Experiential Approaches for Critical Thinking in the Context of Teaching Sustainability

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Speaker: Susan Santone, Executive Director, Creative Change Educational Solutions
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Core Competency Area: Adult Students As Learners – Creating Learning Environments

Introduction

Critical thinking, as defined by the Association of American Colleges and Universities, “is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.” In her Lilly Teaching Seminar entitled “Experiential Approaches for Critical Thinking in the Context of Teaching Sustainability,” Susan Santone demonstrated the use of experiential approaches to learning on multiple scales (class, course unit, full course, degree specialization) and the participants were invited to evaluate the approaches and their applicability in their own context.

Reflections

I was drawn to this seminar because critical thinking is a central tenant of my nascent teaching philosophy. Specifically, for me teaching is coaching critical thinking and providing skill that encourages students to act. Critical thinking is the synthesis where a student goes beyond rote memorization and uses analytical reasoning. While I think this is an important part of education for any student, I think it is particularly important for science students because scientists need to learn how to think for themselves and critically review methods and applications of the scientific methods to advance science and societal well being.

From my own experiences as a student, I found that experiential approaches to learning are more engaging methods. They emphasis use of personal experiences to new material which makes the content applicable to the student. Susan used a number of examples of applications of these approaches and I hope to apply them myself:

Barna

To begin the seminar, Susan split us into groups for an “icebreaker” exercise. Now generally, I’m no fan of icebreakers because they are often awkward, contrived experiences. But, from the start, this one was a bit different. It was a silent game so while we were all nervous, at least the introverted of us weren’t in dire dread of what we had to say aloud to the group.

The game started with explicit instructions that once the instructions were distributed, no one could say a word. Though we didn’t know it at the time, there were four groups and each group was given a different set of instructions:

DEALER: Shuffle cards and deal face-down, one at a time around the group. Some will get fewer cards than others.

START: Player to dealer’s left starts by playing any card. Each person around the group plays a card in turn. This is one trick.
PLAYING SUIT: The first card played in a trick can be any suit. Each player must play a card of the same suit if one is in his hand. If he has no card of that suit, only then can he play a card of a different suit.

ACE: The Ace is the highest in each suit (can also be the lowest if you have a large group)

TRUMP: The club / diamond / heart / spade suit is trump. If you have no cards of the original suit played, you can play a trump card and win the trick. Even a 2 of trump will beat a 7 of the original suit.

WINING A TRICK: The highest card played wins the trick. The winner of the trick gathers all the cards and places them facedown in front of himself.

WINING A ROUND: The winner of a trick plays the first card of the next trick. As soon as one player is out of cards, the Round is finished. The winner is the person that collected the most tricks.

After the first round, the groups reconfigured and we realized that we all had different rules. It was interesting to see how each of the groups handled the situation. Some participants were apathetic, some were belligerent, and in my group, someone went over the rules using signs so that we were all on the same page (he had played the game before 😊). This game is used as a classic inter-cultural communication game to teach us that though we were all playing the same game, when we changed groups, we had obstacles in communication and that flexibility is important for integrating different groups.

Experiential Learning Cycle

Susan used the Barnga game to explain to us the use of an experiential learning cycle. An experiential learning cycle begins with a concrete example (what happened?) which leads to observations and reflections (what did you experience? What were your reactions?) then an articulation of principles and concepts (what does this mean?) and concludes with the application of learning (how can we apply this? How does this operate in the real world?). Experiential learning, Susan emphasized is not about the experience, but rather about the learning cycle. The process is scalable so it works effectively within one class period, a field trip, a whole course, or even a degree specialization. By using an experience, to make observations, define a theory, and apply it beyond the experience helps students connect to the knowledge better.

Conclusions

This seminar was a simple model and discussion, but it demonstrated an approach that I expect to use frequently in my teaching methods. I am committed to teaching critical thinking skills and the experiential learning cycle is sophisticated way to engage students in active learning. In fact, I even plan to apply the barnga example as the icebreaker exercise for the course that I’m teaching next semester. The course is about globalization issues regarding fish and wildlife resources so I think the cross-cultural lesson will be particularly useful for students who may come into the course with preconceived notions of how to “fix” the world, etc.