

USING THE LEARNING CYCLE TO ENGAGE STUDENTS IN LIBRARY INSTRUCTION

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A 2008 article found in *Psychological Science in the Public Interest* by Pashler, McDaniel, Rohrer, and Bjork titled “Learning Styles: Concepts and Evidence” shows that tailoring instruction to match a student’s learning style preference does not result in better acquisition of the ideas presented (p. 112). The implications of this claim for the Fleming VAK (visual, auditory, and kinesthetic) Model, along with other learning style models, must be considered for library instruction. Instead of trying to identify and teach to specific learning styles, we can work to integrate a variety of learning preferences to create engaging lesson plans that employ active learning. One way to do this is to use experiential learning, and, more specifically, David Kolb’s Learning Cycle in instruction. This method allows instructors to provide students with a variety of learning activities within a class without focusing on one single learning style.

EXPERIENTIAL LEARNING

One of the most influential theorists on experiential learning is David Kolb (1984), whose book *Experiential Learning: Experience as the Source of Learning and Development* pulls together the theories of Dewey, Lewin, Piaget, and others to develop his Experiential Learning Theory. Learning happens through an internal understanding about external ideas and experiences (Kolb, 1984, p. 52). Thus, learning cannot be passed on from teacher to student as an object, but instead exists as a process through which the teacher assists the student. To Kolb (1984), “[A]ll learning... is relearning”

(p. 28). Instructors must work with the ideas and understanding of the learner and present experiences that enrich and rework understanding. Kolb’s Learning Cycle allows teachers to help their students through this experience, reflection, and relearning process.

THE LEARNING CYCLE

Kolb’s Learning Cycle suggests that learning happens through the process of resolving the tensions among four stages - concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984, pp. 40-41). He describes the stages as follows:

- Concrete experience is an intuitive, feeling-oriented approach to learning. The learner focuses on the experience and reality at hand rather than a theoretical approach to problem solving (p. 68). Concrete experience involves the human and the personal in real life.
- Reflective observation requires internal reflection to understand meaning. Learners take time to look at situations from a variety of perspectives to determine how they feel about the issue at hand (p. 68-69).
- Abstract conceptualization involves thinking to develop theories rather than feeling to understand specific situations. The learner focuses on analysis and a systematic approach to problems, along with “quantitative analysis” (p. 69).
- Active experimentation uses real-world applications. Learners do rather than observe so that they can accomplish their goals and influence people. This might require some risk-taking to achieve results (p. 69).

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According to Kolb, learners prefer certain stages of learning, which correspond to their learning styles. His Learning Style Inventory is used to test learners to determine which of the four learning styles best represent the learner. Each pair combination of the stages of learning creates a learning style, described as follows:

- **Convergers** focus on both abstract conceptualization and active experimentation, meaning that they enjoy applying systematic knowledge deductively. They like to problem solve in an analytical way, especially those problems with one correct answer (p. 77).
- **Divergers** prefer concrete experience and reflective observation. They look at experience from a variety of perspectives to try to establish meaning. Rather than coming to a single answer, divergers excel at brainstorming and activities that focus on imagination (pp. 77-78).
- **Assimilators** use abstract conceptualization and reflective observation. They enjoy ideas and inductive reasoning rather than focusing on the practical application of ideas (p. 78).
- **Accommodators** prefer concrete experience and active experimentation. They take risks to complete tasks. Accommodators rely on others for information, adapt to changing situations, and learn through “trial and error” (p. 78).

While Kolb can be useful to library instruction, we do not need to identify the learning preferences of students. We have already seen the issues brought up about learning styles in general. Moreover, studies found that Kolb’s Learning Style Inventory is limited in its reliability and validity (Brew 2002; Cassidy 2004; Coffield, Moseley, Hall, & Ecclestone 2004), and other studies revealed that having different learning styles does not correspond to differences in academic achievement (Duman, 2010). Since Kolb’s Learning Style Inventory has limited test-retest reliability, as illustrated in the studies described by Willcoxson and Prosser (1996), then students’ learning styles preferences may change in different circumstances. However, instructors may wish to identify their own preference(s) so that they do not focus on one area of learning at the expense of other areas.

The distinction between the Learning Style Inventory and Kolb’s Experiential Learning Theory needs to be clear. According to a 1991 study by Hickox, a majority of cross-disciplinary studies reviewed supported Kolb’s Experiential Learning Theory (as cited in Kolb, Boyatzis, & Mainemelis, 2001). The Learning Cycle as the representation of experiential learning also has value to educators. Zull (2006) shows that the brain learns through four pillars: “gathering, reflecting, creating, and testing” (p.5), which, he says, corresponds well with Kolb’s Learning Cycle. Duman (2010) echoes this connection between how the brain learns and the Learning Cycle as well, finding that incorporating brain-based learning, which he shows Experiential Learning Theory uses, increases student achievement; thus, the

limitations with the Learning Style Inventory should not lead us to abandon Experiential Learning Theory or Kolb’s Learning Cycle.

The Learning Cycle that Kolb proposes is not without its critics, though, as Seaman (2008) points out that the idea that learning can and should happen in a cycle is a limitation. Mark K. Smith (2001), in his analysis of the literature on Experiential Learning Theory, points out that other critics of Kolb have noted that there are other learning situations beyond the four stages of the learning cycle, cultural differences are not considered by the cycle, and it disregards the situational nature of learning. These limitations should not be ignored – the learning cycle is not the only method by which instructors can teach and students can learn, and learning does not have to take place in discrete stages. Still, as Tennant says, “[T]he model provides an excellent framework for planning teaching and learning activities” (as cited in Smith, 2001). Having students engaged in a variety of activities in a short amount of time keeps the class interesting and ensures that active learning occurs – this is, at the very least, what the Learning Cycle provides us.

LEARNING CYCLE IN LIBRARY INSTRUCTION

While much has been published about experiential learning in library instruction (see Williams & Chinn, 2010; Walker, 2008; and Mathson & Lorenzen, 2008, for examples), little appears specifically about Kolb’s Learning Cycle. One exception to this is an article by Bodi (1990), which describes improvements in student feedback after implementing the Learning Cycle. An article by Frierson (2010) describes how Renner and Marek’s learning cycle of assimilation (collecting information), accommodation (making sense of the information), and organization (using the information) can be used in library instruction. This is very similar to Kolb’s model and “models the way people learn, and as a result, generates authentic, meaningful learning experiences for students” (Frierson, 2010). Frierson describes an exercise on peer review that is similar to the activity that I have done in several classes, but I want to flesh out the details and describe its strengths and weaknesses at greater length.

EVALUATING RESOURCES: AN ACTIVITY USING KOLB’S LEARNING CYCLE

I have done the following activity in a variety of classes – writing classes, communication classes, and, of course, information literacy classes, and it has been successful each time. Like most library instruction, this activity works best if students are working on a particular project or paper. I like to have the students bring in some possible sources that they might use for the project. I give them a specific number (from one to three) of sources to bring with them, depending on the length of the class.

Below, I describe how each part of the lesson corresponds to a section of the Learning Cycle and what learners would find this appealing. Note that while I recognize that each learner may not *always* identify with one style or another, when

asked, students often say they prefer one of these activities within the specific learning situation that day. Thus, I say which individual learning style would prefer each activity, while still recognizing the limitations with learning styles.

Concrete Experience

At the beginning of class, I put the students into groups of about four individuals and give each group a source on the same topic. I say that we are all pretending that this is the topic we are researching for an academic paper, and they have to tell me whether or not they would use the resource, defending their decision with at least three concrete reasons supported by evidence. This means an answer like “The author is crazy” will not suffice. I make sure to represent a range of sources and to avoid sources that would obviously not be used.

I do not give the students any criteria for evaluation. Some of the students will have read or talked about evaluation before, and that is fine. The purpose is to engage the students with an activity and to have them rely on their previous knowledge and understanding, a format similar to problem-based learning. By having students work in groups, they can learn from each other, which appeals to those who prefer to learn from others, like accommodators and divergers.

Reflective Observation

After this activity, I have my students complete an individual writing assignment in which they write about in what situations they *would* use the source and in what situations they *would not* use the source. I encourage them to try to answer both questions. For example, if their source is a biased blog, they may use it if they were writing about different public views on the topic, but they may not use it if they were writing about factual aspects of the issue. Students then share what they wrote with another person in their group. This activity allows students to spend some time looking at source evaluation from another perspective and to rely on their own understanding and feelings to make a judgment on their source, appealing to divergers and assimilators.

Abstract Conceptualization

The groups report on their assessment of the sources, and we talk about when we would and when we would not use the source. I start listing the reasons that students provide for whether or not they would use the source on the board in two columns. I try to put similar answers together. For example, if one group says the source is too old and the other group says their source is recent, even though these are in two different columns, I try to put them in the same row. Then I ask students to help me come up with terms that could describe each row to generate a list of criteria that we can use to evaluate sources. Though students may not come up with the term currency, they will come up with something like “newness” or “updated.” I let the students know the frequently used terms (currency, accuracy, relevancy, coverage, purpose, objectivity, etc.) so that they can recognize these in other classes or situations. After we have come up with the criteria to apply to our reasons, I ask

students to identify other evaluation criteria that are missing. Students usually bring up other points, though I may have to fill in the blanks. This inductive reasoning in practice appeals to the assimilators, and now we have a system to apply in the future, which also appeals to the convergers.

Active Experimentation

The real-world application that I use in this activity may be narrower than Kolb intended, but it does allow students to practice the skills learned in class to apply to their own projects. I ask students to use the criteria we established in class to evaluate their sources for the upcoming project. Students then can apply what they learned to a situation that is meaningful for them. Convergers and accommodators particularly enjoy this, but all students in the class should see the value in this activity since it directly benefits their project.

ADVANTAGES AND CHALLENGES

Using Kolb’s Learning Cycle allows students to become actively engaged but to also process and think about the information that they have learned. The experience becomes memorable for students – while I try to mix up the learning in all of my classes, this session follows the Learning Cycle most explicitly, and students often mention it in final reflections or course evaluations.

Frierson (2010) mentions that the learning cycle is time-consuming, and the case could be made that Kolb’s Learning Cycle takes even more time than the learning cycle he uses, but, as he says, “[T]here is real value in spending time on learning cycles because it does more than just pay lip service to active learning and critical thinking – it helps students develop them.” A session that includes the Learning Cycle cannot be an information dump from instructor to student – it forces students to be engaged, for instructors to take some risks, and for a focus on one major topic. Instructors who feel uncomfortable with a level of uncertainty will find using Kolb’s Learning Cycle a challenge, but this can be overcome by planning for different outcomes and anticipating student responses to the activities. Telling students that you are trying something new can also help since they will be more understanding if the class has some bumps.

TIPS

- If you teach a course or see the same class multiple times, enter into Kolb’s Learning Cycle at different points in the semester to avoid monotony.
- Don’t worry if you can’t cover every stage in each class, but do use the stages to think about how you can enliven some of your traditional teaching. Use homework assignments to try to cover some of the other stages in the Learning Cycle.
- More guidance than the cycle or experiential learning describes may be required, depending on the novelty of the material being taught. As Kirschner, Sweller,

and Clark (2006) show, students need a framework and basic understanding of a concept before they can truly learn. Don't be afraid to "step in" if the learning is not going in the direction you want it to go.

- Ask students for feedback on the class through a minute paper or brief response system survey. Test both their comprehension and enjoyment of the activities in class to determine the success of the lesson.

CONCLUSION

Kolb's Learning Cycle provides a lesson planning method that enables active learning and appeals to different students while mimicking the process by which the brain learns. While it may not be useful for every class, many library instruction classes rely on processes that may be somewhat familiar to students, and the Learning Cycle provides a way to build on, relearn, and reiterate concepts integral to information literacy.

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