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CEP 812
White Paper Response #1
09/04/14

How Humans Can Solve Complex Problems Smartly

Throughout Part I of James Paul Gee's book *The Anti-Education Era: Creating Smarter Students Through Digital Learning,* one commonality summed up the answer to the question of what limitations prevent us from solving big, complex problems: humans. Gee argues that we struggle to solve complex problems smartly due to underlying factors that affect how humans think.

Although Gee emphasizes many faults that humans are born with, one of the first problems identified is that humans are very selective about what they remember. Gee explains that research has proven that human memories are actually edited and updated frequently and therefore contaminate our recollection of information and events. Consequently, this influences our everyday beliefs and cultural practices that may be contradicted by science.

However, science has little impact on us because humans have a notion that everything must have a meaning or a reason behind it. As Gee described, humans are very good at believing what they want and need to believe, even when faced with opposing evidence. He refers to this as "confirmation bias" which leads us to seek information that will confirm our beliefs and consequently reject any argument that results in disagreement with our own, even if it has proven to be true elsewhere. As humans, we need to be able to care about something and have some sort of emotional investment in order to put our ideas into action. However, because of this need to identify with those who agree with our own opinions and ideals, humans close off their ability to evaluate and discover other points of view. Although digital media provides a way for humans to have access to multiple forms of evidence-based information, we

continue to only acknowledge the things that match up with our current beliefs. This prevents us from being able to solve complex problems smartly when we are faced with such issues.

With the use of digital and social media, humans can become smarter and fight against the complex problems of the world. Of course, humans must consider who controls these forms of digital media and what we do with them. If used properly, humans can borrow and utilize the tools and ides of people in the right manner which will help us to make smarter decisions and solve these complex problems. This is just another form of repurposing, as explained by Dr. Mishra in his keynote speech about 21st Century Learning[1]. It is important that humans can become more open-minded in order to provide well-substantiated arguments for their position that is based on both evidence and morals, achieved through the questioning of people and digital media--including evidence opposing their opinions.

Throughout my teaching experiences I have observed these types of human error. In a Spanish class that I taught, my students and I had multiple discussions about immigration and what kind of effects immigration and immigration laws have on our own country. Immediately, the class was clearly divided into two groups about this topic: one group was arguing that anyone who is considered an illegal immigrant should not be allowed in the United States and the other group of students hadn't necessarily formed an opinion yet. However, the students against illegal immigration had this belief which banded them together without actually having any evidence to back up their argument of why they believed this or how we might try to correct such an issue regarding it's laws and requirements. Not one student was able to give a well-defended response. Their statements were based off of their own memories that were influenced by certain propaganda in the media and they were not interested in any opposing opinions.

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[1] 21CLearning. (n.d.). Punya Mishra - Keynote Speaker @ 21st Century Learning Conference - Hong Kong 2012. *YouTube*. Retrieved September 4, 2014, from https://www.youtube.com/watch?v=9bwXYa91fvQ

This prompted a project that required all students to research immigration and immigration laws in the U.S., focusing on people from Central and South America who were trying to immigrate to the U.S. The students were required to use evidence, found through digital media, which supported both the pros and cons of what this could mean for our country. By examining both sides of this complex issue, the students were required to leave their comfort zones and established opinions to discover contrasting evidence in order to develop a well-rounded stance on this topic.

Resources:

21CLearning. (n.d.). Punya Mishra - Keynote Speaker @ 21st Century Learning Conference - Hong Kong 2012.*YouTube*. Retrieved September 4, 2014, from https://www.youtube.com/watch?v=9bwXYa91fvQ

Gee, J. P. (2013). *The anti-education era: creating smarter students through digital learning*. New York, NY: PALGRAVE MACMILLAN.