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People Learn: Towards a Realist Theory of Adult Learning

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ABSTRACT

Despite the ubiquity of the term “learning” in the adult education literature, adult education does not possess a robust theory of adult learning. The narrow social theoretical focus of current discourses in adult education prevents a thoroughgoing exploration of learning. Notably absent in the literature are references to work in the cognitive sciences on human learning. This paper argues that a more detailed and comprehensive theory of learning that incorporates insights from a range of disciplines can be achieved if adult educators change their view of reality more in line with the emergent and stratified ontology recommended by critical realism. Instead of rejecting the insights of cognitive psychology as overly individualistic and reductionist, adult educators with a broadened ontology can begin to see how cognitivist conceptions of individual people to learn can be part of a broader story of the emergent and stratified reality we inhabit.

In his recent book, *Deep Learning: How the Mind Overrides Experience* (2011) cognitive psychologist Stellan Ohlsson offers a theory of human learning that is relevant to the field of adult education. He argues that, although theories of experiential learning that highlight how human beings form new knowledge by extending or expanding upon a preexisting body of knowledge are important and probably accurate for much of what we learn, these “monotonic” theories of learning (p. 20) as he calls them, cannot be the whole story of human learning. Instead of being just assimilative or accumulative, human learning is often punctuated by massively divergent and creative bouts that demand alternate explanation. Ohlsson’s “Deep Learning Hypothesis” describes how, rather than learning by adding on to what we already know, oftentimes “we abandon, override, reject, retract or suppress knowledge that we previously accepted as valid in order to track a constantly shifting and fundamentally unpredictable environment and thereby indirectly create mental space for alternative or even contradictory concepts, beliefs, ideas and strategies” (p. 21).

Ohlsson’s detailed explanations of the cognitive mechanisms responsible for learning, including deep learning, have much to offer the field of adult education. Despite its potential importance, however, Ohlsson’s theory, like most theories from cognitive psychology, currently receive little serious attention in adult education. This is very unfortunate. Although adult education has made great strides in developing as a social/critical field of theory and practice, it has not, in my view, made as much progress in incorporating or developing robust theories of adult learning. A one-sided social theoretical focus in adult education has left us bereft of solid notions of how human beings learn. This, in turn, deprives us of important knowledge of how best to support learning, including learning in contexts where oppression exists or where emancipation is desired.

What accounts for our current lack of interest in psychological theorizing? In the following I draw on the philosophical discourse of “critical realism” (Archer, 1995; Bhaskar, 1999; Elder-Vass, 2011, 2013; Sayer, 2000, 2010) to argue that, like most social scientists (including cognitive psychologists), adult education researchers tend to view reality (ontology) in a way that is flat and static (Bhaskar, 2008). This ontological perspective leads adult educators to conflate the powers possessed by entities (human agents and social structures) that exist on different strata in reality (Archer, 2001). In the case of adult education, the strong social theoretical focus that currently exists in the field leads us to over-inflate the determining power of social structures and under-appreciate the personal powers (like the power to learn) of human beings (Plumb, 2008, 2012, 2013a, 2013b, 2014). Changing our ontology to one that views reality as stratified and emergent positions us to gain a better sense of the nature and powers of varied entities that comprise reality (including the ways entities on one strata of reality are often the parts that make up larger entities on other strata). With this ontology in mind, cognitive psychology takes on new value. The explanations it offers about the cognitive mechanisms of learning become an important, although not the only, part of the story. Developing a larger account of learning in

an emergent and stratified reality also means attending to the complex interactions of human beings and their social structures at multiple levels of scale (Plumb, 2004).

Wool

Our field, like most fields in the social sciences, is currently mired in a complex skein of thought that has resulted from a great confrontation between two very different ways of theorizing the relationships between people and society (Plumb, 2009). Prior to the 1980s, mainstream adult education research was focused on discerning the unique qualities of the adult learner as a basis for developing effective adult education strategies. As Merriam (2008) summarizes:

Beginning with behaviorist research in the early decades of the twentieth century, adult learning theory in North America has focused on the individual learner, how that learner processes information, and how learning enables the individual to become more empowered and independent. Andragogy and self-directed learning are about the individual adult learner, as has been much of Mezirow’s conceptualization of transformational learning. (p. 94)

In the 1980s, however, the rising influence of feminism, post-colonialism, critical theory, and postmodern theory, spurred critical adult educators to question prevailing, individualistic notions of adult learning. Instead of perceiving adult education as an unproblematic activity that helped people learn socially valuable knowledge, critics began to contend that knowledge is not the achievement of the rational individual but that it is socially constructed in contexts variously inflected by relations of power (Bagnall, 1999; Edwards & Usher, 2001).

Table 1 summarizes the differences between these two basic perspectives on adult learning. Prior to the 1980s, drawing heavily (although, rarely in a sophisticated way) on psychology, adult educators tended to theorize learning as a rather static and unchanging rational capacity of human individuals. Although individual learning was considered an important thing to investigate, learning theories tended to be based on restrictive behaviorist or cognitivist assumptions. The prevailing view of society, at this time, expressed a taken-for-granted modernist belief in progress stemming from the aggregation of knowledge produced by rational learning agents. Given that knowledge was viewed as reflecting the objective qualities of reality, most adult educators saw little reason to theorize the role of society in learning (the nature of society was left a *black box*).

After the 1980s, drawing increasingly on critical social theory, many adult education theorists began to view learning as a process that transpires in social contexts inevitably shaped by relations of power. Individualist notions of learning were roundly rejected along with objective notions of knowledge. Social constructivism (radicalized by intensifying postmodernist sensibilities) posited increasingly contextual and even relativistic notions of knowledge formation. As the 1980s unfolded, the interest of adult education scholars, including theorists in CASAE, switched from understanding individual learning to understanding collective processes of knowledge formation in varied social contexts. Since the 1980s, adult education researchers in Canada and elsewhere have focused on revealing adult education as a social/political power with both oppressive and emancipatory potentials. Whereas prior to the 1980s, adult education theorists left notions of society largely unexplored, after the 1980s, they

Table 1: Differences between two perspectives on adult education

	Purpose of Adult Education	Primary Disciplinary/ Discursive Sources	View of the Learner (Person/Agency)	View of Learning Context (Society/Structure)
Pre 1980s	To foster individual learning in unspecified, unproblematic, and neutrally conceived social contexts.	Behaviorist Psychology Social Psychology Cognitivist Psychology Humanist Philosophy/ Psychology Analytical Philosophy	The individual is endowed with natural capacities for learning. These capacities can be improved with practice. Learning is an individual process.	Black Box (The social world is largely taken-for-granted. Social “progress” is viewed as unproblematic.)
Post 1980s	To foster critical capacities to see through (and to change) oppressive social structures. To transform social contexts to enhance participation in knowledge construction.	Sociology Anthropology Critical Theory Post-Modernism Post-Structuralism Feminism Critical Race Theory Post-Colonialism LGBTQ Theory	Black Box (People and their capacities are the inevitable outcome of socialization and enculturation processes. Learning is a sociocultural process).	Society is shaped by relations of power that influence the social construction of knowledge in ways that favor those in privileged social positions.

largely abandoned the quest to understand individual powers for learning (again, a *black box*).

Although one might think that adult education would boast robust conceptions of learning that are carefully crafted in contexts of critical conversation, a close scrutiny of the current literature of the field reveals otherwise. Aside from a few well-worn (worn out, by this point) conceptions of learning, such as Knowles's Knowles' (1970) "self-directed learning," Kolb's (1983) "experiential learning," Mezirow's (Mezirow, 1978, 1981, 1991) "transformational learning," and Lave and Wenger's (1991) "situated learning," conversation about learning in adult education remains uncomfortably vague.

Take, for instance, the adult education discourse that takes place in our own CASAE conference. A textual analysis of the Proceedings of the CASAE conferences in Toronto (2012) and Victoria (2013) reveals that, although the term "learning" appears more than any other word (not counting conjunctions, articles and prepositions, etc.), its meaning is left largely untroubled. Using web-based TAPOR textual analysis software (taporware.ulberta.ca), I examined each proceedings (not including references) for co-occurrences (within one sentence) of the key words "learning" and "theory" and recorded all of the terms within one sentence of any pairing of these two key words. I uploaded the two lists of terms (2012 and 2013) to a web-based wordcloud generator (www.jasondavies.com/wordcloud) and developed a wordcloud image for each proceedings of the top 50 most frequent terms. *Figure 1* is the wordcloud generated for the 2012 CASAE Proceedings and *Figure 2* is the wordcloud generated for the 2013 CASAE Proceedings. The more frequently a term appears in the list, the larger it is displayed in the wordcloud. Thus, the largest word in the image "learning" indicates that it was the most frequent word in the list. Smaller words in the wordcloud (like "transformative") appeared less frequently in the list, and so on.

Perhaps one of the most striking things about the images generated for 2012 and 2013 is how closely they match each other. Aside from a few of the less frequent terms (the terms that appear as smallest on the image), both images contain

Figure 1: Cooccurrence of learning and theory 2012 Proceedings

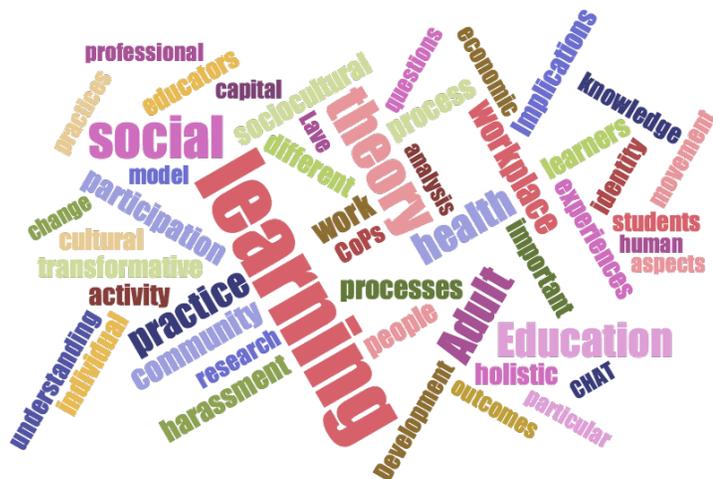


Figure 2: Cooccurrence of learning and theory 2013 Proceedings



virtually the same listing of terms in close to the same proportions. This suggests that the textual analysis process used to determine the images returned useful (that is, not random) information. It also indicates that, from 2012 to 2013, not much changed in the discourses related to learning and theory.

Although the wordclouds were generated based on terms associated with the co-occurrence between "learning" and "theory," very few of the other terms that appear indicate any substantial engagement with explaining learning. There are hardly any technical terms that one might expect if adult educators were drawing upon other disciplines to theorize learning (psychology, sociology, philosophy, linguistics, anthropology, and so on). Other than Jean Lave, proponent of "situated learning," none of the names of learning theorists we might expect to see, even prominent historical adult education learning theorists, like Mezirow or Kolb, for example, appear in the wordcloud (although terms such as "transformative" and "experience" do appear). Notably absent, are terms one might expect if contributors to the proceedings drew on cognitive psychology to theorize learning (cognition, schema, memory, perception, processing, brain, neurological, etc.).

A closer reading of the two proceedings confirms the picture suggested by the wordclouds. Despite the ubiquity of the term "learning," there is an overall lack of express theorizing about learning in these proceedings. Very few of the articles question our understanding of what kind of entity possesses the power to learn, what happens (what changes) when learning takes place, what mechanisms or processes might be involved in learning, what mechanisms (evolutionary or ontogenetic) gave rise to capacities for learning, and, importantly for adult educators, what entities/powers/events shape or change the process of learning (and to what effect)?

Stepping Back to Step Forward

As Ohlsson (2011) observes, sometimes, if we hope to learn deeply, we need to take a step back from our existing conceptions to open up a space within which we can develop alternative ways of thinking about things. In my view, stepping back with our conceptions at this point is exactly what adult educators need to do to strengthen our understanding of learning. And, as I have claimed in previous writings, the best way for us to step back at this juncture involves reframing fundamental aspects of our ontology, that is, our understanding of the nature of reality.

The philosophical perspective known as critical realism spells out the basic tenets of this conceptual stepping back. Philosopher Roy Bhaskar (1999, 2008) argues that, when it comes to understanding things, starting with epistemological questions usually results in difficulties. Either, as we have seen, it produces a naïve objectivism that posits human beings as rational individualists capable of knowing an external reality (the modernist perspective), or it produces a relativistic idealism that posits knowledge as constructed either in the mind or, in the case of postmodernism, in the context of power inflected social structures (Elder-Vass, 2011; Sayer, 2000). This all or nothing view of knowledge, Bhaskar suggests, results not from some flawed epistemological view, but from a particular limited ontological conception of the nature of reality itself (p. 57), a view objectivists say we can know and idealists say we cannot. According to this ontology, reality is flat and static, made up of an array of interacting objects. This ontology is 'flat' because all of the objects (natural materials, people, social structures) have the same ontological status. It is 'static' because the events in reality result from the interaction of existing objects without really changing them. Things might interact with each other, but things themselves never really change (p. 58).

Bhaskar contends that it is possible hold a very different ontology than this flat view of reality that underlies both modernist and postmodernist conceptions. Instead of being static and flat, critical realism contends that reality is emergent and stratified (Elder-Vass, 2013). The entities that make up reality are not fixed and unchanging, but are themselves made up of parts (more basic entities). Entities, in this view have a history. They emerge when their parts give rise to a composite entity with powers and properties that are not possessed by the parts themselves. Once an entity emerges, it can interact causally with other entities and, if conditions are right, become part of even larger emergent entities. Instead of being fundamentally static (and, completely knowable), reality is in a perpetual process of becoming. Knowing this reality requires more than just explaining regularities or fundamental interactions. It requires explaining the historical causal mechanisms that produced the emergent entities and their unique and unprecedented powers. In this account, entities do not have the same ontological status. Instead, an emergent reality is stratified. Entities on one strata of reality can be the parts of entities with emergent powers and properties on another strata of reality. Subsequently, emergent entities can act back in a causal way on the very

parts that make them up in complex spirals of causal interaction and emergent development.

People Learn

One of the main reasons adult educators turned towards social theorizing in the 1980s was because of the untenable reductionism and absolutism of earlier individualistic accounts of learning. Instead of simply flipping the tables and asserting that human beings are completely shaped by their surrounding social and cultural contexts as postmodernism recommends, what would happen if we were to take the advice of the critical realists and try to think of learning as part of a stratified and emergent reality?

Our first step would be to try to clarify the entity that possesses the power of learning and to describe, as clearly as possible, what this power entails (Elder-Vass, 2013). According to cognitive scientists, learning is a power that is possessed by individual cognitive agents (humans and other animals) that results from the capacity of the various and interconnected parts of their neurological systems to change in response to experience (Ohlsson, 2011). Human learning takes place as a result of an especially wide variety of experiences, some of them as a result of our engagements with the natural and social world, and some of them, importantly, as a result of our own thinking, including our own internal conversations ((Archer, 2012). In addition to what we learn through the experiences provided by our senses, we can learn through experiencing our own internal bodily feelings and emotional states (Damasio, 1999), we can learn through experiencing memories that we might recall, and we can learn through imagining things that do not exist at all (like the future) (Ohlsson, 2011). Or, more typically, we learn from experiencing all of these various things – feelings, memories, sensations, imaginings, etc. – at the same time. All of these different kinds of experience can produce changes in the structures of our minds¹ and shift our subsequent capacities for thought and for action.

Human learning is not a power that we simply possess. Instead, it is a power that has emerged in our species and that develops in each of us as a result of a confluence of interacting forces (Donald, 2001; Tomasello, 1999, 2009, 2014). Although our genetic heritage provides some parameters shaping our capacities for learning (cognitive scientists have repeatedly demonstrated the limited capacity of working memories), the specific history of our own growth and development, including our unique array of experiences vastly shape our final capacities for learning (Klingberg, 2008). One important source of experiences is the engagements of our bodies with the natural world. Through testing the capabilities of our bodies as it encounters our material environment, we learn ways of doing things (chewing, sitting, handling things, avoiding bumps, navigating, perceiving, attending, ignoring) that provide us, not only with practical abilities, but with workable strategies for testing and

¹ Aside from very minor neurological changes in our spinal cords, almost all of the changes that take place when we learn transpire in our brains (Damasio, 2012).

learning new things about the natural world. Our past experiences with the natural world, for example, provide us with memories that we can recall to test the world simply in our thoughts (“I better not try to jump over that as I can’t jump that far and I will fall”) (Ohlsson, 2011).

Another very important source of experiences for human beings are those we have in social groups. These experiences are of two major kinds. We can experience other people more or less in the same way we do other natural objects and, through testing our capabilities in relation to other people, learn to act in ways that enable us to realize our intentions (Tomasello, 2014). Crucially, however, humans are also capable of joining with one another in contexts of shared intentionality and cooperation (Tomasello, 2014). The experiences we have in cooperative social groups, especially the intensive proximal groups where we spend most of our lives, have massive effects on our thinking and learning.

Although the experiences we have in social groups deeply affect our learning, it is mistaken, I think, to attribute the power of learning to social groups, themselves (Plumb, 2014). Rather, in the fashion prescribed by critical realism, it is important not to confuse the powers possessed by different entities in a stratified reality (Elder-Vass, 2013). Cooperative social groups are emergent structures comprised of people who have learned (through a complex process of cultural bootstrapping) to join with each other in collaborative sharing. Once they have acquired the capacity to participate in collaborative contexts and to recognize and appreciate the intentions of others, people become opened to exposure to a vast wealth of experiences that enable them to learn their way into the complex fabric of their culture.

Although people learn in groups, the cooperative group, itself, has a different power: the power to establish norms (Elder-Vass, 2011, 2013; J. Habermas, 1985; Jürgen Habermas, 1985; Wenger, 1999). Norms are agreements forged between group members about the varied meanings they share together, including the meanings of words and gestures that make up language, the norms about the rules of discourse (who gets to speak when and with what authority), norms about shared elements of culture, and norms about what constitutes valid knowledge. Groups produce agreements (largely through discourse) and, based on their experiences of these discourses and agreements and their experiences of thinking about the agreements, people learn to harmonize (or refuse to harmonize) their thoughts and actions with these norms.

Interestingly, as they learn within cooperative groups, people develop a plethora of unprecedented cognitive capacities. For example, although people without language can think, language provides powerful tools for thinking in especially complex ways (Tomasello, 2014). Margaret Archer (Archer, 2007) argues that, our emergent capacity for internal conversation, which we learn from the experience of participating in actual conversations in groups, provides humans with a new range of experiences that can dramatically enhance their learning. People with an emergent capacity

for meta-reflexivity (a form of thinking about thinking, and learning about learning) can learn to begin to take deliberate steps to shape the learning both of themselves and others by shaping experiences (building learning contexts) from which they and others can learn.

Thinking about learning as an emergent human power that develops within a stratified reality that includes underlying neurological structures, unfolding cognitive powers, a natural environment, small and intensive collaborative norm groups, and larger composite social structures allows us to escape the confines of our disciplinary biases. Although cognitive theories like Ohlsson’s do not tell the entire story, they do provide insight into the cognitive mechanisms underlying learning, including the complex mechanisms of deep learning. An emergent and stratified view of reality enables us to become clearer of the ways human beings participate in the production of social structures and the ways these social structures then become the experiential context of human learning that, in turn, opens new possibilities for social development.

Recognizing that the power of social groups is not learning, but the validation of social norms helps clarify how adult education’s only (or even its main) social purpose is NOT supporting human learning. Rather, a key part of its purpose is to foster collaborative social contexts that produce norms that are just and good, norms that can provide experiences through which people can learn even more powerful capacities for supporting social justice.

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