

Limitations & Pitfalls in Solving Complex Problems: Breaking Free of Formal Education as We Know It

In his recently published book, *The Anti-Education Era: Creating Smarter Students through Digital Learning*, James Paul Gee seeks to answer and justify his stance on how and why humans are a 'dumb smart species today' (2013, pg IX). In our current technologically and digitally driven society, Gee uses several arguments to support how humans misuse these tools to be 'stupid.' He claims simply using technology, digital media, and social media will not make us smarter unless we are thoughtful, reflective, and worldly about their use. According to Gee (2013), "One key way to make humans stupid is to break this active tie between mind and world."

This active connection between the mind and the world is a continuous and 'interactive conversation with the world' (Gee, 2013, pg. 15). In order to have this connection, Gee suggests that five conditions must be met for smart human action: initial mentorship or apprenticeship to prepare one to learn from experience in specific contexts or situations; many prior experiences and loads of schema; clear goals; caring for or about something being 'at stake' and mattering emotionally; the opportunity to act in a manner that elicits a meaningful response from the world (pg. 15-16). These five conditions are part of a process, referred to as the circuit of reflective action. When these conditions are not met, humans are unable to make smart choices and decisions, therefore limiting the ability to solve large, complex problems 'smartly.'

As an educator in today's digital world, I agree with Gee - to a point. Gee brings up a very valid point: that formal school often does not meet or engage in the conditions needed for reflective action (2013, pg.16). Formal schooling in the traditional sense is limiting the ability to problem solve. Coming out of the age of standardized testing, data collection, rote-learning, and fact collection, schooling has not usually been based on authentic problem solving. Listening to lectures and reading textbooks presents information and facts in a very abstract manner, with little or no actions taking place that make the learning relevant in context to the world around us. Students see no clear goals for them to care about beyond earning grades and eventually graduation. They struggle to connect what is happening in the classroom to real world experiences. Mentorship and prior experiences also are becoming part of the learning gap. A case of the 'haves' and 'have-nots' that is becoming even wider due to the current economic forecasts and access to digital media. Without access to digital media and technology tools, students struggle to learn and master twenty-first century skills necessary to be 'smart' in this digital age.

I also agree with Gee's thoughts on school reform and school improvement. We cannot improve our schools through talking the talk, politics, and crippling policies/mandates that restrict educators and schools more than they help. There is a movement within the country to change learning standards to increase the development of critical thinking and problem solving skills. It is small, but through the use of digital and social media, 'knowledge communities' (Gee, 2013, pg. 93), people are organizing themselves to spread the knowledge and know-how of practices such as problem-based learning and digital citizenship. Through problem-based learning, students seek to solve real problems while engaging in skill-building that is authentic and meaningful. And they are also receiving mentorship and experiences that will only help them become more skillful at reflective thinking and continuing the circuit of reflective action. One popular website is [Edutopia](#), part of the George Lucas Educational Foundation. Here, educators, administrators, students, and parents can find resources, research, and examples of project-based learning. Edutopia describes its mission as being "a place where students become lifelong learners and develop 21st-century skills, especially three fundamental skills: how to find information; how to assess the quality of information; how to creatively and effectively use information to accomplish a goal." (2013, www.edutopia.org). This community of action-takers is making strides in transforming formal education into opportunities for learners to engage in reflective thinking that will enable them to break through the limitations of solving large, complex problems.

Ultimately, Gee's thoughts provide a platform for metacognition and thinking about smart problem solving can only lead to the beginning of smarter problem solving.

Gee, J. P. (2013). *The Anti-Education Era: Creating Smarter Students through Digital Learning* [Kindle version]. Retrieved from Amazon.com.

(2013). *George Lucas Educational Foundation: Our Mission and Our Vision*. Retrieved from <http://www.edutopia.org/mission-vision>.