

The Current State of Transformative Learning Theory: A Metatheory

L'état actuel de la théorie de l'apprentissage transformateur : une métathéorie ?

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L'apprentissage transformateur : état des lieux et portée heuristique d'un construit en développement

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Résumé de l'article

Cet article propose une mise en perspective de l'état actuel de la théorie de l'apprentissage transformateur. Il montre comment la littérature scientifique à propos de l'apprentissage transformateur a conduit à ce qu'il se structure progressivement en métathéorie. Cet article propose également une définition de l'apprentissage transformateur ainsi que trois critères qui le caractérisent. Cet article analyse in fine les conditions d'évolution épistémologique du construit d'apprentissage transformateur en métathéorie.

The Current State of Transformative Learning Theory: A Metatheory

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Abstract : This article presents a perspective on the current state of transformative learning theory. It shows how the literature surrounding transformative learning caused it to evolve into a metatheory. This article then offers a definition of transformative learning as a, as well as three criteria that delimit the learning phenomena that the metatheory encompasses. To illustrate how scholars might evaluate epistemological change in terms of its part in an overall transformation, this article explores how and when epistemological change can be considered transformative.

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Introduction

Transformative learning theory has enjoyed center stage as the most researched theory in the North American adult education literature for over 25 years. The last decade has seen the theory growing beyond its geographical origins, especially in the European literature (Kokkos, 2012). It is also expanding beyond its disciplinary roots, as fields such as agriculture/sciences, archeology, religious studies, health care, critical media literacy, and spirituality have begun to use the theory to better understand the phenomenon of significant learning and change (Taylor & Snyder, 2012). As with any theory, transformative learning theory has evolved much over the years. As it is receiving interest from new scholars, it may be helpful to provide a current state-of-the-art of the theory, at least as far as this author perceives it.

An Important Turning Point in the Evolution of Transformative Learning Theory

In order to understand the current state of the theory, it is necessary to understand a key story in the history of its development. This story begins in 1978 when Mezirow published a white paper (Mezirow & Marsick, 1978) and an article (Mezirow, 1978) reporting on a study of women's return-to-work educational programs housed in community colleges across the U.S., which introduced his concept of transformation. To put this study in context, it took place toward the end of the second-wave feminist movement in the United States. So although Mezirow usually spoke of transformation from the perspective of how educational programs can facilitate it, his research occurred within a broader social environment where many people were already experiencing dramatic change. His study was especially influenced by the broader social movement because the women in it were enrolled in educational programs to help them transition from a role as stay-at-home wives and mothers to working professionals. This context of societal upheaval shaped Mezirow's study and his interpretations of its findings.

This background is important in understanding how Mezirow described what he meant by the word transformation. In short, Mezirow described it as "learning how we are caught in our own history and are reliving it" (1978, p.101). He claimed that dramatic personal events (e.g. loss of a mate, loss of a job, graduation from college) as well as "rapidly changing behavioral norms" (p.101) can create social and personal challenges for which no easy answers or quick fixes exist—and the process of dealing with those challenges can lead to transformation.

Over time, Mezirow expanded on his transformation theory, which he later called a theory of perspective transformation, and has since been referred to as transformation theory and transformative learning theory. Specifics about the evolution of this theory are beyond the scope of this article and can be found elsewhere (Kitchenham, 2008), but Mezirow was fairly consistent in terms of the learning outcomes he was describing and the processes that lead to them. Broadly speaking, Mezirow spoke of transformational outcomes in terms of changes in how learners construct meaning in order to make sense of the world around them. He referred to the mechanism by which people construct meaning as their frames of reference, meaning perspectives, habits of mind, and other terms. However, he was very specific about how those frames of reference changed.

Transformative learning refers to the process by which we transform our take-for-granted frames of reference ... to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action. ... Transformation theory's focus is on how we learn to negotiate and act on our own purposes, values, feelings, and meanings rather than those we have uncritically assimilated from others—to gain greater control over our lives as socially responsible, clear-thinking decision makers. (Mezirow, 2000, p.7-8)

Mezirow did not use his theory in reference to just any kind of change; he explicitly used it to refer to learners coming to understand and evaluate how they made meaning of the world. Transformation involved the development of greater autonomy of thought and a greater openness to others' perspectives. To accomplish these transformational outcomes, Mezirow proposed the following process.

- A disorienting dilemma
- Self-examination with feelings of fear, anger, guilt, or shame
- A critical assessment of assumptions
- Recognition that one's discontent and the process of transformation are shared
- Exploration of options for new roles, relationships, and actions
- Planning a course of action
- Acquiring knowledge and skills for implementing one's plans
- Provisional trying of new roles
- Building competence and self-confidence in new roles and relationships
- A reintegration into one's life on the basis of conditions dictated by one's new perspective (Mezirow 2000, p. 22)

The literature was mostly silent on transformative learning for the next decade after Mezirow's 1978 publications. In 1988, Boyd and Myers published a critique of Mezirow's transformation theory that had a major influence on the development of the theory. The gist of their critique was that transformations look very different from their perspective of psychoanalytic theory than what Mezirow described. Based primarily on the writings of Jung, psychoanalytic theory views transformation as an expansion of one's ego-consciousness. Jung's work proposes that one's psyche is comprised of three separate but interacting systems: the ego, the personal unconscious, and the collective unconscious. The ego is the only part of the psyche of which one can be aware; it is the site of our conscious thoughts, memories, emotions, and sense of identity. However, the personal and collective unconscious have much more power over us than does the ego because, in part, they operate in the background, unseen and unrealized by us. The repressed and ancestral memories, instincts, and archetypes direct and influence our behavior in powerful ways, usually without our ever realizing it. Boyd and Myers argued that the process of coming to know one's unconscious, thereby integrating the conscious and unconscious parts of the psyche, is a transformation that yields greater self-awareness and a more authentic life. The process leading to this transformation involves being present with oneself, paying attention to the images, fantasies, emotions, and dreams that are messages from one's unconscious (Boyd & Myers, 1988).

Thus, we see two very different processes of learning leading to two very different outcomes. On one hand, we have Mezirow describing processes built around critical self-assessment that lead to more accurate or useful ways of making meaning. On the other hand, we have Boyd and Myers describing processes of introspection and soul searching that lead to authentic living by knowing ourselves more intimately. These two types of transformation are not mutually exclusive, but neither are they the same thing.

Boyd and Myers' article was hugely impactful, but not because of their critique of Mezirow. Indeed, they did not really critique his work except to offer an alternative view. Their real impact was that by offering a description of transformation that fundamentally differed in its ontological basis (i.e. presuming Jung's model of the psyche), the processes, and outcomes, they extended transformation theory to include a completely new theory of transformation. The reaction to their article could have gone two ways. One option is that scholars could have pointed out that their critique was not a critique but rather an additional theory that should be called by a different name. Another option, and the one that was used, was to include this separate theory of transformation under the same name as Mezirow's theory. Other scholars followed suit, and over time transformative learning theory came to be used to refer to a wide range of individual theories of or approaches to transformation. Indeed, Mezirow (2000) openly advocated this conjoining of theories in his edited book, which consisted of a collection of work from scholars with disparate approaches to transformation, few of whom made much effort to graft their work onto Mezirow's theoretical elucidations. The burgeoning of perspectives was such that Taylor (1998; 2007) named eight broad approaches to transformative learning based on underlying theoretical frameworks: psychocritical (referring to Mezirow's theory), psychoanalytic, psychodevelopmental, social emancipatory, neurobiological, cultural-spiritual, race-centric, and planetary.

It is common for theories to expand beyond their original uses and meanings as they evolve (Conradi, Jang, & McKenna, 2013). However, in the case of transformative learning, the problem is that nobody insisted on the clarification of terms. When a scholar used the expression transformative learning, the reader would have to rely on context clues in order to know whether the author meant Mezirow's theory or any of the other many theories clumped together under that same name. In fact, it seems that many scholars never made the distinction that the term was being used to encompass many different theories, thus leading to critiques that the term transformative learning was becoming meaningless (Brookfield, 2003; Newman, 2012).

A Current Conceptualization: Transformative Learning as a Metatheory

In recent years, Hoggan (2014a; 2014b; 2015; 2016) offered a reconceptualization of transformative learning as a metatheory encompassing multiple individual theories of transformation and argued that the term should not be used to refer to Mezirow's specific theory, which should be called perspective transformation. Mezirow used perspective transformation, transformation theory, and transformative learning at various times throughout his many publications. Whereas he used transformative learning to refer variously to his own work as well as to the broader array of approaches to transformation that had been offered in the literature, he only ever used perspective transformation to refer to his specific theory. Therefore, Hoggan's recent clarification of terms uses perspective transformation the same way Mezirow did and uses transformative learning solely to refer to the broader array of theories and approaches.

A metatheory serves as an «umbrella under which several theories of development or learning are classified together based on their commonalities regarding human nature» (Aldridge, Kuby, & Strevy 1992, p. 683). A primary purpose of a metatheory is to provide categorizations of components that are common among all the underlying theories so that scholars from different disciplines have a common language to use when talking about the particular phenomenon that the metatheory addresses. Therefore, they can better work together to generate practical knowledge and broader understandings. For transformative learning, treating it as a metatheory is essential because scholars from such a wide array of backgrounds would otherwise use the jargon and idiosyncratic definitions of their respective disciplines. For the study of transformative learning to progress and benefit from such disparate disciplinary perspectives, we need to apply set criteria, use a common vocabulary, and prompt ourselves to see phenomena that might usually be outside the scope of our own respective disciplines.

Hence, conceptualizing transformative learning as a metatheory is a small distinction with extremely important ramifications. The most important of which is that it allows for the development of definitions and parameters for the broad array of theories within it. In this way, the term is no longer used to refer to just anything; for the first time there are definitions and boundaries for what it does and does not encompass. It also allows for a distinction between theoretical work done on specific theories and theoretical work on the overarching metatheory. For instance, Hoggan, Mälkki, & Finnegan offered some additions and refinements to Mezirow's theory of perspective transformation (2017), whereas Hoggan (2016) offered theoretical constructs for the overarching metatheory. In the past, this distinction was never made, and that omission led to the many critiques about diffusion of terms and decreasing usefulness of the theory.

Definition and Criteria of Transformation Learning

As a metatheory, transformative learning is defined as "processes that result in significant and irreversible changes in the way a person experiences, conceptualizes, and interacts with the world" (Hoggan, 2016). The terms experiences, conceptualizes, and interacts were deliberate in their inclusion in the definition. Experiences refers to learners' lived experience, which includes how they feel physically and emotionally, how they viscerally react to situations. It also includes their sense of place in the world, whether they feel lonely or connected, for example. Conceptualizes refers to how learners perceive the world to be. It includes their underlying worldview assumptions as well as how they think through problems and situations. Interacts refers to behaviors, including automatic responses, daily routines, and priorities as demonstrated through choices of activity.

These definitional terms are still relatively broad and vague. They are intended merely to sketch out the wide array of learning outcomes that contribute to an overall transformative experience. For scholars wishing to describe learning outcomes with more clarity, a typology of transformative learning outcomes may be useful (Hoggan, 2016b). This typology has six general categories, each with many subcategories. The general categories are: worldview, self, epistemology, ontology, capacity, and behavior.

The definition provided above is intentionally broad, as the metatheory is intended to encompass a wide range of learning phenomena that can justifiably be considered transformative. Despite its broad purview, the metatheory requires that learning outcomes have three criteria that serve as parameters delineating what should and should not be considered transformative. Those criteria are: depth, breadth, and relative stability (Hoggan, 2016a).

Depth refers to the impact of the learning outcome, or the degree to which it affects the way a person experiences, conceptualizes, and interacts with the world. The purpose of this criterion is to ensure that the metatheory only addresses learning experiences that have dramatic impact. The word transformation implies something more than a minor change; it implies significant, momentous, consequential change.

Breadth refers to the range of contexts (e.g. work, home, different social groups) affected by the learning outcome. The purpose of this criterion is to ensure that learning experiences have a far-reaching impact on learners' lives. If a learner experiences a significant change, but it only manifests in the specific environment in which it was learned, that learning experience cannot justifiably be described as transformative. In order to be transformative, the learning outcome should affect how the learner experiences, conceptualizes, and interacts with the world far beyond just the learning environment.

Relative stability refers to the permanence of the learning outcomes. Former ways of experiencing, conceptualizing, and interacting with the world are not miraculously forgotten and will likely remain in a learner's repertoire of meaning-making resources. Nevertheless, newly learned or developed ways of experiencing, conceptualizing, and interacting with the world cannot justifiably be considered transformative if they are merely temporary. Transformation implies a permanent change, even if there is a necessary caveat that learners may yet change again. A transformation does not preclude future learning and change. Regardless, learning outcomes must be more than just a temporary change to be considered transformative.

So, what is the state of the art in the metatheory of transformative learning? The metatheory has explicit parameters (i.e. depth, breadth, and relative stability) delimiting the range of learning phenomena it addresses. Within those parameters, however, there is space for a wide range of transformative experiences—and those transformations do not necessarily look alike. There is space, for example, for the experiences of cancer survivors whose lives are dramatically improved because of the disease, as well as for those of first generation college students, combat veterans, and religious converts. It is incumbent on scholars to articulate how exactly learners have changed in dramatic ways so that the literature is clear about the exact nature of the transformation being described.

The typology of transformative learning outcomes described above is an analytic tool to aid in the description and analysis of transformation, as it prompts scholars to consider the various aspects of change. To provide further explication, the next section discusses one of the six categories of change as per the typology, epistemology. Since there is not space in this article to expand on all six categories, I have chosen to discuss epistemology in more detail because it seems to be a facet of change that typically forms only a tacit part of descriptions of transformation rather than being explicitly analyzed in the literature. The following section provides an overview of epistemology and discusses epistemological change as it might be analyzed in terms of depth, breadth, and relative stability.

Defining Transformative Learning: Epistemological Change

Personal epistemology, or an individual's particular way of knowing, is comprised of the means through which one understands what knowledge is, how it is constructed, how it is evaluated, where it comes from, and how one can know it (Bendixen & Rule, 2004; Hofer & Pintrich, 2002). Scholars of personal epistemology describe it as "how individuals come to know, the theories and beliefs they hold about knowing, and the manner in which such epistemological premises are a part of and an influence on the cognitive processes of thinking and reasoning" (Hofer & Pintrich, 1997). One's personal epistemology can include beliefs related to the general nature of knowledge, epistemological processes or forms, and views one may have towards knowledge (Hammer & Elby, 2002). Epistemological change is a common component of learners' overall transformation.

The field of epistemology has historically been characterized by questions about the fundamental nature, source, and existence of human knowledge, dating back to ancient philosophical debates (see Socrates, Plato, and Aristotle). The essence of human truths, the definition of knowledge, and the scope of what can be known are still fundamental components of many theories of knowing, thinking, and understanding (Muis, Bendixen, & Haerle, 2006). More recently, however, the study of epistemic cognition, or personal epistemology, has become an important emphasis of inquiry within the broader field of epistemology. Rather than questioning the universal qualities of knowledge and truth, the study of personal epistemology focuses more narrowly on the ways individuals accumulate knowledge and use it to frame their particular understandings of the world (Hofer & Pintrich, 2002). In the current analysis, the lens of personal epistemology provides insights into the development of individuals' ways of knowing that comprise one part of an overall transformative outcome.

Transformative epistemological change refers to shifts in the ways individuals build and evaluate day-to-day knowledge (Hoggan, 2016b). The processes involved in how an individual interacts with knowledge are complex and often framed by both domain and context (Hammer & Elby, 2002). Sometimes changes in these processes can bring about significantly broad, deep, and stable shifts in personal epistemology so that the individual's epistemic structure is transformed. Through transformative learning, individuals' frameworks for understanding their own knowledge often shift, leading to long-term changes in cognition patterns and structures for interpreting the world. Transformative epistemological change is thus the outcome of learning in which significant changes occur in an individual's relationship with knowledge.

Criteria for Transformative Epistemological Learning

The first criterion of transformative learning outcomes is depth. Transformative epistemological change reflects shifts in epistemic structures that are sufficiently deep, or impactful, to be considered major changes. In contrast to minor epistemological changes, which may be significant on a surface level, deep changes reflect those that affect fundamental epistemic beliefs.

One example of deep epistemological change is that which results from shifts in metacognition. Metacognition is essentially the thoughts individuals have about their own thought processes (Bromme, Pieschl, & Stahl, 2010). Metacognition overlaps with personal epistemology because it encompasses what individuals know about their own cognitive processes, and their ability to control or adjust those processes, including their personal epistemology (Bromme, Pieschl, & Stahl 2010; Fagnant & Crahay, 2011). Because of this relationship, some scholars believe that metacognition actually regulates epistemological change (Fagnant & Crahay, 2011). As such, changes in metacognitive processes and structures may facilitate epistemological changes that deeply influence individuals' entire understanding of how they think and perceive their experiences and the world. When epistemological beliefs operate on a metacognitive level, they serve as a lens through which learners understand how they are supposed to learn and can intentionally recognize and sustain change (Bromme, Pieschl, & Stahl, 2010). Shifts in these beliefs would demonstrate learning that would likely be sufficiently deep to result in transformative change.

The second criterion of transformative learning is breadth; transformative epistemological changes are those that extend to multiple contexts. Individuals have epistemological resources tied to different contexts, and in order to learn one must draw on productive epistemological resources from other contexts to be applied to the learning context (Hammer & Elby, 2002). In order to be transformative, the changes individuals experience from learning must permeate the epistemologies they hold in different environments and situations. If learners only experience a changed epistemology related to their understanding of the nature of one particular piece or type of knowledge, it would be difficult to consider them transformed.

An example of epistemological change that may or may not be transformative is that of domain-specific epistemology. From this perspective, shifts in epistemological beliefs occur within one particular academic field. This type of change usually emerges with time, exposure, and expertise (Buehl & Alexander, 2006). Advanced education, curricula, and specific instruction are seen as tools through which domain-specific epistemic beliefs change in complexity (Conley et al., 2004; Buehl & Alexander, 2006). For example, learning to practice with a medical epistemology in the healthcare field can involve developing an understanding of the nature of knowing and knowledge more complex than a typical understanding of scientific certainty of knowledge, and more inclusive of contextual understanding and recognition of fluidity of knowledge (Knight & Mattick, 2006). Similarly, some scholars demonstrate that students with sophisticated epistemic beliefs are more likely to experience deep changes in learning through scientific argumentation (Nussbaum et al., 2008). Each of these epistemological changes indicates greater discrimination between contexts and reflective application to domain-specific knowledge and learning.

However, though domain-specific epistemologies can be indicative of transformative epistemological change, the question remains as to what breadth domain-specific epistemic change truly reaches, and whether it can be considered transformative without reaching multiple contexts. True transformative epistemological change may necessitate, as Muis, Bendixen, and Hearle (2006) argue, that the epistemology of a specific discipline actively impacts an individual's general personal epistemic beliefs in addition to domain-specific beliefs when change occurs. It may only be in this case, in which domain-specific epistemological learning impacts domain-general epistemology as well, that the epistemological change would be sufficiently broad to constitute a transformative learning outcome.

The third and final criterion of transformative learning is relative stability. Without stability across time, epistemic changes resulting from learning cannot rightfully be considered transformative. Though short-term change can be significant and meaningful, bringing to light new cognitive processes or epistemic structures, transformation requires lasting outcomes that reflect irreversible shifts in the way individuals understand knowledge. This idea contrasts with descriptions of epistemic development that emphasize cyclical stages (Chandler et al., 2002). Some scholars describe changes in epistemological development as recursive; individuals cycle through stages of development, passing through the same epistemic frameworks repeatedly throughout the lifespan, so that what appears as growth may not actually be new (Chandler et al., 2002). This understanding presents epistemic change in a way that would not demonstrate transformation. In contrast, when individuals move beyond certain cognitive structures to new frameworks of personal epistemology that exhibit breadth and depth, and if they do not cycle through previous structures other than when previous structures emerge periodically and briefly (Hoggan, 2016b), permanent transformative epistemological change would be evident.

Conclusion

Contrary to most of the transformative learning literature, this article has focused on the analysis of learning outcomes and has largely ignored processes that lead to various forms of transformation. This omission does not imply that processes that lead to transformation are not important. However, the scholarship of transformative learning needs to very carefully define the parameters of our field of study, and carefully articulating the outcomes of learning in terms of their transformational nature is important in doing this. Further, there are many different ways that people can change. If scholars do not begin with a careful portrayal of what is accomplished in a transformation, then the how of that transformation does not matter.

The purpose of this article was to present a state-of-the-art conception of transformative learning that positions it as a metatheory that includes but extends beyond Mezirow's theory of perspective transformation. As a metatheory, transformative learning is useful in providing categorizations, criteria, a common vocabulary, and similar analytic tools to promote broader understandings of learning phenomena that result in major personal, group, or societal change. Although researchers by necessity need to situate their scholarly work within a particular theory, they also can benefit from insights gleaned from different theoretical perspectives examining transformative learning.

References

- Aldridge, J., Kuby, P., & Strevy, D. (1992). Developing a metatheory of education, *Psychological Reports*, 70, 683-687.
- Hoggan, C. (2014a). Lessons from breast cancer survivors: The interplay between context, epistemology and change. *Adult Education Quarterly*, 64(3), 191-205. doi: 10.1177/0741713614523666
- Boyd, R. D., & Myers, J. G. (1988). Transformative education. *International journal of lifelong education*, 7(4), 261-284.
- Bromme, R., Pieschl, S., & Stahl, E. (2010). Epistemological beliefs are standards for adaptive learning: a functional theory about epistemological beliefs and metacognition. *Metacognition and Learning*, 5(1), 7-26.
- Brookfield, S. (2003). Putting the critical back into critical pedagogy: A commentary on the path of dissent. *Journal of Transformative Education*, 1, 141-149.
- Buehl, M.M. & alexander, P.A. (2006). Examining the dual nature of epistemological beliefs. *International Journal of Educational Research*, 45(1), 28-42.
- Chandler, M. J., Hallett, D., & Sokol, B. W. (2002). Competing claims about competing knowledge claims.
- Conley, A. M., Pintrich, P. R., Vekiri, I., & Harrison, D. (2004). Changes in epistemological beliefs in elementary science students. *Contemporary educational psychology*, 29(2), 186-204.
- Conradi, K, Jang, BG, & McKenna, MC 2014, 'Motivation terminology in reading research: A conceptual review', *Educational Psychology Review*, vol. 26, pp. 127-164. doi:10.1007/s10648-013-9245
- Fagnant, A., & Crahay, M. (2011). Theories of mind and personal epistemology: their interrelation and connection with the concept of metacognition. *European journal of psychology of education*, 26(2), 257-271.
- Hammer, D. & Elby, A. (2002). On the form of a personal epistemology. In B. K. Hofer & P. R. Pintrich (Eds.), *Personal Epistemology: The Psychology of Beliefs about Knowledge and Knowing* (pp. 191-208). Mahwah, NJ: Lawrence Erlbaum Associates
- Hofer, B.K., & Pintrich, P.R. (2002). *Personal epistemology: The psychology of beliefs about knowledge and knowing*. Mahwah, NJ: Lawrence Erlbaum Associates
- Hofer, B. K., & Pintrich, P. R. (1997). The Development of Epistemological Theories: Beliefs About Knowledge and Knowing and Their Relation to Learning. *Review of Educational Research*, 67(1), 88-140. doi:10.3102/00346543067001088
- Hoggan, C. (2014b). Transformative learning through conceptual metaphors. *Adult Learning*, 25(4), 134-141. doi: 10.1177/1045159514546215
- Hoggan, C. (2015). Informal transformative learning from a life-threatening illness. In O. Mejiuni, P. Cranton & O. Taiwo (Eds.), *Measuring and analyzing informal learning in the digital age* (pp. 64-79). Hershey, PA: IGI Global. doi: 10.4018/978-1-4666-8265-8.ch005
- Hoggan, C. (2016a). Transformative learning as a metatheory: Definition, criteria, and typology. *Adult Education Quarterly*, 66(1), 57-75. doi: 10.1177/0741713615611216
- Hoggan, C. (2016b). A typology of transformation: Reviewing the transformative learning literature. *Studies in the Education of Adults*, 48(1), 65-82. doi: 10.1080/02660830.2016.1155849
- Hoggan, C., Mälkki, K., & Finnegan, F. (2017). Developing the theory of perspective transformation: Continuity, intersubjectivity, and emancipatory praxis. *Adult Education Quarterly*, 67(1), 48-64. doi: 10.1177/0741713616674076
- Bendixen, L. D. (2002). A process model of epistemic belief change. In B. K. Hofer & P. R. Pintrich (Eds.), *Personal Epistemology: The Psychology*

- of Beliefs about Knowledge and Knowing (pp. 191–208). Mahwah, NJ: Lawrence Erlbaum Associates
- Kitchenham, A. (2008). The evolution of John Mezirow's transformative learning theory. *Journal of Transformative Education*, 6(2), 104-123.
- Knight, L. V., & Mattick, K. (2006). 'When I first came here, I thought medicine was black and white': Making sense of medical students' ways of knowing. *Social Science & Medicine*, 63(4), 1084-1096.
- Kokkos, A. (2012). Transformative learning in Europe: An overview of the theoretical perspectives', in E Taylor, & P Cranton (eds.) *The handbook of transformative learning: Theory, research, and practice*, Jossey-Bass, San Francisco, CA. pp. 289-303.
- Merriam, S. B. (2004). The role of cognitive development in Mezirow's transformational learning theory. *Adult education quarterly*, 55(1), 60-68.
- Mezirow, J. (2000). Learning to think like an adult. In Mezirow & Associates (eds.) *Learning as transformation: Critical perspectives on a theory in progress* (pp3-34). Jossey-Bass : San Francisco, CA.
- Mezirow, J. (1978). Perspective transformation. *Adult education*, 28(2), 100-110.
- Mezirow, J. & Marsick, V. (1978). *Education for perspective transformation : Women's re-entry programs in community colleges*, Teachers College, Columbia University; New York, NY.
- Muis, K. R., & Bendixen, L. D., & Haerle, F. (2006). Domain-general and domain-specificity in personal epistemology research: Philosophical and empirical reflections in the development of a theoretical framework. *Educational Psychology Review*, 18(1), 3-54.
- Newman, M 2012, 'Calling transformative learning into question: Some mutinous thoughts', *Adult Education Quarterly*, vol.62, pp. 36-55. doi:10.1177/0741713610392768
- Nussbaum, E. M., Sinatra, G. M., & Poliquin, A. (2008). Role of epistemic beliefs and scientific argumentation in science learning. *International Journal of Science Education*, 30(15), 1977-1999.
- Taylor, E & Snyder, M 2012, 'A critical review of research on transformative learning theory, 2006-2010' in E Taylor & P Cranton (eds.) *The handbook of transformative learning: Theory, research, and practice*, Jossey-Bass, San Francisco, CA. pp. 37-55.
- Taylor, E.W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999–2005). *International Journal of Lifelong Education*, 26(2), 173-191.
- Taylor, E.W. (1998). The theory and practice of transformative learning: A critical review (Information Series No. 374). Columbus, OH : ERIC Clearinghouse on Adult, Career, and Vocational Education. Retrieved from ERIC database. (ED 423 422)

