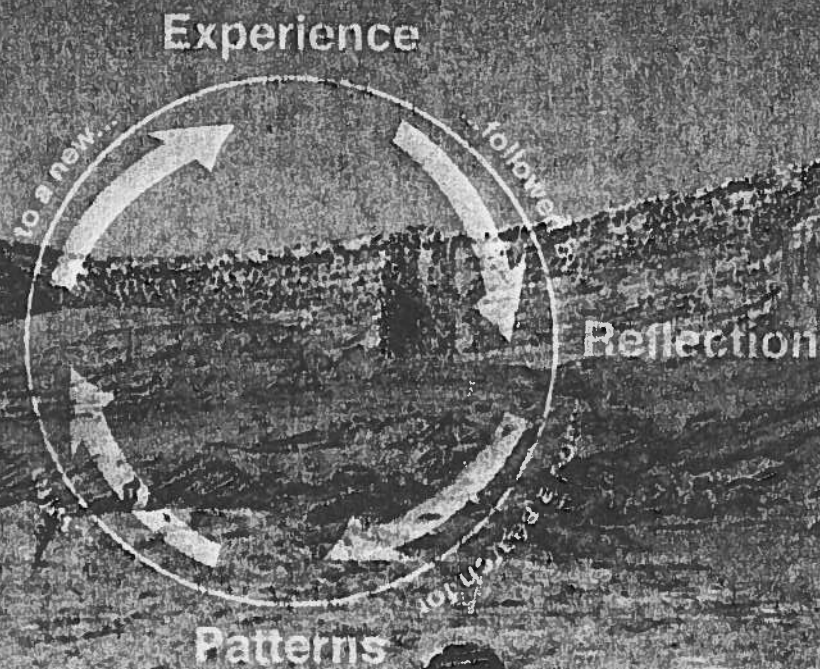


TEACHING ADVENTURE EDUCATION THEORY

Best Practices



Bob Stremba
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Editors

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Multiple Intelligence Theory and Learning Styles

Mary C. Breunig

Students learn in a variety of ways. Many respond well to a “traditional” teaching methodology with its emphasis on auditory learning, and others respond less favorably to such methods. Experiential learning provides one methodological framework for educators to address the various learning styles and intelligences of students in the classroom. This lesson introduces Kolb’s (1984) experiential learning cycle as one framework to help educators design lessons that address learners’ various intelligences and learning styles.

Background

Howard Gardner’s (1983) theory of multiple intelligences, a psychological and educational theory, suggests that an array of different kinds of “intelligences” exists in human beings. Each individual manifests varying levels of these different intelligences and thus a unique cognitive profile (Gardner 1983). Multiple intelligence theory was relatively radical when it was introduced. Gardner (1983) pointed out that IQ tests measure primarily verbal, logical-mathematical, and some spatial intelligence. Believing that there are many other kinds of intelligence that are important aspects of human capabilities, he proposed his theory of multiple intelligences. The original theory included seven separate intelligences; in 1999, Gardner added two more. According to Gardner, the nine intelligences include verbal-linguistic intelligence, logical-mathematical intelligence, visual-spatial intelligence, musical-rhythmic intelligence, bodily-kinesthetic intelligence, interpersonal intelligence, intrapersonal intelligence, existential intelligence, and naturalist intelligence.

Gardner believes that education in general (not just IQ tests) was designed to teach to a certain kind of intelligence, which may also be referred to as a *learning style*. Learning styles are simply different approaches to or ways of learning. The three predominant learning styles are *visual*, *auditory*, and *tactile* or *bodily-kinesthetic*. Visual learners need to see the teacher’s body language and facial expression to

fully understand the content of a lesson. Auditory learners learn best through verbal presentations or lectures, discussions, talking things through, and listening to what others have to say. Bodily-kinesthetic learners learn best through a hands-on approach, actively exploring the physical world around them.

Gardner (1983) was concerned that these three learning styles were, by definition, too narrow. He was also concerned that most schools adopted a methodological approach to teaching and learning that appealed to those learners who were predominantly auditory and visual and less to those who were bodily-kinesthetic or who had intelligences that were different from the three predominant learning styles. This, in part, led to the theory of multiple intelligences. Because both teachers and students have various intelligences and predominant learning styles, both teachers and students need not only to understand these differences but also to design lessons that appeal to the variety of learning styles and intelligences that exist in a classroom or wilderness trip setting.

For example, when I first started teaching within the postsecondary outdoor and adventure education classroom, I was struck by the number of students who were nontraditional, bodily-kinesthetic learners. I began to consider, mostly through trial and error, how to teach for a bodily-kinesthetic learning style within a traditional (predominantly lecture-based) post-secondary learning context. In doing so, I also came to the realization that not all students were bodily-kinesthetic learners. I learned that what was needed was a mixed-methods approach to teaching and learning about adventure education theory that appealed to a variety of learning styles. Research on multiple intelligence theory and experiential education theory provided me with the necessary background knowledge to explore this in practice.

When teaching outdoor and environmental education and outdoor leadership, I realized that teaching students about how to employ Kolb's (1984) experiential learning cycle provided them with one framework to help them design their own lessons. The result is that I employ this cycle in my own teaching and encourage students to use it when they teach as a means to address learners' various intelligences and learning styles.

RESOURCES

- Fogarty, R., and J. Stoehr. 1995. *Integrating curricula with multiple intelligences: Teams, themes, and threads*. Palatine, IL: IRI/Skylight.
- Gardner, H. 1983. *Multiple intelligences: The theory in practice*. New York: Basic Books.
- Gardner, H. 1999. *Intelligence reframed. Multiple intelligences for the 21st century*. New York: Basic Books.
- Kolb, D.A. 1984. *Experiential learning*. Englewood Cliffs, NJ: Prentice Hall.
- Lazear, D. 1991. *Seven ways of teaching: The artistry of teaching with multiple intelligences*. Palatine, IL: IRI/Skylight.

Lesson Plan

PURPOSE

For students to be able to use theories of multiple intelligences (Gardner 1983, 1999) and Kolb's (1984) experiential learning cycle to design adventure education lessons that can be applied across a variety of settings, including at camp, on wilderness trips, or in a more traditional classroom setting.

OBJECTIVES

As a result of this lesson students will be able to . . .

1. *Cognitive and psychomotor*: explain multiple intelligence (MI) theory (Gardner 1983, 1999) and the three primary learning styles after engaging in a variety of activities.
2. *Cognitive*: design a lesson that integrates all aspects of Kolb's experiential learning cycle: experience, observation and reflection, formation of abstract concepts and generalizations, and testing implications in new settings.
3. *Cognitive and psychomotor*: design lesson plans that integrate at least one aspect of adventure education, that appeal to three or more intelligences and learning styles, and that include the experiential learning cycle.
4. *Cognitive and psychomotor*: describe and demonstrate classroom strategies incorporating a variety of teaching methodologies.

DURATION

1 hour, 20 minutes

GROUP SIZE

30 to 50

LOCATION

Indoor space with room to move

EQUIPMENT

- Small musical instruments
- Puzzles
- Board games
- Children's books
- Climbing and other outdoor-oriented magazines
- Balls and Frisbees
- CD player and CDs
- Art supplies for drawing
- State or provincial curriculum documents (obtained online)
- Computer and LCD projector

RISK MANAGEMENT CONSIDERATIONS

None

STUDENT PREPARATION

Have students read about multiple intelligence theory (MI) prior to the lesson; use the Background handout (on the CD-ROM), as well as any other resources you choose. Students should have an understanding of the seven (plus two) multiple intelligences before being engaged in the lesson (Fogarty and Stoehr 1995; Gardner 1983, 1999; Lazear 1991). (C)

INSTRUCTOR PREPARATION

Come to class a bit early and set out multiple intelligence “stations.” The stations could include the following:

- Musical intelligence—provide musical instruments or a CD player and CDs.
- Linguistic intelligence—set out games (Scrabble or Boggle) or some books.
- Logical-mathematical intelligence—set out Sudoku or other math games, or selected puzzles, or both.
- Spatial intelligence—provide art supplies.
- Intrapersonal intelligence—offer opportunities for some students to be alone, giving them time and materials for drawing or journaling.
- Interpersonal intelligence—provide opportunities for some students to engage in group activities using the games, storytelling, or kids’ books.
- Bodily-kinesthetic intelligence—set out balls, Frisbees, and so on.
- Naturalist intelligence—ask students to go outside and find something in nature that resonates with them; then have them write about it.
- Existential intelligence—prepare a list of philosophically oriented questions for students to consider discussing. Two examples are “What is the central purpose of outdoor recreation?” and “Many outdoor educators propose that outdoor recreation is a means to attain a just citizenry. What is meant by a just citizenry?”

Place the stations around the room; that is, locate the music in one spot, the puzzles in another, the board games in another, and so on.

LESSON CONTENT AND TEACHING STRATEGIES

Welcome students to the class and inform them that they are going to start with an activity.

Activity 1: MI Stations

1. Ask students to go to a station that appeals to them and to “play” for 10 minutes. They can move around if they want to; they don’t have to stay at one station.
2. After the 10 minutes, ask students to return to their seats. Ask them what drew them to a particular station. What did they do and why? Tell them that, in essence, each of them has different intelligences and that they were drawn to certain stations and activities partly as a result of these intelligences. Tell them that you used this activity as a means to introduce the day’s lesson on multiple intelligence theory.

Activity 2: PowerPoint and Mini-Lecture on Identifying Your Intelligences

Launch the PowerPoint presentation (see CD-ROM). Define multiple intelligence theory (slide 2). Inform students that this was a relatively radical theory when it was introduced. ⁶

Gardner (1983) pointed out that IQ tests measure primarily verbal, logical-mathematical, and some spatial intelligence. Believing that there are many other kinds of intelligence that are important aspects of human capabilities, he proposed his theory of multiple intelligences, which included seven distinct intelligences. In 1999, he added two more. Show slide 3 for the 7 + 2 intelligences.

Gardner believes that education in general was designed to teach to a certain kind of intelligence, which may also be referred to as a *learning style*. Ask students what the three predominant learning styles are and then provide them with the definition for each (slide 4). Ask students about their own K through 12 and postsecondary experiences. Ask them which learning style seems to fit best with their own educational experiences. In other words, most teachers and professors employ a teaching methodology that would appeal to which predominant learning style(s)? Ask them what their predominant learning style as adventure education students is (most will likely respond that it is bodily-kinesthetic or naturalist).

Tell them that you imagine it must be challenging to be a bodily-kinesthetic learner who is trying to learn through predominantly auditory and occasionally visual means. Tell them that this is, in part, what Gardner had in mind when he came up with the theory of multiple intelligences. Remind students that it is important for them to think about the fact that not every learner learns through visual-auditory lessons. On the other hand, they must also be attentive to the fact that even if many of them are bodily-kinesthetic learners, not all people in their classrooms or on their wilderness trips will be kinesthetic learners. Students therefore need not only to understand these differences but also to design lessons that appeal to a variety of learning styles and intelligences.

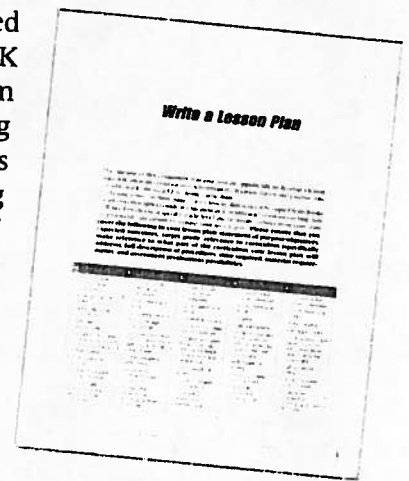
Activity 3: MI Survey

1. Ask students to fill out the MI survey located at <http://www.ldrc.ca/projects/miinventory/mitest.html>. Remind them that this alone will not provide sufficient information to unequivocally determine their intelligences, but will give them some information that they can use to begin to understand their MI "leanings."
2. Have students get into small groups to discuss their intelligences (preferably in mixed intelligence groups). Ask them to begin to consider what some of the implications of having a dominant intelligence might be for them with reference to their own learning and teaching. Ask each group to ensure that there is one student to record (take notes) and one student to report their findings back to the whole class.
3. Have the reporter from each group do a 2-minute report on how his or her group responded to the question about implications of the MI and learning styles theories for teaching and learning.
4. Tell students that teaching or leading trips in a way that appeals to a variety of learning intelligences and learning styles may be important in light of their conclusions. Mention that Kolb's (1984) experiential learning cycle provides one framework students can use to design lessons that appeal to a variety of intelligences (see slide 5). Review the cycle with students. Tell them that preparation was added because without adequate preparation an experience may hold less value. Use this particular lesson as an example: "Because you read about multiple intelligence theory before coming to class today, you were somewhat prepared to engage in the first activity and to discuss it. Without that reading, I might have had to spend more time with you initially introducing the topic. In addition, because you had done the reading, I am already addressing the visual learners, also called spatial learners. I could then engage the bodily-kinesthetic learners in an activity before using the PowerPoint to

emphasize the intent of the lesson for the auditory learners, also called linguistic learners. Do you see how this can work?"

Activity 4: Write a Lesson Plan

Pull out the state or provincial curriculum documents that you retrieved online. Ask students to get into small groups and to design lessons using the experiential learning cycle (Kolb 1984). You may also distribute the Write a Lesson Plan handout on the CD-ROM as a guide. It lists specifications for the lesson plan and includes a rubric that can be used to assess the completed lessons. (The PowerPoint slide with Kolb's cycle should be displayed on the screen for the purposes of this lesson.) Tell students that depending upon the interests of their small group, they could design either an outdoor-oriented lesson (e.g., how to set up a tent or light a stove) or a K through 12 school-based lesson (using the curriculum documents). In either case, students will be employing the experiential learning cycle as a framework. Students should also be reminded of the importance of designing the lesson for the multiple and varied intelligences of the learners in the classroom. Do this by referring back to the PowerPoint or providing students with a handout that lists and gives examples of the multiple intelligences. You can first practice a lesson with the class as a whole if this would be helpful. ⑨



CLOSURE

Have students regather as a large group. Ask them questions such as "What is one thing you now know about multiple intelligences that you didn't know before?" or "How can you use Kolb's model in your own teaching?"

ASSESSMENT OF LEARNING

Ask students if they have any questions about what they did today when designing lesson plans. Let them know that you will take all of the assignments and create a lesson plan booklet for each student so that everyone leaves the class with many new lesson plans.