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Intelligence and Education

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February 6, 2011

Abstract

The purpose of this research is to examine how intelligence is used to acquire education to make positive changes for oneself and for others. For change to occur, intelligence is required to understand which changes need to be made and how to make them. A literature review was conducted through the Educational Resources Information Center (ERIC) where eight peer-reviewed scholarly articles were researched. Research was conducted to determine how intelligence results in change and which major theories of intelligence supported this relationship. Results revealed that intelligence is required to understand what changes are to be made, to determine how to make decisions on what changes need to be, and how to apply these decisions to make changes.

Intelligence and Education

Even though humans are all born genetically unique, they share one thing, intelligence. As intelligence has a broad definition, humans still possess varying portions of the many major theories of intelligence which allows us our own characteristics of behavior. Our genetic differences challenge our cognitive intellectual abilities to see how we interact with our environment. In order to survive, we depend on our own intelligence to make decisions on what is best for us. Depending on our goal of this interaction, this requires us to learn from our mistakes or become educated from this interaction so that we can understand what problems we encounter and how to make positive changes. It is the purpose of this paper to show that intelligence is required in order for us to solve problems and possibly alter our environment in order to survive.

Intelligence

The definitions of intelligence are numerous depending on the context of a given situation. Sternberg (2005, p. 189) defined intelligence as “a person’s ability to adapt to the environment and to learn from experiences” (as cited by Sternberg & Detterman, 1986). Sternberg also suggested that intelligence is involved in the “interaction of any of the environmental contexts, physical, biological, and cultural (1997, p. 1031). In Sternberg’s research (1997) these elements were used in defining intelligence: (a) higher-level abilities, (b) ability to learn, and (c) adaptation to meet the demands of the environment effectively. A 1986 survey also included these common elements (a) higher-level abilities, (b) that which is valued by culture, and (c) executive processes (Sternberg, 1997). These origins depend upon the background of an individual possessing intelligence. All humans appear unequal in intelligence

due to discrepancies in their cognitive processes, their motivations, and applying that behavior to react and cause change to the environment (Sternberg, 1997).

In order to possess the abilities to solve problems, individuals must have the cognitive abilities, the motivation, and the abilities to apply these behaviors to adapt and make changes. All individuals possess a central cognitive processing station that allows us to take in information and process it in order to act or react. These mental abilities allow for adaptation to environmental change, shaping of the environment and selecting any environmental context in which to make changes (Sternberg, 1997). According to Sternberg (1997), a person's ability to infer a process could differ between verbal and quantitative or other representational domains (Sternberg & Gardner, 1983). Although all individuals differ in their mental processes, the motivation to apply the mental processes in different domains is unique. How an individual utilizes intelligence to solve problems can be explained by some of the major theories of intelligence.

Major Theories of Intelligence

Emotional Intelligence

One of the most important theories of intelligence, Daniel Goleman's emotional intelligence (O'Neil, 1996), assists in understanding how individuals control how they learn.

Daniel Goleman's theory suggests

...knowing what your feelings are and using your feelings to make good decisions in life...to manage distressing moods well and control impulses...be motivated and remaining hopeful and optimistic when you have setbacks in working toward goals...it's empathy; knowing what the people around you are feeling...and it's social skill-getting along well with other people, persuading and leading others..."(O'Neil, 1996, p. 6).

O'Neil further emphasized this theory as the "...bedrock upon which to build other intelligences...is more closely linked to lifelong success" (1996, p. 10). This theory best explains how humans must be able to understand the origins of these feelings before they act so that the most intelligent decisions can be made. These origins can be traced back to childhood as this is when emotional pathways begin to become sculpted by experience, but not all emotional skills are learned through interaction with other children and adults (O'Neil, 1996).

According to Cherniss, Extein, Goleman and Weiss (2006), an individual's self-awareness and confidence should motivate them to try harder, and as a result, goal-setting, stress management, organizational skills, and problem solving skills should enable them to overcome obstacles to improve their performance (as cited by Zins, Weissberg, Wang & Walberg, 2004). Sternberg (1997) adds that, with age, individuals learn to make the best of the abilities that remain intact while learning to compensate for the abilities they are losing. In general, what is needed for learning and functioning may differ at varying points in one's life span (as cited by Baltes et al., n.d.). Individuals may have to identify and resolve their own emotional instabilities in order to affectively interact with others, but they can also work with others to determine their own weaknesses and strengths for self improvements.

Multiple Intelligence

As individuals think and behave differently, this difference allows for enriched interactions between individuals. McClellan and Conti (2008) suggested for a need of a broader view of the human mind and of human learning than what currently exists (as cited by Gardner, 1983). All students are smart in numerous ways. It is argued, by McClellan and Conti (2008), that humans possess a number of distinct intelligences that is beyond verbal and logical abilities that appear in different skills, namely linguistic, logical-mathematical, musical, bodily-

kinesthetic, naturalistic, interpersonal, intrapersonal, and existential, which they term multiple intelligence (as cited by Gardner, 1983). They explain that all humans apply these intelligences to solve problems, invent processes, and demonstrate their creativity (as cited by Gardner & Hatch, 1989). Moran et al. (2006) elucidate that all individuals possess each of the skills to some extent but differ in the degree of skill and in their combinations (as cited by Gardner, 1993, p. 15). And so, Moran et al. (2006) define multiple intelligence as "...the ability to solve problems or devise products that are of significance in a particular cultural setting..." (as cited by Gardner, 1993, p. 15). Moran et al. (2006) also explain that each learner's intelligence profile consists of a combination of relative strengths and weaknesses which allow for problem solving skill to "approach a situation that requires a goal to be met and locate the appropriate route to that goal" (as cited by Gardner, 1993, p. 15). This would explain why no one is good or bad at everything (Sternberg, 2005). Once an individual has experienced positive interactions with others, they can use these skills to continuously make changes to survive.

Successful Intelligence

As intelligence generally refers to more than just "adapting to the environment" (Sternberg, 2005, p. 190), successful intelligence distinguishes among adapting, shaping, and selecting of an environment (Sternberg, 2005). It is not so much what goals have been chosen to work with, but what skills and dispositions are needed to achieve these goals. Over the course of one's life-time, environmental conditions change significantly. To survive these changes, one needs to continuously adapt, which is a key skill of intelligence. It can then be concluded that adaptation and shaping must work together successfully in order for balance to occur. If an impact needs to be made, something needs to change as well as how change must occur

(Sternberg, 2005). As most major theories support how intelligence is used for positive change, other theories lack the support.

Social Intelligence

Humans constantly use real personal interactions to understand and apply intelligence in the world. For these interactions to occur, individuals are constantly changing their environments to learn more of how to improve their communication skills of varying populations. Since individuals change their locations, it would be most impractical to retain an individual in one place so that training in communication skills can be employed at a particular location. The most appropriate solution, suggested by Persson, Laaksohlahti and Lonnqvist (2002), is to use computers so that social intelligence can help improve communication skills. For this to occur, technicians can, for example, program computers to closely resemble real humans so that these computers will behave and look as much possible like humans.

Conclusion

To adapt to or make positive changes in one's life and environment, intelligence is required to ensure that it is understood what is to be changed and how to do so. There have been many theories that have been able to support this as well as refute them. To best understand oneself before changes can be made to self and the environment, the theory of emotional intelligence provides substance to help us learn of ourselves and others so that we may have more of a positive relationship. As every individual differs in their intellect, the theory of multiple intelligence explains that every human being is able to interact and learn from each other, with our weaknesses and strengths, making the world population a possible stronger nation. As we learn from our emotional intelligence and other's multiple intelligence, we gain

more education and learn how to use successful intelligence to adapt and make changes to the world as we continuously work with the world's population. (1470)

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