

Analyzing Paradigms Used in Education and Schooling

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A [paradigm](#) may be thought of as pattern or model of how something is structured (the parts and their interrelationships) and how the parts function (behavior within a specific context or time dimension). Kuhn (1962) defined scientific paradigms 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).

Both Harmon (1970) and Baker (1992), writing from the perspective of analyzing past and present activity to predict future trends, built on Kuhn's definition. Harmon defined a paradigm as "the basic way of perceiving, thinking, valuing, and doing associated with a particular vision of reality..." (p. 5), while Baker defined a paradigm as "a set of rules and regulations (written or unwritten) that does two things: (1) it establishes or defines boundaries; and (2) it tells you how to behave inside those boundaries in order to be successful.

Finally, Capra (1996), drawing on previous definitions and working from a dynamic systems perspective, defined a paradigm as "a constellation of concepts, values, perceptions and practices shared by a community, which forms a particular vision of reality that is the basis of the way a community organizes itself" (p. 6).

Individuals have paradigms that cover many aspects of life such as what kind of car to buy or what kind of food to eat. One of the most important paradigms, however, is one's [worldview](#), a set of constructed perceptions and ideas about how the world works. According to [Aerts et al.](#) (1994), a worldview is a "coherent collection of concepts and theorems that must allow us to construct a global image of the world, and in this way to understand as many elements of our experience as possible." This construct provides a frame of reference that guides one's understanding of reality and provides the foundation by which one gives meaning to experiences and thoughts. These are heavily influenced by the culture within which one lives and a person's earliest experiences within a family and community.

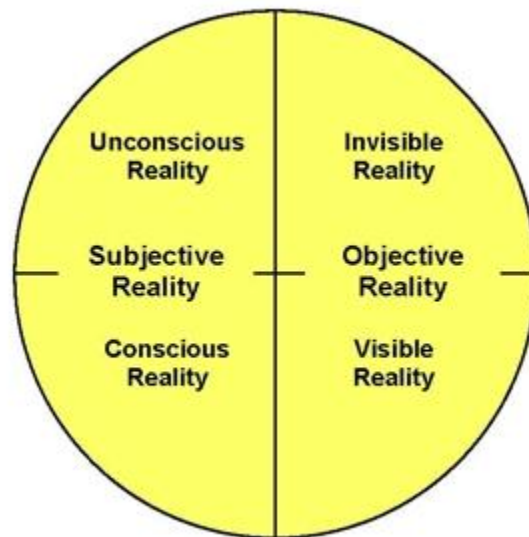
To the extent that one's worldview paradigm is valid or true it can be used to successfully navigate through the challenges and obstacles of one's personal and professional life. To the extent that it is inaccurate, individuals may make decisions and choices that will ultimately bring results that are unwanted or unintended. As educators and parents, it is therefore essential that a valid worldview paradigm is developed that can be taught to students and children as they prepare for successful adulthood.

A major problem in establishing a correct or valid paradigm of reality consists of two aspects. First, while there is possibly an objective reality to be investigated, each person does so through the subjective reality of one's personal understandings, as influenced by one's immersion in a physical, social, and cultural context. Hatcher (1990) states:

In sum, obtaining valid and useful knowledge means obtaining a reasonably accurate mental picture or map of reality and matching that understanding with our needs in a way that allows us to fulfill them (p. 22).

Hatcher depicts this dilemma as shown in Figure 1. From this perspective, there are four categories of reality. First, there is an objective reality that has two components: invisible and visible. The visible, objective reality is the one observed by animals and the stated focus of 18th and 19th century science (Newton, 2010). The invisible, objective reality exists, but is not readily observable. One of the great contributions of science is the development of an increasing array of technologies so that what was previously invisible is becoming more visible (e.g., microscopes, telescopes, x-ray and MRI equipment). The subjective reality has become the focus of post-modern thought and is heavily influenced by quantum theories in physics as well as existential and phenomenological philosophies (Schwartz & Begley, 2003). The subjective, conscious reality refers to what we think we know explicitly about reality and has been the focus of cognitive psychology. Recent studies in neuroscience on subjective, unconscious reality, have demonstrated that the phenomenon discussed in ancient philosophy and modernized by Freud and Jung has a basis in brain activity (Miller, 1986).

Figure 1. The Basic Categories of Existence



Second, one's worldview paradigm, which is a [construct of one's perceived reality](#), focuses attention on certain aspects of objective reality and guides one's interpretation of the possible structure and functioning of both visible and invisible reality (Thulasidas, 2008). It also guides one's understanding and interpretation of the unconscious aspect of subjective reality. It is therefore absolutely critical that a person's, as well as a society's and culture's, subjective interpretations match objective reality. The paradigms educators and parents use to define desired outcomes for students and children, influence decisions such as selecting curriculum, defining appropriate teaching methods, and measuring progress. To the extent these paradigms

are incorrect children and youth may be making significant progress in school, while being unprepared for the opportunities and challenges that await them as adults.

As an analogy, one may desire to drive from one city to another. The car is carefully checked, there is plenty of gas, and the drive is started. There is little traffic and it is possible to travel the legal speed limit on a major highway. However, if the road does not go to the desired destination, the person will never arrive there. Likewise, if educators have established desired outcomes, established criteria, and designed appropriate teaching methods and indicators of progress, they may still not be assisting students to become successful adults. It is possible that paradigm used to create the desired outcomes leads to the selection of different goals and objectives than those actually needed for success in a particular location or time frame. Parents and educators need to pay close attention to [important trends](#) (Huitt, 2007) and [domains of human potential](#) (Huitt, 2011) and do the best they can to imagine what the world will be like in 5, 10, 15 or even 25 years. Adults responsible for the education of young people need to constantly reevaluate whether the stated desired outcomes are correct and constantly adjust curriculum and teaching methods.

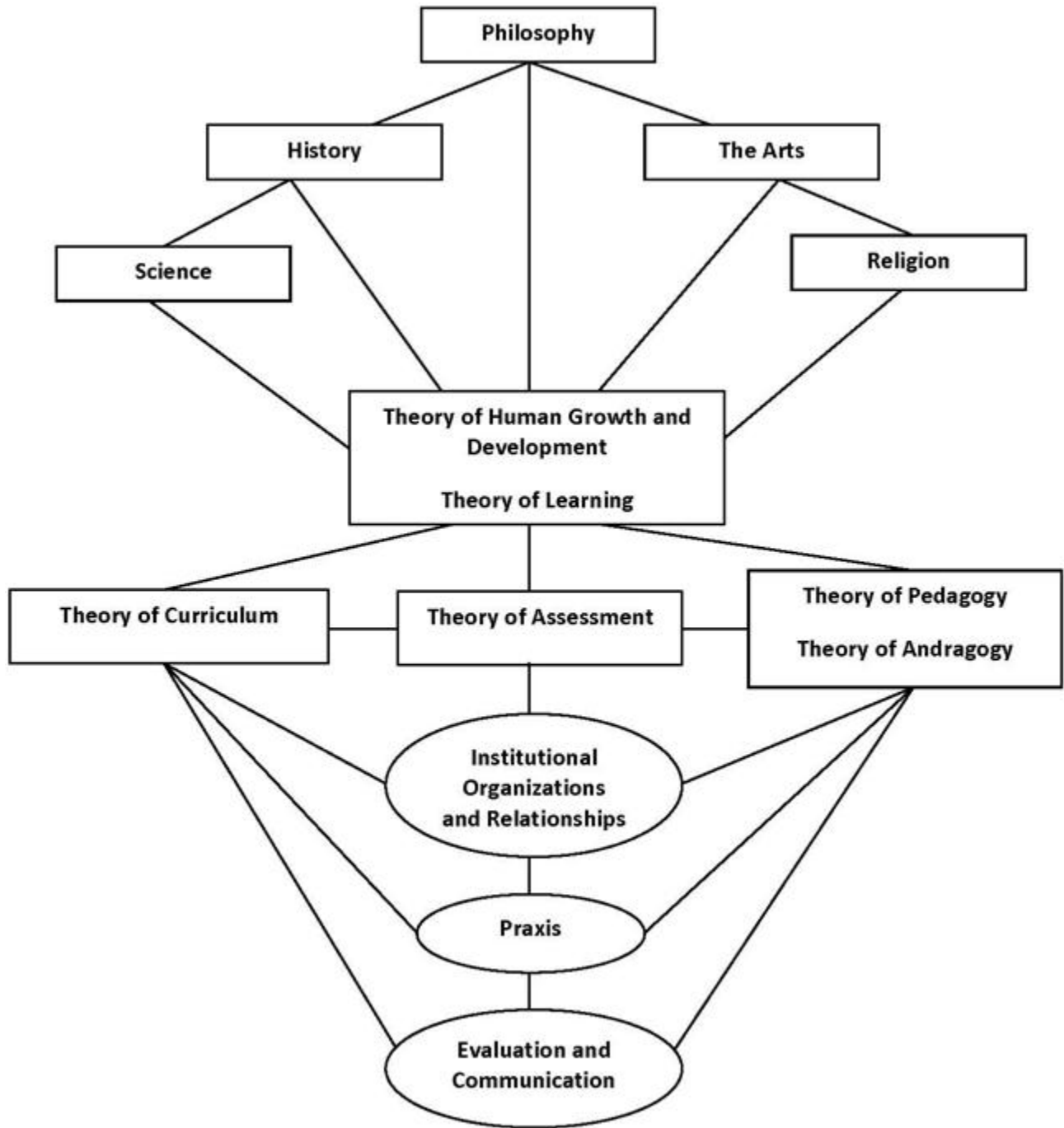
May (2001) provides a slightly different approach in his analysis of practices. His focus is on the actions, especially the patterns and habits, of human beings rather than on cognitive perspectives or paradigms. His basic point is that one's actions say more about one's true self than does one's philosophy or paradigm. What the two perspectives have in common is that they are learned and, therefore, can be changed. Paradigms and practices can be modified through individual intentions or sociocultural influences. That is, both can be altered by changing the society or cultural practices and/or by intentional changing one's own practices. Table 1 shows some of the relationships between these two approaches

Table 1. Paradigms Versus Practices

Groups	Types of Accounts	Criteria for Establishing Truth	Advantages	Disadvantages
Scientists	Explainers	Empirical Evidence	Develop reliable and valid explanations	Provide great deal of detail that is irrelevant to task at hand
Practitioners	Understanders	Practical Value	Develop practical understanding for developing optimal practices	Provide accounts that are episodically coherent but not empirically valid

In many ways, educational psychology is an analysis of competing paradigms about the practices of teaching and learning. One of the goals of the study of educational psychology is that the learner will be more capable in developing an explicit (i.e., more conscious and visible) statement of his or her worldview paradigm that can be used systematically to guide teaching practice. Figure 2 shows the framework that will guide the work for this course.

Figure 2. Framework for Analysis of School Programs*



* Developed by: W. Huitt (Last revised: May 2010); Adapted from D. Jordan (1974, Anisa Model) and K. Bookwalter (2003, Wholistic Education System)

Essentially, this framework proposes that in an ideal worldview of human growth and development would be developed through a combination of reflecting on what is known as seen

through the lenses of science, history, philosophy, the arts, and religion. These theories define what it means to be a human being as well as how humans develop and learn. They would provide the foundation for theories of pedagogy (how to guide learning for children and youth) and andragogy (how to guide learning for adults) as well as theories of curriculum and assessment. These, in turn, would influence thinking about how schools should be organized and relate to other social institutions, the actual practices taking place in schools and classrooms, and methods for evaluating learning and communicating results with interested stakeholders. And, of course, as all of these are reciprocally connected, the influences simultaneously flow in the other direction.

In my view, a practical or realistic approach to reforming actual practice starts with a society's or school's approach to assessment, measurement, and evaluation instruments and procedures used to verify that learning has occurred; these put one's educational paradigm into practice as it is the methods of accountability that actually drive curriculum and instructional practices (e.g., Hummel & Huitt, 1994). When assessment practices do not match the theories of human development and learning it can result in disconnections or a lack of coherence among the different components in the framework, resulting in a fractured, inefficient, and ineffective approach to schooling.

The reading materials for the course will concentrate on research and understandings developed using social and behavioral science methodology. You are encouraged to bring in other sources of information in your discussions of the validity and relevance of assigned materials.

As part of the process of making one's worldview paradigm more explicit, you will be encouraged to consider many of the questions proposed by Aerts et al. (1994) regarding the basic elements that must be considered in one's worldview:

1. What is the nature of our world? How is it structured and how does it function?
2. Why is our world the way it is, and not different? Why are human beings the way we are, and not different? What kind of global explanatory principles can be put forward?
3. Why do we feel the way we feel in this world, and how do we assess global reality, and the role of our species in it?
4. How are we to act and to create in this world? How, in what different ways, can we influence the world and transform it? What are the general principles by which we should organize our actions?
5. What future is open to us and our species in this world? By what criteria are we to select these possible futures?
6. How are we to construct our image of this world in such a way that we can come up with answers to (1), (2), and (3)?
7. What are some of the partial answers that we can propose to these questions?

It is not expected that every learner will have a fully-developed worldview paradigm at the end of the course. However, it is expected that one will have considered the competing alternatives and will be better prepared to construct a worldview that can give be used to judge the many methods, strategies, and practices proposed for the teaching/learning process today.

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