Using Worldviews and Paradigms for School and Educational Reform and Revisioning [1]

William G. Huitt

Source: Huitt, W. (2019, August). Using worldviews and paradigms for school and educational reform and revisioning. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved from http://www.edpsycinteractive.org/papers/2019-worldviews-paradigms-and-school-reform.pdf

A phase change is underway that demands policy makers, educators, and parents, as well as the general community, to explore the meaning of these changes for the preparation of children, adolescents and adults to be successful in the next several decades. However, different worldview and paradigms held by participants will influence the data that are selected, how those data are analyzed, and the preparation and selection of preferred alternatives. This paper provides an overview of how worldviews and paradigms might impact these decisions.

Countries around the world are seeking ways to better prepare their children and youth for successful adulthood in the twenty-first century (Smith & Day, 1990; Jakobi & Teltemann, 2011). Unfortunately, there is no easy, readily available solution to this challenge. One reason is that the alternatives that one considers are influenced by the worldview and/or paradigm one uses to describe a human being and the value of education and schooling (Huitt, 2017b). Therefore, discussion of alternatives is often an implicit discussion of worldviews and paradigms (Vidal, 2014). The purpose of this paper is to provide a brief overview of the implications of selecting a worldview and paradigm as one discusses alternatives for schooling and education of children, adolescents, and adults. The paper will present evidence that there are at least two solid reasons for the importance of formal education or schooling for human beings: (1) develop one's personal innate and inherited potential, and (2) allow one to adapt to, as well as contribute to, the cultural and socioeconomic demands of modern living. And while developing academic competencies are certainly important for cultural, social, and economic reasons, there are a number of uniquely human capacities that are also important to develop (Huitt, 2018a). These potentials are innate in every human being as a result of the complex processes of physical, chemical, and biological, and perhaps spiritual, evolution. However, the sociocultural milieu of modern life is dramatically different from the conditions in which they developed. These issues are explored further in Huitt (2017a) and Huitt, 2018b)

World Views and Paradigms

There are currently three broad categories of worldviews: secular/materialistic, cosmic-spiritual, and God-centered (Huitt, 2017b). If one adopts a secular/materialistic worldview, one sees a human being in strictly materialistic terms whereas if one adopts a cosmic-spiritual worldview one would have a belief in a non-material or spiritual, as well as material, existence and advocate there is some part of the human being that survives physical death. And if one were to adopt a God-centered worldview one would have a belief in a Creator and likely look to

[1] Parts of this paper were derived from Huitt, W. (2017, May). What is a human being and why is education necessary (revised). *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved from http://www.edpsycinteractive.org/topics/intro/human.html

a set of scriptures or traditions to define a human being and a life after an earthly, physical existence. Holders of each of these alternative worldviews will develop somewhat different alternatives for education and schooling and establish different criteria for choosing among them.

Likewise, one's paradigm can influence how one interprets reality and organizes facts, concepts, and principles (Huitt, 2011b). For example, if one were to adopt a mechanistic or reductionistic paradigm, one would look at the factors considered to influence teaching and learning as separate components and investigate how the structure and functions of communities, families, schools, and classrooms would impact human development and learning (eg, Hattie, 2009; Huitt, Huitt, Monetti, & Hummel, 2009; Squires, Huitt, & Segars, 1982). However, if one adopted an existential/phenomenological paradigm one would look at human perceptions and interpretations of schooling and its effects (Rogers, & Freiberg, 1994). And if one were to adopt an organismic/systems paradigm one would seek to describe the whole person embedded in multiple layers of context or environment and the interactions among various components and their influence on human beings (Bronfenbrenner & Ceci, 1994; Huitt, 2012; Overton, 2010).

More often than not, the alternatives current policy makers create for public schooling adopt a materialistic/mechanistic worldview/paradigm combination with a singular focus on students' attaining high levels of academic achievement (Postlethwaite & Kellaghan, 2009). And because academic achievement as measured by standardized tests is the preeminent, and sometimes only, standard by which schools are evaluated, that is the target educators aim to hit (Hummel & Huitt, 1994). Rosling (2007, 2010) provided a clear rationale for elementary and secondary schooling with a focus on academics. Over the last 200 years there has been a dramatic change in lifestyles around the world, with increasing numbers of people moving out of poverty and achieving economic wealth and longer lives. Increased access to schooling and education was a major factor in this change (van der Berg, 2008).

However, it is increasingly apparent that, while a focus solely on academic achievement in basic skills might have served as the primary reason for schooling and education during the 19th and early 20th centuries, a change is needed for the 21st century and beyond. One challenge is that the vision of the good life towards which most of humanity aspires (ie, the lifestyles of the middle class and wealthy in the developed world) is not sustainable nor is it without its shortcomings (Adams, 2006). For example, a variety of authors and institutions (eg, Hanley, 2014; Martenson, & Taggart, 2015; Worldwatch Institute, 2015) showed that the improvement in economic wealth has come at the expense of putting tons of carbon dioxide into the biosphere as a result of burning fossil fuels. Similarly, the World Health Organization (2008) provided data demonstrating that mental health issues, especially depression, are rapidly rising around the world in spite of better economic conditions.

A second challenge is that humanity is in the middle of a phase shift (Huitt, 2017a) that is rapidly altering the definitions and requirements for successful living. While many of the implications of this shift are understood incompletely, enough is known to suggest major changes are needed in the education of children, adolescents, and adults if humanity is to effectively manage this transition.

At the turn of the twentieth century, there was a similar phase transition as the developing world, including the United States, made an economic and associated sociocultural transition from agriculture to industry. Recognizing that phase transition, Dewey (1916/1944, 1896/1991, 1938/1997) advocated that formal schooling should focus on preparing children and youth to exist in and contribute to a democratic society and that the school should be viewed as a central component of the community where other types of educational experiences could take

place. Dewey's central idea was that children and youth should be seen as embedded within a community and society.

The need to develop an approach to schooling and education that both prepares individuals to live successfully in the current context as well as prepare for flourishing in a more sustainable future is just one of the challenges facing educators and societies (MacDonald, 2009; Seligman, 2011; Siedel, 2011; Zimmerman, 2005). This certainly is a relevant starting point for school and education reform at the beginning of the twenty-first century.

The Importance of Why

As the issues of desired life styles and sustainable ecosystems to create them are debated, there is a need to ask the fundamental question of 'Why?' Sinek (2009) stated that the answer to the 'Why?' question is more fundamental than the questions of 'What is to be produced?' or 'How is that going to happen?" Pink (2009) suggested that asking why addresses the issue of meaning and purpose of one's actions, one of three primary motivators for adults in the workplace. Seligman (2011) also highlights the importance of meaning and purpose, proposing it as one of the five components of well-being (see Huitt, 2011c, for an overview of Pink's and Seligman's theories). Taken in the context of schooling and education, this suggests that the questions related to why, to meaning and purpose, are more fundamental and important than are questions of curricular goals and objectives or methods of instruction and assessment (Wei, Pecheone, & Wilzcak, 2015; Wong, 2012).

One form of the why question relates to the issue of the necessity of education, especially the formal education taking place in schools and higher education. That is, what is it about the nature of human beings and their potential or lack thereof that requires they be educated, especially in a formal manner? One perspective is to incorporate the very beginnings and evolution of the known universe as a necessary, though perhaps not sufficient, condition for understanding human development and behavior (Abrams & Primack, 2011; Christian, 2011). As Spier (2010) stated: "the building blocks that are shaping our personal complexity today, as well as the complexity surrounding us, can all be traced back to the emergence and evolution of the universe" (p. 6).

A corollary question relates to an explanation of the perplexing nature of the why question at this point in human history. This aspect is especially important as humanity passes through a period of the most extensive explosion of knowledge and change in its history (Brown, 2007; Spier, 2008, 2010) as it transitions from an age of competing empires to an age of planetary cooperation (Gilman, 1993, 2014). Kurzweil (2005) provided an excellent overview of the accelerating process of change, making it clear that a whole new range of possibilities is becoming available over which humanity has some potential to control.

Yet another aspect of the why question relates to specific alternatives designed to reform current education and schooling practices. For example, although the Partnership for 21st Century Skills (2009) created a list of core competencies identifying "the essential skills for success in today's world," the list omits such factors as getting to know oneself, as well as developing one's emotional and moral character capacities. Even an updated list of competencies developed by Michael Fullan and his colleagues (Fullan & Langworthy, 2014; Fullan & Quinn, 2016) omit critical competencies such as maintaining a healthy lifestyle and developing meaning and purpose in one's life. It is important to ask why certain skills and competencies were included and/or omitted.

Alternative World Views

From a physical/materialistic worldview, human beings are embedded in, and the result of, a set of physical, chemical, and biological evolutionary processes that are at least 13.7 billion years old (Abrams & Primack, 2011; Brown, 2007; Christian, 2011; Spier, 2010), although some sort of physical reality existed before this point (Capra & Luisi, 2014). These same authors proposed that a scientific understanding of the creation narrative provides the foundation on which to ask further why questions and search for possible alternatives to answer the what and how questions of schooling and education. Additional research demonstrated that humans influence the future through intentional activity (Schwartz & Begley, 2002; Thompson-Schill, Ramsear, Chrysikou, 2009). Bandura (1986) proposed the capacities that make this possible (intentionality, forethought, self-reactiveness, and self-reflection) differentiate human beings from all other species. Gilbert and Wilson (2007) used the term prospection to describe human beings' abilities to imagine a future and act on it. Seligman, Railton, Baumeister, and Sripada (2013) provided further evidence of these abilities and demonstrated that these can be developed through education. While this might seem to be self-evident given one's personal experiences, a fully determined universe as proposed by Newton and Einstein (Ulanowicz, 2009) would perceive this use of volition or will as an illusion (Bandura, 2001; Haggard, 2008).

Other authors point to the accelerating pace of change and the resulting increased opportunities for individual and sociocultural development that accrue as a result (Huitt, 2017a). From this perspective, the ultimate answer to the why question of the necessity of education is that humanity is the result of an evolutionary process of the universe attempting to understand itself (Abrams & Primack, 2011). Goals such as economic success or personal happiness are secondary to this ultimate reason for educating human beings. Moreover, as a result of agency, human beings have the potential to contribute to an ever-advancing civilization. That is, using forethought or prospection to imagine a desirable future and developing an action plan to intentionally move towards that end result, human beings can use their self-reactiveness and self-reflection to regulate their thinking and behavior as they progressively move towards an imagined future. Human beings can do more than simply adapt to existing conditions; they can create an environment that they imagine as more desirable. Elgin (2010; Elgin with LeDrew, 1997) as well as Beck and Cowan (2005) proposed this process is currently underway with increasing numbers of people voluntarily adopting a paradigm that can lead to more flourishing lives and more sustainable lifestyles. This adds one more reason to the requirement for formal education, albeit a quite different system than is currently practiced around the world.

From a cosmic-spiritual worldview, some aspect of the individual human being is connected to a non-material existence that continues to exist after the material body ceases to function. The essence of this worldview is that there is a direct connection between a material and non-material reality that considers consciousness to be both a beginning and endpoint for all existence (Richheimer, 2016). Support for this worldview comes not only from the implications of quantum physics (Stapp, 2006), but also from well-documented near-death experiences (Bellg, 2015; Holden, Greyson, & James, 2009; Lommel, 2010; Long with Perry, 2010; Schwartz with Simon, 2002). According to this worldview, the major reason for educating human beings is that it is the means of consciously connecting the material and spiritual aspects of reality (Josephson, 1987).

From a God-centered worldview, there is a material and related non-material reality that was created by a First Mover or Creator (Dowd, 2008), although a consensus regarding the relationship between the physical body and the non-material aspect of a human being is yet to be established (Green & Palmer, 2005). The variety of world religions supporting this worldview is well documented (Boyett, 2016; Smith, 1958/1991). Central to this worldview is the concept that the purpose of an earthly life is to know, love, and worship the Creator. Therefore, the central purpose of education is to develop virtues that will allow all humanity to gain a closer relationship to the Creator. While there is much diversity as to how this might be done, there are some common unifying themes, one of which is the Golden Rule (Rost, 1986). The following are just a few examples of this principle from different traditions:

- Hurt not others with that which pains yourself. *Buddhism*
- Choose thou for thy neighbor that which thou choosest for thyself. *Bahá'í*
- Do to others what you would want them to do to you. *Christianity*
- One should always treat others as they themselves wish to be treated. *Hinduism*
- No one of you is a believer until he desires for his brother that which he desires for himself. *Islam*
- What is hateful to you, do not do to your fellow. *Judaism*

Friedman (2016) advocated that the foundational principle of these quotations should be taught as an essential element of all educational experiences and social practices and Popov, Popov, & Kavelin (1997) created a guide for developing virtues that includes selections from major world religions.

A synthesis of these worldviews provides yet another reason for formal education for everyone—developing the ability to explore and understand the nature of reality (ontology) and the nature of knowledge about that reality (epistemology). Human beings are part of the web of life (Capra, 1996), not only on this planet, not only in this universe, but across the cosmos possibly consisting of multiple universes (Green, 2000, 2004). As part of that web, each individual human being is not only influenced by, but also potentially influences, the cosmos.

Summary and Conclusions

While it is relatively easy to accept that human beings possess a wide range of capacities in multiple domains, specific ideas regarding the origin and evolution of those capacities are readily accepted by some and denounced as complete fantasies by others such as:

(1) The material world is always a composite (ie, there is no single entity or set of fundamental particles).
(2) The known universe is only one of many with the origin of material reality beyond that which can be investigated scientifically.
(3) The physical universe is in reality a holographic image.
(4) Human beings have the capacity to influence physical reality through intentional behavior.
(5) Human consciousness (or mind or spirit or soul) exists separately from the physical body.
(6) A concept of First Mover or Creator is necessary if one is to elude the inconsistency of infinite reductionism and the lack of a coherent philosophy that violates the principle of cause and effect that is foundational to scientific inquiry.

It should be remembered that many scientific understandings were first discounted before they were accepted. For example, when the concept of an inflationary universe, starting with a specific event later labeled the Big Bang by Fred Hoyle, was first proposed, the accepted model was that of an unchanging universe in line with Newtonian thinking (Lineweaver & Davis, 2005). Leading scientists rejected the big bang theory as recently as the 1960s until irrefutable evidence was provided that the known universe had a specific beginning and is expanding. Many laypeople, as well as scientists, are still confused about the functioning and meaning of this concept (Lineweaver & Davis, 2005). Other examples of twentieth-century ideas that were at first rejected and then accepted include the tectonic plate theory (first proposed by Alfred Wegener in 1915 and denied as late as the 1960s; Glasscoe, 1998) and the probabilistic nature of quantum mechanics (rejected by Albert Einstein, one of its inventors and yet currently accepted as the standard interpretation; Einstein & Infeld, 1938/1966; Schwartz, Stapp, & Beauregard, 2005.)

This process of paradigm change in science was described by Kuhn (1962). He showed that scientific practice is dependent upon a scientific paradigm, which he defined as "accepted examples of actual scientific practice, examples which include law, theory, application, and instrumentation together--[that] provide models from which spring particular coherent traditions of scientific research....Men whose research is based on shared paradigms are committed to the same rules and standards for scientific practice" (p. 10). The twentieth century saw a rapid change in paradigms in the natural sciences (Abrams & Primack, 2011; Capra, 1996; Ulanowicz, 2009) as well as the social and behavioral sciences (Elgin with LeDrew, 1997; Nagowah & Nagowah, 2009). While a consensus seems to be developing around quantum mechanics and dynamical systems in the natural sciences (Abrams & Primack, 2011; Capra, 1996; Ulanowicz, 2009), no such consensus is developing for the social and behavioral sciences, especially applied sciences such as education in all its facets (Huitt, 2011b). If schooling and education are to become more efficient and effective in developing human potential in all its variations as well as preparing people to meet the demands of the twenty-first century, developing a paradigmatic consensus is certainly a critical activity (Jordan, 1979). As Primack and Abrams (2006) stated, "Many of humanity's most dangerous problems arise from our seventeenth-century way of looking at the universe, which is at odds with the principles of science that we blithely use in countless technologies" (p. 4).

Simultaneously, alternative means of assessment and accountability, beyond standardized tests of basic skills achievement, must be developed. Without an alternative, assessable target all efforts at reform will be evaluated by traditional standardized assessments. This issue will be further explored in an additional article (Huitt, in process).

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