Do They Prepare Our Students to be Self-Directed, Life-Long Learners?" that documented the impact of an interdisciplinary projects program on student learning. Their study provided compelling evidence that experiential learning environments can be highly effective in cultivating critical skills and attitudes associated with self-directed and life-long learning. While quantitative measures documented modest learning gains, the strong results from student self-assessments and independent faculty reviews reinforced the faculty success in fostering student research skills, critical thinking, and communication. The WPI program illustrates a useful model for institutions seeking curricular enhancement of self-directed and life-long learning skills.

Another team of researchers, working with an NSF grant, explored the impact of less active and more active student learning engagement with scientific content (Menekse et al., 2013). Undergraduate engineering students (N=120) took part in a pre- and post-test study to measure learning gains under four engagement conditions: passive (reading a text or watching a video), active (taking notes while reading, manipulating materials in class/lab setting), constructive (creating a concept map, solving a problem), and interactive (think-pair-share, engaging with a GenAI tutor). Results indicated "interactive modes are most effective, constructive modes are better than active and passive modes, and active modes are better than passive ones for student learning" (p. 366). The framework used in this study suggested that intentionally designed materials and activities can promote effective learning (e.g., decision making, spatial reasoning, knowledge construction, integration) in engineering classrooms.

What does experiential learning look like?

Returning to the overarching idea that experiential learning is a category of learning, faculty may think of specific approaches to learning as a way to further organize their instructional planning and implementation. Faculty members at Minnesota State University, Mankato, suggested five approaches for faculty to facilitate

experiential learning: 1) active learning, 2) problem-based or inquiry-based learning, 3) project-based learning, 4) service learning, and 5) place-based learning (Wurdinger & Carlson, 2010).

1. **Active Learning:** *promote student participation and interaction in the classroom*
    - Daily presentations: students give brief presentations of reading material to a larger group
    - Large-group discussion: free-flowing discussion, perhaps following daily presentations
    - Small-group discussions: assign roles (e.g., note-taker, speaking representative to larger group) and discuss a specific question or series of questions before reporting out to a larger group
    - Think-Pair-Share: another version of discussion that begins with individuals thinking about a prompt and formulating ideas for themselves before pairing with one or two neighbors to discuss. The results of the small group conversation are then shared in a larger setting (e.g., large group discussion).
    - Teaching Episode: students transform their own knowledge by teaching a portion of the class
    - Peer Critiques: students share work (e.g., in a gallery walk format) and provide peer critique to one another, following specific guidelines

2. **Problem-Based & Inquiry-Based Learning**: *finding solutions to authentic problems or investigating ideas and questions through research inquiry methodologies*
    - Case Studies: students engage with documented cases and apply foundational knowledge to solve challenges or problems
    - Field Work: supervised student practice away from a classroom setting in which students seek to problem-solve or initiate a process of inquiry to explore a topic or an issue
    - Student Research Experience: students collaborate and assist faculty with research projects

3. **Project-Based Learning**: *students create projects that result in meaningful learning experiences*
    - Written Projects: interview, poem, survey, movie script
    - Presentations: debate, musical performance, oral report, research poster, museum exhibit
    - Technology Products: database, mobile technology app, website
    - Training Products: lab manual, working model, curriculum
    - Planning Products: research proposal, treatment plan, engineering blueprint

4. **Service Learning**: *intentional community-based learning that incorporates planning, action, and reflection. CWRU has a Center for Civic Engagement and Learning (CCEL).*
    - Resources for Student Organizations: students in a course design web sites for student orgs
    - Oral Histories with Community Members: students interview and share oral histories of community members who were part of the Civil Rights movement
    - Community-based Research: students and faculty work with local organizations to meet the needs of a particular community
    - Contact CCEL directly: commservice@case.edu.

5. **Place-Based Learning**: *student learning focused in particular places, typically in mutually beneficial partnerships*
    - Internships: students work with practicing professionals to gain valuable pre-vocational experience
    - Clinical Education: nursing students engage in clinical rounds with faculty facilitators
    - Student Teaching: pre-service teachers satisfy teaching licensure requirements in K-12 school settings
    - Study Abroad: students engage in learning in another country (e.g., CWRU Office of Education Abroad)

Summary

Students can transform well-designed experiences into new knowledge, skills, and values with effective guidance from faculty. UCITE founding director and former professor emeritus Jim Zull (2002, p. 52) suggested three rules for helping people to learn, and they all have associations with experiential learning categories:

1. Help the learner feel she is in control. Faculty can intentionally and thoughtfully facilitate experiential learning with students to connect more deeply with instructional and personal learning goals.
2. Help them see how [learning] matters in their lives. Integrating Kolb's idea of experience as the source of learning and development with course learning goals can help students understand how that learning applies in community and vocational settings.
3. Expect [students] to encounter emotion and take it seriously. Part of experience-based learning will incorporate student feelings about the work they are doing. Faculty can plan for critical reflection as a way to explore the impact of social emotional learning.

UCITE invites you to join a growing community of educators who are designing transformative learning experiences. Let us partner with you to turn your teaching ideas into powerful, real-world learning opportunities for students. Visit our website (https://case.edu/ucite/teaching-resources) for more information or contact us for a conversation: ucite@case.edu.

Selected References

Beard, C., & Wilson, J. P. (2018). Experiential learning: A practical guide for training, coaching, and education (4th ed.). KoganPage.

Jiusto, S., & DiBiasio, D. (2006). Experiential learning environments: Do they prepare our students to be self-directed, life-long learners? Journal of Engineering Education, 95(3), 195–204. https://doi.org/10.1002/j.2168-9830.2006.tb00892.x

Kolb, A. (2020). This is experiential learning. Experience Based Learning Systems video. Institute of Experiential Learning. https://experientiallearninginstitute.org/what-is-experiential-learning/

Kolb, D. A. (2015). Experiential learning: Experience as the source of learning and development (2nd ed.). Pearson

Menekse, M., Stump, G. S., Krause, S., & Chi, M. T. H. (2013). Differentiated overt learning activities for effective instruction in engineering classrooms. Journal of Engineering Education, 102(3), 346–374. https://doi.org/10.1002/jee.20021

Tormey, R., Isaac, S., Hardebolle, C., & Le Duc, I. (2021). Facilitating experiential learning in higher education: Teaching and supervising in labs, fieldwork, studios, and projects. Routledge. https://doi.org/10.4324/978100310760

Wurdinger, S. D., & Carlson, J. A. (2010). Teaching for experiential learning: Five approaches that work. Rowman & Littlefield.

Zull, J. E. (2002). The art of changing the brain: Enriching the practice of teaching by exploring the biology of learning. Routledge. https://doi.org/10.4324/9781003447573

Content by Matthew Garrett, PhD, Professor and Director of UCITE
This information can also be found at https://case.edu/ucite/experiential-learning.