

*How do you support #play and #playfulness in your teaching at the post-secondary level?*

**Dr. Glen Ellis (Professor, Picker Engineering Program, Smith College, Northampton, Massachusetts)**

“For background...In this area I have been inspired by the work of Schwartz, Bransford and Sears on using innovation and efficiency to support transfer in the classroom. From this perspective I see play as innovation technique. I use it to balance out the traditional heavy emphasis on efficiency in engineering education (such as solving endless numbers of procedural problem sets).

In my **Geotechnical Engineering class** students learn about soil stress through a quicksand lab. This includes the opportunity to play with the real thing in **quicksand tanks**. I initially give them some suggestions to get started—such as sticking their arm in or putting objects in to see what happens. From this beginning they quickly come up with their own ideas. Another part of the lab is a **pretend quicksand safari**. In this activity groups of students sit together on top of tables pretending they are in a jeep. PowerPoint slides are used to add a storyline and the ambiance of exotic locations. Students from each "jeep" jump off of their tables and pretend they are stuck in quicksand. The remaining students work together to figure out how to rescue their friends.

In my **Engineering Mechanics class** I have a play section in most of my labs. In the robotic arms lab, the students first program the arm to perform a **fun task** that they come up with--such as shooting a ball or dispensing Tic Tacs. In a truss lab, students have the opportunity to build a structure with a truss kit (which is basically a child's building toy with force sensors).

In my **Techniques for Modeling Engineering Processes class** students create an artificial neural network (a computer simulation of the human brain that is capable of learning). They are introduced to the topic by **building a brain and playing with it** to see what it is capable of learning (such as arithmetic).

In the same class students play **the gender imitation game**. Alan Turing used this game as a way of introducing his operational definition of artificial intelligence in his landmark paper, "Computing Machinery and Intelligence." In this game students work together as interrogators to write questions that will determine a person's gender. Their questions are then passed to a people sitting in separate room who identify as male and a female. The female answers honestly and the male answers in a manner that he expects a female would answer (or vice versa). Their answers are passed back to the interrogators who then attempt to guess the correct gender identity.”

**Kate Charette (Teacher Educator, PhD Candidate, University of New Brunswick, Fredericton, Canada)**

“One of the characteristics of play as I've experienced and supported it in my work as an elementary educator is that the play environment is low-stakes and small learners can enjoy the intrinsic rewards of play. It is a space to explore and inquire, without external pressure to perform or produce. When working with adults I've found that supporting play is often successful with a similar approach.

Whether you want your adult and teen learners to "play" with a concept, or play in the sense of interacting with their peers to work out a problem, providing a space that supports the nature of play makes the difference. Exploring what makes learning enjoyable in and of itself is a worthwhile task for all of us, but it has a meta-cognitive component that is particularly valuable for beginning teachers. Highlighting what makes the concept or problem interesting without attaching grades can help - although in a B.Ed. context many pre-service teachers can find this challenging, so outlining clear expectations is important. In a history education context "playing" with primary sources beyond what they can offer to answer a question or solve an historical problem can be highly rewarding. When thinking about planning for play in History education, keeping in mind that it is closely connected to the element of wonder is helpful. What is it about this document/image/record/testimony that can evoke wonder? This can open up teachers' and pre-service teachers' explorations that often lead to new entry points offered by the source, new powerful questions being posed, and new big ideas being raised."