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Consciousness Construction:

Escaping the Circular Arguments of Instructivism vs. Constructivism

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Cognitive Load as An Argument for Instructivism

Cognitive load is an important consideration in today's Information Age in which students are bombarded with excessive amounts of unfiltered and unanalyzed knowledge from many different directions. Combine that with the expectation that they are required to know ever more bits of knowledge, or "factoids" so that they are able to pass the increasing numbers of standardized tests required for moving from grade level to grade level or to earn a high school diploma, and one can readily see that there is too much expected of students, too much in terms of cognitive load. In fact, it is a recipe for disaster when one considers the impact of this struggle on their emotional well being and sense of success and it is no surprise that increasing numbers of students are giving up and dropping out of high school. Thus, the need to memorize random bits of data combined with the use of constructivist approaches that have them constructing the somewhat elusive knowledge the teacher is expecting of them and sorting through all of the information they are exposed to in the process, places huge demands on learners that likely exceed cognitive load capacity. Thus, the argument here is for a greater focus on instructivist teaching to help learners understand what they need to focus on, sort through the vast amounts of information, and create learning projects that are well defined, all with the goal of helping reduce cognitive load so that more students might be successful. The fact is with most constructivist teaching there is a preconceived and expected product, so in that sense, the cognitive load capacity often becomes exceeded from trying to figure out what it is that the teacher wants, before even confronting the vast

information one encounters during the construction of that product. Trying to figure out what the teacher is after is not only demanding on cognitive load, but is also very stressful for the student, even frustrating, especially when teachers are elusive, evasive, or simply not clear in their expectations, which further exacerbates the problem.

Driscoll (2005) cites constructivist teaching as a method that places high cognitive demands on learners. Constructivist methodologies as they are typically practiced should be minimized due to the immense strain they place on cognitive load. Constructivist teaching places a burden on the students in that they need to figure out what it is that the teacher wants them to construct. It is deceptive in the sense that it feigns a new creation, but in reality, a specific creation emanates from the assignment by the pieces the instructor has asked the students to construct along the way. Invariably, the construction of new knowledge is not encountered during the typical "constructivist" assignment. If it were to allow construction of new knowledge, the pieces of information may not loom as such an overwhelming proposition for students since they would be directing their own show, so to speak. But this does not happen in most classrooms. Students are handed instructivist directions for the pieces they are to use in the construction of the final creation.

There is stress involved in being forced to develop these new pieces and not knowing where or how they are going to fit in the final product. More than once, I, as a student, have literally worked backwards on my assignment because I needed to see where I am heading with this "constructivist" approach so that the pieces will indeed get me there. I have now engaged in so many of these constructivist projects that I no longer do that. I just try to trust the process, but the problem with this approach is that it still

causes stress due to not really knowing where the project is heading, which for me impacts my cognitive load capacity and it also causes me frustration because I am not being allowed to truly create my own knowledge as I would wish. I have worked on projects that took me in one direction because that was where I needed to go for a grade in the course, while my heart went in another direction, thus causing me stress and frustration because I did not have time to do the research and creation that direction would have taken me.

What I am contending here is that the constructivist approaches are not truly constructivist, but often only a contrived method to getting students to learn predetermined knowledge. This is often born out by the fact that so many students in the courses that use this practice, end up with nearly identical products. It makes sense that they would be very similar since students use the same instructional materials, reading assignments, and directions. Unfortunately, as I have been contending, this only adds to the stress and cognitive load because it becomes more a matter of trying to figure out what the teacher wants and, in addition, it does not at all acknowledge that "different individuals coming from diverse backgrounds will see the world in different ways" (Kincheloe, 2005, p. 9). Forcing perceptions on individuals that they perhaps have difficulty with is bound to have an impact on cognitive load, if not on levels of stress that can negatively impact learning. Thus, constructivism as it is often implemented ignores social context of learning, a very critical factor involved with cognition (Kincheloe, 2005). In addition, there is no evidence supporting teaching with minimal guidance, but on the contrary, direct instruction has been shown to be more effective for teaching novice learners (Kirschner, Sweller, & Clark, 2006).

Shown to be a superior method is a more guided form of learning, such as occurs with instructivism or direct instruction (Kirschner, Sweller, & Clark, 2006). "Direct instructional guidance is defined as providing information that fully explains the concepts and procedures that students are required to learn as well as learning strategy support that is compatible with human cognitive architecture" (Kirschner, Sweller, & Clark, 2006, p.75). Immediately, the working memory is freed up, therefore learning is more likely to occur; whereas, in the constructivist scenario, the working memory's effort dedicated to figuring out what is supposed to be done, or how to solve a problem hampers learning – or what is defined as "a change in long-term memory" (Kirschner, Sweller, & Clark, 2006). Once the burden of trying to decipher what it is exactly we need to be doing or learning, cognitive resources can be dedicated toward more appropriate and effective activities, given today's educational expectations, such as memorizing important vocabulary and concepts needed for communicating as experts in a particular discipline or to pass the standardized tests.

Another issue with constructivist teaching is the fact that in order for it to be most effective, it must not only be contextual, but it must be authentic. Rarely are learning activities created that present truly authentic situations. On the job learning is more likely to create this type of scenario, and then the motivation for learning can compensate for the extra demand on cognitive load, at least rendering the constructivist approach more effective than in a typical classroom setting. If instructors were to take time to truly create authentic learning situations that match the working world or otherwise real world for the learner, the amount of time and resources, considering the actual benefit, would not be justified. For example, if one were to follow Gagne's instructional design principles, all

desired course outcomes need to be considered. We often have no idea how a learner will be using the information in some future environment, so it is somewhat futile to spend a lot of time attempting to speculate a multitude of possible outcomes and designing a course with "authentic" activities that may or may not transfer to future settings.

Escaping Circular Arguments

The arguments presented thus far are missing the boat as far as what is crucial in understanding the relationships between consciousness, cognition, learning, and the complexity of today's world. The factors highlighted have remained fixated on the scientific objectivist views that limit variables for an extremely complex process, when a more suitable learning approach would be to help learners operate within "ambiguity and complexity" with a skill which Varela defines as "intelligent awareness" and which Vajrayana Buddhism refers to as "crazy wisdom" (Kincheloe, 2005). This form of awareness allows one to jump in and out of various perspectives or perceptions in order to sift out essential, important, and relevant knowledge. This exposes the *real* craziness behind promoted socially-constructed perspectives that limit conceptual understandings and blind views to only those that are presumably "objective" (but deceptive) knowledges that filter out complex and critical variables from consideration. Thus, perspectives are narrowly defined or even restricted to one "right" way of being in the world. Educational psychology, and in this example with the argument between instructivism and constructivism, as in any number of other issues one might cite within this same paradigm, attempts to explain a complex notion with a paradigm that is not structured to handle the complexity in our world. Nor does it free up cognitive ability of the learners in order to freely deal with this complexity. In a sense, we enter a "crazy-making" scenario

that is essentially contending that our world is much less complex than we know to be

true. This applies with constructivism because, as has been pointed out, rarely if ever do

educational uses of constructivism acknowledge the true complexity from which

knowledge should be constructed nor the political and social aspects that create the

limitations typically placed on learners. As Kincheloe (2005) explains,

> Educational psychology becomes not a liberating force but a producer of
> social risks that threaten the well-being of particular individuals. This
> moves the discipline long away from the goals of its humanistic origins.
> The hyperrationality of the positivistic articulation of the discipline with
> its standardized methods, narrow linear thinking, distance from a
> naturalistic context and universal application of techniques and
> assumptions sets up psychology and the schools it has helped construct for
> failure. Because such hyperrationality refuses to consider the
> sociopolitical roles of psychological activities, it produces a bureaucracy
> of rule–following technocrats" (Kincheloe, 2005, p. 62).

In other words, we must move away from taking positions that would have

teachers following this or that method, whether an instructivist or a constructivist

approach, in this or that particular set of circumstances. Circumstances are always more

complex than they would first appear, and inherent in these approaches is the lack of

acknowledgment of the political and social forces behind the decisions for which

approach to use and when it should be used. As Kincheloe attests, "a critical

constructivist educational purpose becomes an act of resistance, a counter-hegemonic

struggle" (2005, p, 62). This challenge does not seek to uncover "conspiracies," but

rather to reveal what typically operates in our educational environments as "common

sense" – the "unconscious inscription of dominant cultural norms and values onto the

nature of psychological knowledge production" (Kincheloe, 2005, p. 61).

This, of course, brings up a consideration of consciousness construction, which

educational psychology deemphasizes because of the inability of science to adequately

define consciousness. As Varela has posed, (as cited in Kincheloe, 2005), does ignoring this hole in our understanding make it go away? From the critical constructivist position, it becomes clear that we can construct our own intelligence by taking a more active role in our own consciousness construction. A survey of how human consciousness is constructed by the various outside social and political forces reveals that "the self is more malleable, more open to change than we had previously imagined. Given one's motivation, of course, this dimension of selfhood can be mobilized for great benefit or manipulated for great harm" (Kincheloe, 2005, p. 57). Thus, we can allow others the power to tell us how to think, or we can become empowered to learn to think for ourselves and use that power to the benefit of humankind and making the world a better place for everyone.

Kincheloe synthesizes Varela's enactivism theory and acknowledges a form of knowledge production deriving from a type of wisdom that operates within these more complex situations – an intelligent awareness that "gains numerous levels of understanding on the origins of his or her perspective." This leads to a form of "meta-awareness" in which we are able to make connections to "diverse dimensions of the socio-physical world around us" (Kincheloe, 2005, p. 57). Thus, this points to a form of improvisational learning as a more appropriate mode of knowledge production for our current highly complex world. The beauty of this approach is that it recognizes and addresses diversity automatically with its focus on the attainment of multiple perspectives, an endeavor that is so perfectly suitable given the vast amounts of information we are confronted with. Until we acknowledge the complexity of the world around us, the nature by which human consciousness can be formed, the political and

social forces that shape our consciousness, the ability for learners to take active control of the formation of their own consciousness, and the realization that none of this is possible within the tightly bounded arguments such as one which merely poses when to use instructivism and when to use constructivism, education is confined to being one that limits consciousness construction, knowledge production, and human potential.

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