Changing the View of Learning, View of World, and View of Self Through Technology: How the Dictionary Mobile Application Extends One’s Self

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*Introduction*

 For centuries, humans have shared this earth with plants and animals – all surviving through a symbiotic relationship with one another. In the 21st Century, a new symbiotic relationship has developed between humans and a new species, *technology*. Both entities depend on each other for development in all aspects of life: business, personal, communication, etc. Consequently, this relationship has yielded improved success in the lives of human beings. However, as we develop more of a dependent relationship with machines, what kinds of people are we developing into as a result? The nature of people is changing as we are teaching our synapses to make new connections with our interactions among the new species of technology. The Dictionary Mobile Application is one example of this technology that is changing the way we approach the world, and in return, it also changing a part of us. Looking at the psychological and theoretical implications of Educational Technology, we can see how our new dependence on technology, using the Dictionary Mobile App, extends one’s self by changing the view of learning, the view of the world, and the view of the self.

*Background*

 The students in today’s classroom are no longer restricted to the pen and paper, nor the four walls that surround them; technology has created new learning opportunities for reading, writing, speaking, and listening. The BC’s Education Plan (2011) hopes to modernize education by supporting the successful integration of technology in the classroom. By doing so, the future classroom will become a place that will personalize learning for every student, provide quality teaching and learning, enable flexibility and choice, maintain high standards, and create learning empowered by technology (BC’s Ministry of Education, 2011). Not only are classrooms becoming equipped with the latest technologies in education, like Smartboards, but students are also purchasing their own Wi-Fi technology devices, like smartphones, iPods, and tablets. The technological revolution has already begun.

 In today’s classroom, students are relying on their mobile devices as an extension of themselves and their capabilities. The Dictionary Mobile Application plays an integral role in helping a student develop their identity: through literacy and self-efficacy. This technology is changing the psychology behind the way we think and perceive the world and ourselves, and “[t]he computer culture needs psychoanalytic understandings to adequately confront our evolving relationships with a new world of objects” (Turkle, 2004, p.17).

*Changing View of Learning*

 The world was once a petri dish filled with human interaction and limited binary codes. Students developed and prospered under the educational foundations, like Constructivism and Sociocultural Approach. Eventually, the species*, technology*, was introduced into this society. Technology has invaded the theories that have grounded education and the way students have learned and been taught for many years. As a result, technology, like the dictionary mobile application (DMA), has transformed the way we view learning.

 The relationships found in education have been primarily centered around three variables: student, teacher, and content. Hillman, Willis, and Gunawardena (1994) added another variable to the trajectory: interface. The modern variable, *technology*, participates as an interface in the interactivity between student, teacher, and content. The DMA serves as an “intelligent help facility” (Anderson, 2004) that provides “adaptive advice, and model[s] the learner's use of the environment (including navigational use, answers to questions, and help requested) to make intelligent suggestions about a preferred individualized path through the knowledge base” (Anderson, 2004). This “intelligent help facility” allows the student to support individual cognitive learning through this interface that also acts as content and teachers. The student now controls this learning state and determines the direction of intellectual development. In addition, the teacher is no longer the only gatekeeper to knowledge. The student re-conceptualizes that learning is not the dependency on a teacher as content of knowledge; the teacher is not the medium to the message. Instead, the student has access to the message itself, without interpretation or bias. This change in the view of learning puts the learner as active and authoritative.

 In the Social Cognitive Theory, a learner learns through observing modeling in social interactions. With technology, modeling has now changed and included the modeling of technological interactions. For example, the DMA provides personalized learning assistance and immediate feedback that teaches learners the process of finding the most appropriate word for communication, as “…computers can be extensions of the mind’s construction of thought” (Turkle, 2004, p. 19). When the language ability and vocabulary repertoire become stronger, the learner relies less on the DMA and follows the same modeling that the DMA exhibited during the word learning process. Therefore, the learner becomes more dependent on one’s own actions, which results in the self-regulation of actions and thoughts. The view of learning develops into a process of integrating modeled elements to create a better version of self – to extend the self. As a result, a learner’s view of learning with a DMA yields improved self-efficacy, which helps to “determine how much effort individuals will expend on an activity, how long they will persevere when confronting obstacles, and how resilient they will be in the face of adverse situations. Self-efficacy beliefs also influence individuals’ thought patterns and emotional reactions” (Phan, 2012, p.84). These psychological improvements in a learner’s own ability can be a predictor of future success and create “expanded opportunities for learners to plunge ever deeper into knowledge resources, providing a near limitless means” (Anderson, 2008, p.49).

 In Constructivism, the learner takes part in meaningful activity and develops the internal cognitive structure through the modes of representation: enactive, iconic, and symbolic. With the DMA, the learner now cultivates meaning through the understandings of new words and new symbols through words, thus creating personalized and meaningful learning. This is a change in the view of learning because the learner is required to interact with the content in order to actively construct meaning and significance. This is essential because “according to constructivists, learning requires the personal interpretation of phenomenon such as the construction of a mental model representing complex phenomenon” (Woo & Reeves, 2007).

 The learning theories adapt to the technology that we use, as it interacts with the teacher, learner, content, and interface. We extend ourselves through these technologies by creating updated versions of ourselves by altering the way we understand learning.

*Changing View of World*

 The world was once only as far as the eye could see. The boundaries were plentiful and an individual’s existence was localized. The world simply existed and people altered themselves to live in this space. Technology has changed this limited view: Heidegger critiques that “technologies are not merely neutral or docile tools, malleable to the intentions of the ‘user’. Rather, through their design and application, technologies embody and promulgate particular ways of framing the world, thereby promoting particular ways of being and relations between ourselves and things” (as cited in Dall’Alba & Barnacle, 2005, p.733).

 One new frame of the world is where the learner enters to not only explore, but to personally alter for one’s own good. What the world offers are objects for an individual to use, as “perception is *not* in the service of *knowledge* (or even, more generally, it does not merely or primarily yield information about the world’s material structure); rather, *it is in the service of action*. That is to say, perceived objects are *what the body does or can do to them*” (as cited in Dall’Alba & Barnacle, 2005, p.733). The DMA does not just act as a service of *knowledge* but it acts as a *service of action*, as the tool transforms the abilities of a learner from being static to dynamic. This ability to manipulate objects in this world empowers the learner in seeing that the world is malleable by the hands of a human. Therefore, the object transforms to become an extension of the self and extends what the self can accomplish.

 Another new frame of the world is that the world becomes less of a foreign entity and more understandable, as learners can interpret its existence through the words learned with the DMA; “[m]oreover, body and tool, human and machine, each mediate the other, and this informs the way we understand the world and the things we do. Therefore, the mediation with the DMA has a ‘potentially transformative nature’, whereby learners engage with, and embody, what they learn” (Turkle, 2004, p.730). The learner uses the object to extend understanding of the world through the increase of literacy. The mind is no longer limited to a narrow perspective, but instead it has a wider acceptance of differences that can propel a learner towards greater opportunities in the world, especially one that is viewed as without boundaries and boundless opportunities.

 Another new frame of the world reflects how fast the world changes: "the moment man first picked up a stone or a branch to use as a tool, he altered irrevocably the balance between him and his environment. From this point on, the way in which the world around him changed was different. It was no longer regular or predictable. New objects appeared that were not recognizable as a mutation of something that had existed before, and as each one emerged it altered the environment not for a season but forever. While the number of these tools remained small, their effect took a long time to spread and to cause change. But as they increased, so did their effects: the more the tools, the faster the rate of change." (Burke, 1978). The technology that humans live with has developed exponentially since the beginning. The view of the world is now a world with technology that changes rapidly and sometimes sporadically. In order to keep up with technology, the learner needs to change at the same pace with technology. With the DMA, the learner understands the need to mold himself to be as efficient with the way the world maneuvers. The learner also understands that the success of a person is also based on the ratio between production and time. The higher the productivity compared to the time used is highly valued in a society that runs in nanoseconds. Therefore, using technology, like the DMA, increases the ability to produce efficiently and quickly. The DMA aids the individual cognitive thinking process and enables the learner to extend his ability to its greatest possible denominator.

*Changing View of Self*

 Our understandings of ourselves are in a constant state of change, and with technology, the changes have been prominent. As Turkle argues, “Computer users are frequently more in touch with the subjective computer, the computer that does things to us, to our ways of seeing the world, to the way we think, to the nature of our relationships with each other” (Turkle, 2004, p.18). Here, the learner understands the potential possibilities from using technology. The technology acts as an extension of the self – representing the best version of the self. What a learner lacks, he or she can find through using technology. Thus, the self-efficacy of the learner will increase and promote positive contributions to society. The learner uses technological tools, like the DMA, to accommodate for these improved and calculated changes in the self: Heidegger discusses “the way that being – or what is – is understood in the modern age has become technological. It is technological in the sense that the modern way of thinking (borrowed ultimately from Nietzche) treats things (including ourselves) instrumentally, or calculatively as resources to be used and disposed of within an all-encompassing logic of efficiency and control” (as cited in Dall’Alba & Barnacle, 2005, p.733).

 The learner views the DMA as a resource to extend the self. The tool gives the ability to express the thoughts and meanings that the learner individually develops but lacks the symbolic representation, the words, to express them. Therefore, the learner does not feel that the inability to express meaning will impede success. Instead, the learner becomes confident that he possesses the ability to direct his internal cognitive structure, as the “designers of computational objects have traditionally focused on how these objects might extend and/or perfect human cognitive powers” (Turkle, 2004, p.18). However, the computational object, for some, “offers the *promise of perfection*” (Turkle, 2004, p.20), which can be debilitating for some users. For example, the DMA may practice the process of word recognition and learning, but the learner may become dependent and never accept a literary experience without technological access. Thus, the learner develops a premature anxiety towards the absence of a DMA during a time of need and feels a sense of empowerment with it: “…I feel invincible, sociable, better prepared. I am naked without it. With it, I’m a better person” (as cited in Turkle, 2004, p.18). Contrary to this, I argue that the preservation of self to prevent this may be the anxiety a learner needs to overcome; technology, like the DMA, can give “time to reflect on and edit one’s composition” (Turkle, 2004, p. 21).

 The DMA also creates opportunity for experimenting with self. The self is no longer one entity, static in state. Instead, the learner is able to experiment with multiple words and meanings to develop the “voice” of a piece of writing; the piece of writing later will reflect who the writer is and how society will judge the individual. While experimenting with the DMA, the learner will see it as “a time during which one’s actions are…not given as much weight, not given the full judgment. In this context, experimentation can become the norm rather than a brave departure. Relatively consequence-free experimentation facilitates the development of a ‘core self,’ a personal sense of what gives life meaning that Erikson called ‘identity’” (Turkle, 2004, p. 22). Technology provides opportunities with experimentation to develop one’s self. Thus, the view of self becomes an identity that is dynamic in movement and time, and constant in growth.

*Conclusion*

 With the DMA, the way a human writes can change; the meaning the human wants to convey can change; the meaning to be human can change. According to Murphie & Potts (2003), “with a stroke of a couple of keys one can change the whole document…This is only the beginning – what has happened to writing is also happening to the body, to culture, to subjectivity, to what we used to call ‘nature’” (p.129). The psychology of a human is changing as we are approaching the things we do and the things we see with an altering technological perspective. The DMA offers us an extension to our identity in order to “find more and more information that we can work with buried within the body – both our bodies and what we might call the body of the earth” (Murphie & Potts, 2003, p.129). Our future existence now depends on how far we can use technology to extend our abilities by changing the way we view learning, the world, and ourselves. When the technological revolution began, so did the revolution in the evolution of the human.

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