

Teaching for the Whole Self

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Abstract

Teaching for the whole self is not a new concept, but paradigm shifting to ‘whole self teaching’ is slow. There are many definitions of what it means to teach for the whole self and pedagogies involving this teaching have different understandings of what this practice means (Brookfield, 2015; Flook, 2019). For the purposes of this project, the operational definition of whole self teaching is to understand that students “need to grow and learn in their relationships, identity, emotional understanding, and overall well-being [because they are] are multi-dimensional ‘whole’ beings whose development is complex and rich” (Flook, 2019, para. 2). Therefore, the whole self is a dynamic, complex system, full of relationships, not a linear, fixed box in a vacuum.

In order to teach for the whole self, one must first understand what the whole self actually is and must also have an understanding of complex systems theory and its interactions. Felten and Lambert (2020) state that relationships are integral to the teaching and learning experience and are “flexible and adaptable” (p. 12). Therefore, relational thinking is compatible with dynamic interactions and complex systems theory, which are my theoretical frameworks. This type of thinking, however, seems to be incompatible with standard, traditional teaching practices with positivist ontologies and epistemologies, which could explain the slow shift towards whole self teaching. This paper aims to discover what exactly the whole self is by exploring what elements are involved and how we can use this knowledge in our teaching. But before we can truly shift to whole self teaching, there are some obstacles that need dethroning. For example, before we can understand holism and the dynamic, fluid, interactions between complex systems, we need to dismantle Cartesian dualism, reductionism, and materialism.

I will explore the disconnect between traditional and whole self teaching by working through some obstacles slowing down this shift, explore what constitutes the whole self, and how we can apply contemporary understandings of a complex self in our teaching. The first part will challenge Cartesian dualism and explore elements constituting a whole self. I will use Cartesian dualism’s definition of the self as a mind-body interaction as a springboard to discuss the many other complex systems involved in the whole self and show that there are more types of intelligence than just math and verbal. Since Cartesian dualism and traditional understandings of self are outdated and incompatible with complex systems theories and quantum physics, I will then discuss some complex systems theories and use them to falsify reductionism (which is still taught as fact in traditional, dominant discourses). The last section will discuss how a new definition of the whole self as a complex system can be applied to the classroom. For example, does this new understanding of the whole self change our definition of intelligence? How might this produce different ways of teaching, and how might this create new ways for students to express their learned knowledge. I know this sounds like a lot, but this is the curse of a transdisciplinary thinker. Therefore, this paper will explore 1) what the

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whole self is and what elements are involved, 2) what are some obstacles slowing the shift to whole self teaching, and 3) how to apply contemporary understandings of the whole self in our teaching. There will be four breakout room activities throughout that will help you understand how the concepts can be used in our teaching.

Keywords: Whole Self; Complex Systems Theory; Quantum Physics; Relational Approach; Contextualism

Challenging Cartesian Dualism

One limitation in dominant, traditional teaching style that is preventing the full shift to whole self teachings, is Cartesian dualism. Prout and James (1997) state Cartesian dualism is so entrenched in the dominant framework that it “has yet to be overcome in the social sciences” (p. 22). Cartesian dualism came out of the Age of Enlightenment where the superiority of reason suppressed and devalued emotion (Rifkin, 2009). The simple conclusion Descartes came to regarding knowing he is a thinking being (Biffle, 2001) seems to place the mind in a superior position to emotion by subsuming it into the functions of the mind. This has since produced a hierarchical ontology, assuming the mind to be more real or important than other aspects of human experience. Cartesian dualism paints a picture of the whole self as only including mind and body and consequently limits our human experience to a mind-body interaction and dictates how intelligence is defined and what “should” be taught in schools, rendering other types of intelligence inferior. I argue that the Cartesian picture of the self is not a whole picture. Instead, I suggest that the whole self begins with a negotiation or *relationship* between body, mind, *and* emotion. Right away, this notion challenges Cartesian dualism.

Using Paul MacLean’s (1990) Triune Brain I trouble Cartesian dualism by adding emotion as a third substance. The Triune Brain theory looks at an evolutionary or developmental progression of the brain, beginning with the development of the reptilian brain, which is focused on basic needs such as eat, sleep, sex etc. On top of this grows the paleomammalian brain or emotional centre, (amygdala or limbic system), followed by the neomammalian brain or cortex in charge of the rational capacities. The cortex is considered by some not to finish developing until the early to mid-twenties (Steinberg, 2016). Both Freud and MacLean agree that the mind or ego develops last. If the rational mind develops last, then it is actually younger, newer, and less experienced than the other parts of the brain, which are more established. Freud (1920) saw the ego as the mediator and ultimate decider that needs to tame the other parts of the brain, which places the ego or mind in a superior position to the other parts. The rational mind is still on this pedestal and kept there by the traditional, dominant understanding of teaching and learning. Instead, I suggest that through MacLean’s triune brain theory, we *should* be able to conceptualize the brain as overseeing three equally important elements: basic needs or body functions, emotions, and rational capacities. It is important to understand that each aspect is equally valid, and each have their *own* influence over the individual. Therefore, I argue that all three aspects have their own level or type of consciousness.

According to Descartes, in order for something to be considered real and have its own level of consciousness, it must show it has causal influences. He calls this the causal argument (Biffle, 2001). The causal argument states that if a substance can cause observable effects (such



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as behaviour) then it could be considered 'real' (Biffle, 2001). So, for the other aspects of the brain to be considered as 'real' as the rational mind, their reality must be determined through this causal argument.

The other parts of the brain do cause observable effects such as behaviour because an action may arise without rational awareness (James-Lang as cited in Santrock & Mitterer, 2004). For example, an individual may hear rustling in the bushes and start running. The person may not know why they are running or what they are running away from because the mind has not caught up yet. Only later do they realize it was a chipmunk. The flight response may have come from the brain, but not from the ego or the rational mind, which is how Descartes defines mind. Therefore, the motivational or id aspect of the brain must be able to bypass the rational capacities to communicate directly with the sensory-motor cortex in order to initiate fight or flight mode. Therefore, the reptilian brain can produce observable effects such as fight or flight.

An example of how the heart can initiate actions and send signals to the brain is through the recent pain studies and experiments. For example, Alshami (2019) discusses that more signals actually come from the heart to the brain, rather than the other way around and states that "the heart communicates with the brain in many methods: neurologically, biochemically, biophysically, and energetically" (p. 1). According to this article, the vagus nerve is the mechanism that carries information from the heart and other internal organs to the brain (Alshami, 2019). Armour (2003) found that there were approximately 40,000 neurons in the heart, similar to those in the brain and states that the heart is like a 'little brain' with its own nervous system.

Eisenberger (2012) presents similar research and states that "physical and social pain rely on shared neurobiological and neural substrates [that both share] neural activity in regions typically associated with the unpleasant experiences of physical pain" (pp. 42-43). He calls this piggybacking. Therefore, if physical and emotional pain share neural pathways, then the body, mind, and emotion may be more interconnected and relational than previously thought. In a relational system, directional causality is impossible to determine. So, instead of a Cartesian way of looking at the ego or reason as the dominating force, acting on and taming the other parts of the brain, there is a correlational relationship between the parts where the influence is multi-directional. Thus, rendering ideas of ontological superiority of one part of the brain over another, meaningless.

Ekman (1992) has defined awe as a distinct emotion. Shiota et al. (2007) have researched the observable effects of awe, which has been defined as "an emotional response to perceptually vast stimuli that overwhelm current mental structures" (p. 944). This research suggests emotional capacities can override mental machinations. Some observable effects of awe are an "aesthetic response, political change, and religious transformation" including a reduced need for cognitive evaluation and an "increased emphasis on membership in 'universal' categories" (Shiota et al., 2007, p. 944). If an emotion can cause observable effects such as those mentioned above, emotion can therefore be considered as real or as important as reason. Shildrick (2012) stresses the importance of deconstructing binaristic thinking, like body-mind dualism, to instead think of categories as fluid. He states that "emotion and affect are as important as the material aspects of life" (p. 32). Therefore, using Descartes' causal argument against him, the motivational and emotional aspects of the brain can be considered as real as the rational mind because they can both cause observable effects and influence behaviour. One can also conclude that body, mind, and emotion are all equally valid agents negotiating the human experience.



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Recent research in posthumanism discusses transjectivity, which is a term describing the transcendence of the distinction between subjectivity and objectivity, which is, according to Sweeny (2019) a term attempting to overcome the “trauma of Cartesian dualism” (para. 1). Relating this to teaching, if going beyond dualisms and adding emotional intelligence as a valid agent in the human experience, then the arts should have equal footing with verbal and mathematical intelligence. But the classes that teach art and music are still considered less important and even expendable when it comes to funding. If emotional intelligence and the arts are equally important, why is it still not valued? Why does it still take the backburner to verbal and math? What would a classroom activity look like that includes emotional intelligence?

What *IS* the Whole Self?

Body, mind, and emotion, however, are only part of the self and the self is not a fixed, stable construct. This is because the inner self, or the basic self interacts with the outside world via *the context*, which can produce different levels or experiences where one aspect may be more salient than another. In other words, the context or situation can make one aspect more highlighted or useful depending on the situation. The context thus should be included in the negotiations between body, mind, and emotion, making the self fluid *and* contextual. For example, regarding disability, Rosie, a girl with autism was not seen as “disabled” when at home because the social anxiety and street noise was not a threatening factor there (Goodley & Runswick-Cole, 2012). Likewise, a blind person is not considered disabled while talking on the phone (Goodley & Runswick-Cole, 2012). Therefore, disability and identity are “provisional rather than marking a fixed identity” (Shildrick, 2012, p. 34). Identity and self are a “relationship, and it is relative to the environment” (Goodley & Runswick-Cole, 2012, p. 59). A person with disabilities may identify more with their body when in a situation where accessibility is an issue. Emotion may be more salient at a funeral and reason may be more useful when solving a problem. It is the context that makes one element more salient or useful in one situation over another – **not** more important or ontologically superior. Therefore, contextualism is an important facet in understanding the complex system that is the whole self.

Contextualism is the worldview that suggests events or elements take their meaning from the contexts in which they are embedded. These “contexts are not fixed but are variable and subject to manipulation and reconstruction” (Harris et al., 1977, p. 539). Therefore, the borders and boundaries of things, such as people and their environment are fuzzy (Barad, 2003/2007). Therefore, the whole self is dynamic, fluid, *and contextual*. Making, the classroom an important context that can influence the negotiation of identity and self. But how do we utilize contextualism in a teaching setting?

The answer to this might be to use a relational approach to teaching. Research states that in education, relationships matter (Aspelin, 2020; Feldman, 1997; Felten & Lambert, 2020; Kelchtermans, 2009). Taking a relational approach to teaching realizes that teaching and learning are not directional, or a one-way interaction. Like I argue how the three major layers of the brain communicate, classroom learning is also multidirectional. Traditionally, students and teachers are separated by the idea that “teachers teach, and students learn” (Aspelin, 2020, p. 589). But if Feldman (1997) is correct, that teaching is a way of being, then interactions become an important focus. Kelchtermans suggests that the teacher’s “personal interpretive framework is constantly modified in interactions between teachers” and students (as cited in Aspelin, 2020, p. 592). Relational learning, however, extends beyond the classroom and



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includes relationships between faculty, peers, and staff that all come together foster the whole self. When students have positive interactions with other members of the university community, it increases the “breadth and depth of student learning, retention, and graduation rates [with] a wide range of other outcomes, including critical thinking, identity development, communication skills, and leadership abilities” (Felten & Lambert, 2020, p. 5). Whole self teaching does not end in the classroom. Therefore, we may need to add more systems of learning to the whole self equation.

Body, mind, emotion, context, and multidirectional relational interactions are still not the only elements involved in the whole self. Intersectionality is also a facet of the whole self that should be taken into consideration in our teaching. Intersectionality is the interconnected nature of social categorizations such as race, class, and gender as they apply to a given individual or group (Crenshaw, 1989/1991). It has been argued that the idea of intersectionality has been colonized because white researchers and teachers who use the term and fail to put its use into context, or ignore its originator, Kimberlé Crenshaw (“We’re all Just Different”, 2017). Therefore, a note to teachers is that when teaching intersectionality, one should highlight the complications and struggles of Black women’s oppression through policy, law, and work (ibid) because, intersectionality creates overlapping and interdependent systems of discrimination or disadvantage given the context (or the classroom).

Intersectional experiences of the self, therefore, also vary in salience depending on the situation. For example, Sundar (2008) discusses “identity capital” (p. 253) which is a strategic negotiation of identity, that is dependent on the situation. In her interviews with Asian-Canadian youth, in some situations, like in a dominant, mainstream setting, it was strategic to “bring down the brown” to gain social acceptance, but in other situations, like a family wedding, it was better to “brown it up” (Sundar, 2008, p. 265). This research also supports the idea that identity is fluid. Therefore, negotiating identity via the situation, one can gain the most out of whatever situation they are in, showing the powerful influence of context. So far, we have compiled a definition of the whole self as a multidirectional interaction or relationship between body, mind, emotion, context, and intersectional characteristics.

The definition of the whole self, however, is not yet complete because on top of the elements compiled thus far, there is also the social world, which includes systems of power such as economy, politics, bureaucracy, traditions, rituals, laws, norms, mores, language, discourses, institutions etc. These institutions of power influence the whole self because barriers such as discrimination, patriarchy, prejudice etc. affect how we express ourselves and can also affect access to learning (Brock et al., 2019).

There is also the physical environment, which includes weather, barometric pressure, wind, trees, flora, fauna, smells, obstacles, infrastructure, borders, pollution, soil, water, etc. I know some people that if the barometric pressure is high that day, they are just “not themselves” that day. Allergies are a good example as well because their activation is not predictable but random and more prominent at certain times of the year. If the self is a multidirectional interaction between body, mind, emotion, context, intersectional demographics, social systems, and the environment, then the best definition of whole self is that it is a dynamic, complex system. This is where an understanding of complex systems becomes useful.



Systems Theories & Rejecting Reductionism

In a teaching context, when discussing systems theory, the most well known is probably that of Bronfenbrenner's ecological systems theory which discusses an interaction between the individual, their family, friends, teachers, strangers in the community, influencers such as politicians, and even time and history. Considering the definition of whole self that is shaping up here, I thought Bronfenbrenner's (1974) model could use some updating to include context, intersectionality, and the natural, physical environment. I even added the solar system for those who believe in astrological effects on identity and self.

Other types of systems theories include complex systems theory, also called Non-linear dynamical systems (NDS) approach which postulates an interconnected nested system of reality where systems and subsystems interact (Pycroft & Bartollas, 2014). This paradigm argues these systems "can change the context for all of the other elements" involved (Pycroft & Bartollas, 2014, p. 1). This supports the idea of identity as fluid, dynamic, and contextual where each systems or characteristic can change according to the situation. Leavy (2016) states transdisciplinary modes of knowledge production have come as a response to the demand for more unified and holistic understandings, which supports the idea of whole self teaching. Therefore, understanding the power of context and fluidity is key to paradigm shifting from binaries to complex systems. But we cannot fully make this transition without first falsifying reductionism.

Another obstacle for holistic teaching is reductionism. Reductionism is "the theory that every complex phenomenon, especially in biology or psychology, can be explained by analyzing the simplest, most basic physical mechanisms that are in operation during the phenomenon [in other words, it is the idea that a behaviour can be explained by this neuron or part of the brain. It is also the] practice of simplifying a complex idea, issue, condition, or the like, especially to the point of minimizing, obscuring, or distorting it" (Dictionary.com). This stance maintains that the sum of the parts can equal the whole.

General Systems Theory (GST), the parent of all systems theories, can be used to show that the sum of the parts does not equal the whole. According to GST, the various branches of science grew so far apart they could no longer communicate (von Bertalanffy, 1972). The only way the different branches of the science could communicate, was to develop a theory they could all agree on. The scientists eventually agreed there was such a thing as a 'system,' and proceeded to create two hypothetical systems as starting points on a continuum (von Bertalanffy, 1972). On one end is the purely open system and on the other is the purely closed system. These are hypothetical because they cannot exist in the physical world. For example, every part in the purely open system communicates equally at the same time and intensity, which would end up crashing the system. In the purely closed system, *none* of the parts communicate, this is also not possible in the physical world. In the hypothetical, purely closed system, however, the concept of reductionism *is* technically possible (von Bertalanffy, 1972). But *only* in a purely closed system can the sum of the parts actually equal the whole because there is no novel or new information being created because there is no communication between the parts. As soon as one part of a system communicates with another, reductionism is impossible. GST can, therefore, also be used to falsify reductionism because reductionism can only happen in a hypothetical situation.



Quantum Systems & The Quantum Self

Speaking of hypothetical situations and what manifests in the physical world, research in quantum physics shows us that the world is not a predictable, fixed, closed system, but rather a “probability distribution” (Bandera, 2019, p. 5). David Bohm (1952) calls this probability distribution Quantum Potential or the Structure-Process, which is the process, where all possibilities lie await in potential (Bohm, 1952). Fitting the self into this equation, the world is like a field of potentiality lying in wait for an observer’s choice to determine what becomes manifest (Arntz & Arntz, 2004). According to this research, the world lies in potential representations of reality until we enact choice, and when we do, the world collapses into one thing (Arntz & Arntz, 2004, [see clip](#)). This is what is called particle-wave dualism. If everything is interconnected and part of a dynamic process involving “interlocking systems and forces” (Coole & Frost, 2010, p. 9), then a person, a student, or a teacher, cannot separate themselves from these interconnections.

This brings us to the last element of the whole self equation, the quantum self. Barad (2003/2007) discusses the importance of dynamic processes in her concept of intra-action. Intra-action is the agentic process involving an entangled web of negotiations. She states that “intra-action signifies the mutual constitution of entangled agencies [which is] in contrast to the usual ‘interaction,’ which assumes there are separate individual agencies that precede their interaction” (Barad, 2007, p. 33). This is consistent with posthumanist understandings where all things, humans, non-human animals, the environment, and objects are entangled and are all active players in the meta-negotiation of agency, choice (Barad, 2003). This negotiation includes variables such as history, materiality, the body, culture, nature etc. (Pacini-Ketchabaw, 2012). Thus creating “active, dynamic agency” (Taylor, 2013, p. 688) making agency, like identity, also fluid, dynamic, and contextual.

Posthumanist understandings of complex systems place an emphasis on the “mutual entanglement” or “entangled process[es]” involved in agency (Pacini-Ketchabaw, 2012, p. 156). If all things are “intertwined practices of knowing and becoming” (Barad, 2003, p. 812), then the teacher and the students are entangled in the fluid, dynamic, negotiation of teaching and learning. This underlies the major tenets of the relational approach to teaching. Posthumanism would take this a step further and say that the teacher or professor is not the only creator in a teaching space, but the students, and even objects in the room, such as the clock on the wall, are co-creators in that space (Barad, 2003/2007; Cho, 2017; Pacini-Ketchabaw, 2012). Thinking about quantum understandings of self and agency, if experiences lie in infinite potential, what does this say about standardized classroom lessons that assume one size fits all? Are the teacher’s lesson and the student’s learning mutually exclusive? How can we place ourselves in embedded relationships in our classrooms?

In quantum physics there is also a divide between traditional, dominant understandings and marginalized ones. For example, the Traditional Copenhagen Interpretation of quantum physics keeps the observer solely in the material realm (Everett, 1957/1973), creating a hierarchical, ontological distinction making the material world more real than the quantum realm. Therefore, this position keeps the myth of materialism alive because it believes the Standard model (the particles and strong and weak electromagnetic forces) are more real than the structure-process or quantum potential. However, the Many-Worlds Interpretation sees the *process* as the most real or the best representation of reality, (Everett, 1957/1973), making the quantum and material realms equal and promoting the universe as a dynamic process, rather

than assuming ontological superiority of one realm over another. This is more consistent with decoherence theories of quantum physics that state that “realistic quantum systems are never isolated but are immersed in the surrounding environment and interact continuously with it” (Schlosshauer, 2005, p. 1268). Please see *Figure 1* depicting the whole self as a complex system.

Applying Whole Self Teaching

System theories and whole self teaching allows us to expand our expectations of learning and opens us up to new types of thinking. The three major types of thinking are convergent, divergent, and lateral. Convergent thinking uses logic and critical thinking to solve problems and is more linear and systematic. This is the type of thinking is the standard type of thinking promoted by traditional teaching methods because it can narrow many possibilities to one solution. There seems to be such a focus on this type of thinking that it’s assumed to be the best or most ontologically superior way to think. For example, like the arts, philosophical thinking is marginalized and considered not a practical avenue for learning, partly because it promotes divergent thinking which uses imagination to generate creative ideas and can explain many solutions to a problem. This type of thinking uses indirect and creative approaches via reasoning that are not immediately obvious (and can be spontaneous). Then there is the type of thinking that uses both, negating any ontological superiority or distinction, and that is called lateral thinking. Discourses of convergent thinking as the ultimate way to teaching and learn assume there are only two options, and these are mutually exclusive. This is one danger of binaristic thinking because, in reality, opposites are complements and categories are fluid.

On the other side of teaching and thinking, is assessment. This is where our definitions of intelligence come into play because we generally mark or grade according to what we think is important to bring out in the learning of our students. Howard Gardner’s (1983) theory of multiple intelligence where he proposes nine different types of intelligence including logical-mathematical, verbal-linguistic, interpersonal, intra-personal, musical, visual-spatial, body-kinesthetic, naturalist, and existential types of intelligence. When I was taught Gardner’s theory the professors cut out naturalist intelligence, which is sensitivity to features in the natural world and a strong appreciation for the environment, and existential intelligence, which is essentially spiritual navel gazing and a desire to ponder life’s big questions. I often wonder if the exclusion of these types of intelligence is because they are rooted in emotional intelligence. I also wonder if we had fostered naturalist intelligence if we would still be in this climate crisis.

It is true that if one wanted to foster a particular type of intelligence, they could pursue music or specialize dance or environmental studies, but what if students were allowed to hand in other types of material other than essays and exams in courses like sociology, psychology, or history for example? Essays and exams seem to be the dominant measure of “intelligence,” which may not tap into other types of intelligence.

What if mainstream academe opened assignments up to include art installations, elaborate paintings, poems, or film shorts? What would happen if an original song was composed about the lesson? How would this material measure up to a formal essay and what would a rubric look like that measured all these media? Some categories I thought of, inspired by the show *World of Dance*, are execution, technique, presentation, content, and creativity. On the show they rate dance routines from many dance styles, so they had to come up with a standardized way to judge them against each other. These are the categories they use, and I



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added some descriptors to include essays. Therefore, if one wanted to grade different types of media, the rubric might look something like this:

Execution: Mistakes, spelling & grammar, anything awkward, out of place, or didn't get

explained clearly

Technique: Did they excel in the style of performance (dance, instrument, art) or style of

writing, did it flow

Presentation: Costumes, symmetry/purposeful asymmetry, editing, formatting (APA).

Content: How well they integrated course material/concepts

Creativity: Analysis/argument, interpretation, unique contributions

Conclusion

In conclusion, the whole self is a multidirectional, complex, dynamic, relational interaction of many nested systems including, body, mind, emotion, context, intersectionality, social systems, the environment, and quantum processes. It is the context that dictates which aspects are most useful or salient at a given situation. Therefore, whole self teaching requires an understanding of what the whole self is and a paradigm shift from traditional teaching that promotes outdated concepts such as Cartesian dualism, reductionism, and materialism, to an incorporation of contextualism, complex systems theories, and multiple intelligences.

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Figure 1: The whole self as an interacting, dynamic, fluid, complex system (the quantum self).

