

Clarifying the Relationship Between Transformative Teaching and Transformative Learning

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Abstract

Transformative learning describes the change process that an individual undergoes as they come to question their values and beliefs in such a way that they experience a fundamental shift in their interpretation of experiences and bases for their actions. Mezirow (1981, A critical theory of adult learning and education. Adult Educ Q, 32:3–24) coined this term *transformative learning* more than a quarter century ago and laid the foundation for subsequent development of this concept. Concurrently, thinkers such as Parker Palmer (1998, The courage to teach: exploring the inner landscape of a teacher's life. Jossey-Bass, San Francisco) have begun to articulate a notion of transformative teaching. Central to this concept is the idea that the educator approaches their teaching from a holistic and integrated sense of self. The question that remains is what is

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the impact of a transformational teacher on the learner? In this chapter I summarize these literature streams and use these insights to consider how educators are able to foster learning environments and practices that encourage transformative learning.

Keywords

Transformative learning · Transformative teaching · Curriculum design · Deep learning · Learner-centered education · Safe spaces · Self-reflection · Individuation · Emancipatory process · Dialogic process

Introduction

Adults who develop – that is, whose meaning-constructive systems transform – are likely to become more deliberative, responsible, and competent in carrying out the work of society. (Taylor 2000b, p. 167)

The typical classroom today has as its primary focus, instrumental, as opposed to transformative, learning. Instrumental learning "involves controlling or managing the environment, improving performance or prediction" (Mezirow 2003a, p. 2), whereas transformative learning, as Brookfield so eloquently frames it, "I believe an act of learning can be called transformative only if it involves a fundamental questioning and reordering of how one thinks or acts" (2000, p. 139). Said another way, instrumental learning helps the student to understand what is expected of them, while transformative learning enables the student to become aware of, question, and perhaps reframe the beliefs that shape how they enact with the world around them. If the assumption is that transformative learning is a pursuit worth accomplishing, this chapter seeks to clarify the role that facilitators can play in making this deeper learning more likely for students in formal learning contexts.

It may be helpful here to unpack two similarly worded concepts, transformational leadership and instrumental behavior, to avoid further confusion with the terms transformative learning and instrumental learning. As illustrated in Table 1, while these theories sound similar, they each come from distinct fields of study, are based on different precepts, and situate agency differently.

The first concept, transformational leadership, is drawn from the management literature. Transformational leadership "occurs when leaders broaden and elevate the interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group, and when they stir their employees to look beyond their own self-interest for the good of the group" (Bass 1990, p. 21). In other words, it is through the act of leadership that the leader is able to "transform" their followers (employees) to rally around a common purpose. Leaders such as Nelson Mandela, John F. Kennedy, and Martin Luther King, Jr., are held up as examples of transformational leaders.

Whereas transformative learning is an introspective process whereby the individual them self is transformed, in his later work, Mezirow (2003a) defined transformative

Term	Synopsis	Field of study	Focus of agency
Transformational leadership	The garnering of a collective's efforts toward a common purpose	Management	The individual is asserting influence on others
Transformative learning	The acquisition and embodiment of new or deeper ways of knowing	Education	An introspective process whereby the individual develops their sense of self- authorship
Instrumental behavior	Taking action to seek reward or avoid punishment	Psychology	External pressures influence individual behavior
Instrumental learning	The acquisition of skills in order to perform routine tasks	Education	Individual attainment of skills toward a self-established tangible goal

Table 1 Overview over the terms

learning as "the epistemology of how adults learn to think for themselves rather than act upon the assimilated beliefs, values, feelings and judgments of others" (p. 1). This statement sits within a larger body of research, through which Mezirow offered insights into the process adult learners move through as they come to question their own knowing. It is this conception of transformative learning that we will explore through this manuscript.

The second term, instrumental behavior, comes out of the field of psychology (Pavlov 1941; Skinner 1957). The idea behind this concept is that behavior is conditioned toward or away from stimuli. The dog hears the bell and he comes for the food (Wyrwicka 1975). Quite simply, the behavior is demonstrated to achieve rewards and avoid punishment. This is similar to the carrot and stick motivation theory (McGregor 1966) evident in the work environment where management uses the means at its disposal, such as bonuses, promotions, and recognition, to reward or punish behaviors.

Instrumental learning, however, is not stimuli focused but rather focused on the acquisition of the skill (Mezirow 1990). Instrumental learning enables the learner to begin demonstrating new skills as a result of training. Examples of instrumental learning in the context of leaders in organizations include learning to conduct behavioral interviews, write and present effective performance reviews, and establish and execute on organizational goals. Typically, the motivation for learning in this fashion is to be able to fulfill a task (e.g. you learn CPR in order to become a lifeguard). Instrumental learning is important to be able to address the day-to-day operations of an organization. However, when the conditions an individual faces are radically different than anything they have experienced previously, the person consciously looks to a deeper sense of self (Dirkx 2000), a consonance between their head and heart (Dirkx et al. 2006) to understand the way forward (Mezirow 1991, 2000, 2003a).

The intent of transformative learning is to enable the learner to better understand their decision-making practices. The transformative learning process supports the individual in engaging in critical reflection (Brookfield 2000; Wiessner and Mezirow 2000; Taylor 2000b) while exploring how their values, beliefs, and motivators act as filters (Cranton 2000; Dirkx et al. 2006) that shape how the individual views themselves and their world (Daloz 2000; Kegan 2000; Mezirow 1991, 2000, 2003a). The transformative learning process enables the individual to form a stronger understanding of his- or herself. The learner, beginning with this clearer sense of self, is able to view, interpret, and engage with others in a more collaborative manner (Dirkx et al. 2006; Kegan 2000; Mezirow 1991). It is through these touch points that the learner is able to embody and demonstrate their transformation.

This generation has experienced events unlike those of prior generations, such as cyber disruption, radical warfare, and global economic impacts. Additionally, the pace of the dissemination of information has curtailed the space and time individuals have to understand, assimilate, and react, in this ever-changing environment. As Aral et al. (2013) posit in the introduction to their Special Issue of Information Systems Research dedicated to Social Media and Business Transformation, social media "represents one of the most transformative impacts of information technology on business, both within and outside firm boundaries." Social media has enabled messages to travel around the globe in a matter of seconds. Examples of this include something as seemingly minor as the individual consumer who posts a complaint online – only to have it go viral – to more sophisticated and subversive acts such as cyberhacking. The combination of these circumstances has highlighted the importance of transformative learning. As Kegan and Lahey (2009) frame it, "our current designs are not adequate means for promoting the transformational learning that is necessary to meet adaptive challenges" (p. 310). Individuals who are able to employ "a more inclusive, differentiated, permeable, and integrated perspective" (Mezirow 1991, p. 155) are better positioned to meet such challenges. The hypothesis here is that this stronger sense of self better positions the individual to engage different perspectives, perhaps reshaping their own position as they integrate this new information into their existing paradigm, while they determine their course of action. The ability to be vulnerable and open in your views is what allows the learner to take in broad and disparate information, contextualize it, and reimagine a way forward.

Facilitators of formal development programs have a unique opportunity to support their students on this journey. As Taylor (2000b) posits, "how can adult educators encourage the kind of learning that has the potential to transform the very way one perceives and understands?" (pp. 157–158). The classroom can become a space where students can explore their ways of knowing, become aware of other perspectives, and begin integrating their revised beliefs into their lives (Taylor 2000b; Brookfield 2000; Mezirow 1991, 2000).

This chapter will first explore the goals of adult education in order to situate the reader in the context within which these two theories – transformative teaching and transformative learning – are explored. The chapter then turns its attention to defining transformative learning in order to explain this deeper, introspective, and potentially durable learning. I then ask you to turn your attention to understanding

how the classroom can support the transformative learning process. This exploration begins with an understanding of the importance of the interactivity as a catalyst for learning. Next, I begin to discuss how faculty can intentionally foster transformative learning in the classroom. This discussion begins by reflecting on pedagogical design considerations. We then shift our attention to address practical curriculum design considerations. Lastly I will conclude by offering some final thoughts for facilitators as to the importance and impact of endeavoring to engage students in the transformative learning process.

Goal of Adult Education

This manuscript focuses on the education of adults. This decision is, in part, rooted in Kegan's (1982) cognitive developmental framework. Lewis (2011) wonderfully lays out the framework Kegan developed which looked at perspective taking. He posits that infants and young children's perspectives are limited to their own viewpoint. In other words, they believe that everyone sees the world as they do. As children get older, they begin to recognize that others may see things differently than they do. A simple example of this is the child who, while recognizing that he wants to play, his teacher wants him to do his school work. In this stage of the development, the child is focused on getting what they want – if I do my classwork then the teacher will let me play. This transactional way of being can also be seen in the workplace, for instance, with the employee who expects to be paid a certain wage for the expertise they bring to the job. The next stage of development attends to the impact that others have on an individual. In other words, how the perceptions of others shape our own perceptions. One example of this might be that of peer pressure. This would lead one to believe that transformative learning is possible only when the individual is able to realize a sense of self-authorship in relationship to their context. It is, in my humble opinion, the precipice between this stage and the latter two stages, which focus more on self-authorship, where transformative learning is possible.

Throughout his lifetime of work, Mezirow (2003a) has consistently framed the goal of adult education in terms such as "to assist learners to more fully realize their capability for autonomous thought while pursuing their own learning objectives" (p. 4) and "to help the learner develop the requisite learning processes to think and choose with more reliable insight, to become more autonomous" (Wiessner and Mezirow 2000, p. 348). It is important to be able to distinguish between what one has been taught to believe, what one is expected to believe, and what one actually believes. He speaks of this as an *emancipatory process* where the student becomes aware of the "forces that limit our options and our rational control over our lives but have been taken for granted or seen as beyond human control" (Mezirow 1991, p. 87). A timely issue being deliberated by many, which can be used to demonstrate this, is same-sex marriage. The emancipatory process would have us tease apart what society's views are, what religious views are, and what community views are, to come to understand our own views on the subject. It is through this awareness that

the student is able to reassess these "forces" and make deliberate choices for themselves.

Patricia Cranton expands upon Mezirow's introspective point of view in reflecting upon how this self-awareness enables the individual to interact more effectively with others. "Our goal of adult education, and transformative learning in particular, is individuation, the development of the person as separate from the collective, which in turn allows for the person to join with others in a more authentic union" (Cranton 2000, p. 189). A metaphor for this "authentic union" might be that of a salad, where each of the ingredients retains its individuality and yet, when combined with the others, creates something symbiotic. The process of adult education, then, is one of helping the student to discern their own point of view while enabling them to be open to, and identify value in, perspectives which may be disparate from their own. At the foundation of both Cranton and Mezirow's interpretation of adult education lies the theory of transformative learning.

What Is Transformative Learning?

Transformative learning may be understood as the epistemology of how adults learn to think for themselves rather than act upon the assimilated beliefs, values, feelings and judgments of others. (Mezirow 2003a, p. 1)

Jack Mezirow is one of the preeminent authors in the field of transformative learning. He is, in fact, credited with coining the term "transformative learning." His work in this arena spans nearly 50 years. In his work, Contemporary Theories of Learning, Mezirow (2009) outlined ten phases in the transformative learning process. These include a disorienting dilemma, self-examination, critical assessment of assumptions, recognition that one's discontent and the process of transformation are shared, exploration of options, planning a course of action, acquiring knowledge and skills for implementing one's plan, provisional trying of new roles, building competence and self-confidence in new roles and relationships, and a reintegration into one's life (p. 194). Others have added their voice to this conversation, providing insights into the richness and complexity of transformational learning in adults. Notably, Kegan has spent more than three decades exploring the cognitive development aspects of transformative learning, while Dirkx body of research focused on the inner dimensions of transformative learning. These works do not contradict but rather complement and add clarity to one another. One example of how the three might work collectively to provide a clearer picture of transformative learning is in Mezirow's phase of critical assessment of assumptions. Simply from the language and his earlier texts on the phases, one would be led to believe that this is a rather dispassionate, logical appraisal. Kegan's work, however, would be attentive to, perhaps, where these assumptions came from. In other words, might those close to the individual hold similar assumptions. And Dirkx would focus on the emotions surrounding this deep questioning of what one has known to be true.

Table 2 Mezirow's ten phases of transformative learning (1991)

A disorienting dilemma

A self-examination with feelings of guilt or shame

A critical assessment of epistemic or sociocultural assumptions

Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change

Exploration of options for new roles, relationships, and actions

Planning a course of action

Acquisition of knowledge and skills for implementing one's plan

Provisional trying of new roles

Building of competence and self-confidence in new roles and relationships

A reintegration into one's life

Transformative learning refines and reshapes one's values and beliefs (Daloz 2000; Mezirow 2009). Mezirow (1991) describes transformative learning as involving ten phases (Table 2). The process begins with the individual becoming aware of existing values and engrained belief systems (Mezirow 1991). This awareness may arise out of an exogenous shock or a more subtle, perhaps subconscious, internal disharmony where the individual can't quite reconcile how they feel about something. This practice challenges individuals to test their beliefs and values by questioning the origin and evolution of the beliefs and values. The testing of beliefs allows the individual to assess whether they maintain conviction that these beliefs are valid for them or find that an adaptation is necessary. While this process sounds logical and rational, the work of exploring beliefs and values is deeply personal and fraught with emotional attachment. This work, however, may lead to newly defined beliefs and values, or it may lead to greater insight that more firmly grounds the individual in their understanding and embodiment of their existing beliefs and values. In either case, the process does not end with the individual's greater selfawareness. It is not simply about the individual becoming more enlightened, it is about what they do with this awareness. In the final phase, according to Mezirow (1991), the process supports individuals' efforts to act upon their newly defined systems. The transformative learning process must be actualized in how the individual interacts with others from this place of knowing.

Take, as an example, a male student, let's call him Adam, who arrives at university with a belief that women are not as capable as men at mathematics. As Adam enters his Statistics course, he finds that the professor is a woman. He also notes that approximately half of his peers in the class are women, many of whom have declared Mathematics or Science as majors (a disorienting dilemma). He may become angry or embarrassed as he thinks about ways in which he's reinforced this belief, such as joking with his younger sister about her math grades (self-examination). In the ensuing weeks, as he comes to interact with the professor and his peers, he begins to call into question his belief. He might begin to think about where that belief came from – perhaps his parents, teachers in primary school, or his childhood friends (critical assessment). He may engage in dialogue with his peers and discover that they are also curious about this contradiction from what they have

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Stage/name	Subject
1 (Impulsive)	Immediate perceptions, feelings, and impulses
2 (Imperial)	Enduring interests, personal agendas, and role expectations
3 (Interpersonal)	Shared meaning, mutuality, social ideals, and self-consciousness
4 (Institutional)	A self-authored system of values and standards
5 (Interindividual)	Universality, paradox, multiple selves as vehicles for connection

Table 3 Kegan's stages of the development of the self (Lewis 2011)

known to be true (recognition of shared discontent). The professor pairs him with a female student, Sara, to work on the final course assignment. In their initial meeting, he begins to reimagine how they might each contribute to the work (exploration of new roles), and they come to agreement on division of labor (planning a course of action). As they continue working together, Adam engages Sara to help him reconsider how he thinks about women's mathematical capabilities (acquiring new knowledge and skills), and he begins to treat Sara as an equal partner in the work (provisional trying of new role). As the class ends and Adam goes home for the break, he finds himself behaving in a more encouraging and supportive way toward his sister's interest in mathematics (building competence). Finally, if we were to visit with Adam at his first job out of college, we might find that he no longer believes there is any discernable difference in mathematical capability based on gender (reintegration).

Kegan's body of work looks at transformative learning through the lens of cognitive development. In *The Evolving Self*, Kegan (1982) describes six stages of development ranging from Stage 0, incorporative, to Stage 5, interindividual. As inferred from the title of the book, individuals progress through these stages over the course of their lifetime, though most do not attain Stage 5. Lewis (2011), in referring to Kegan's work, says "nearly half of all adults in Western societies appear to spend most of their chronological adulthood making sense of their lives using Kegan's stage 3 or struggling to make the transition from stage 3 to stage 4" (p. 48). Table 3 below is a distillation of Kegan's stages of cognitive development as framed by Lewis. An individual at Stage 3 is aware of their needs but is strongly influenced by their environment. The ascension to Stage 4, where one begins to truly self-author, is difficult. Similar to Mezirow's explanation, Stage 4 is where the individual understands and "owns" their values and beliefs.

Let us take Kate as an example to demonstrate the various stages Kegan has posited. As Kate enters university, she has a clear vision of what she expects from her college experience. She has determined that, as she did in high school, she will be an honors student, remaining at the top of her class. She thoroughly reads each professors syllabus and sets up meetings with each of them at the beginning of the semester to ensure that she clearly understands their expectations (Stage 2). Over the course of her first semester, she finds herself assigned to project teams in several of her classes. Initially she finds herself struggling in these peer groups as each student seems to have their own expectations and motivations for what they hope to accomplish in the class, and these do not necessarily mirror Kate's (Stage 3). With

the professor's help, Kate begins to learn how to work with her peers, understanding their perspectives, articulating her own perspective, and finding common ground (Stage 4). If she were able to achieve Stage 5, Kate might be able to use her deepening understanding of herself and each of her teammates to both support their individual development as well as their development as a team.

One way to think about how these two tables (Tables 2 and 3) come together is that Kegan's cognitive developmental stages help facilitators to understand whether students might be capable of transformative learning. It is unlikely that a student who has not reached Kegan's Stage 3 will be able to engage in the transformative learning process. As noted earlier, at Stage 3 students are able to begin to understand how they are influenced by those around them. This awareness creates the opportunity for the student to begin contemplating how these influences may (or may not) support their burgeoning understanding of themselves.

Scholars steeped in transformative learning, such as Mezirow, Kegan, and Dirkx, describe transformative learning as a process and an often difficult journey. Change is hard. And with transformative learning, the individual is contemplating changing deeply held views and beliefs as well as the role(s) the individual plays in society. Mezirow (1991) encapsulates this well when he says:

Although slippery and subject to diversions and self-deception, the transformative learning process is irreversible once completed; that is, once our understanding is clarified and we have committed to ourselves fully to taking the action it suggests, we do not regress to levels of less understanding. Reaching this point of full understanding and commitment can be extremely difficult, however, and many people do regress before they reach this point. (p. 152)

One theoretical lens through which we might begin to understand what conditions or factors support deep or lasting learning of such an introspective nature and what may hinder it may lie in the transformative learning literature. Mezirow (1991) states that "transformation can lead toward a more inclusive, differentiated, permeable, and integrated perspective" (p. 155). This process encourages the individual to maintain a stance of openness and curiosity, using information and insights to reframe existing thinking. And, as the term *permeable* suggests, this process is iterative. As the individual encounters new information, they are able to interpret and determine how this insight might again reframe their thinking. *Differentiated* means that they are able to express, in their own terms and based in their lived experiences, what their values and beliefs are, rather than explaining these tenets through the lens of what is deemed socially acceptable. Transformative learning is different than instrumental learning, described by Mezirow (1991) as "task-oriented problem solving" (p. 79) or Argyris' (1991) "single-loop thinking" where individuals, relying primarily on prior experience, seek to quickly resolve the issue at hand.

Argyris (2002) describes the movement from single-loop thinking to double-loop thinking. An example from business may help to clarify the differences among these. Within the sales function, revenue targets provide an example of single-loop thinking. The assumption is that the organization has established financial projections for the year, and these have been translated to the sales function to delineate their accountability in contributing to those organizational goals. Double-loop thinking

can come into play as these sales targets are not met. Here, leadership likely reflects upon the assumptions the organizations had made about, and the information they have received from, the marketplace. They then use this information to adjust their plans moving forward. This learning is not mutually exclusive from, but rather works in tandem with, transformative learning. Transformative learning moves beyond double-loop thinking to encompass values-laden terrain, offering the learner an opportunity to reflect upon what they deem to be the right thing to do and why and, as such, can be inherently emotional and somewhat existential. Initially, the learner may not be able to put words to the reasoning behind their position, though they feel deep conviction in their decision. In that sense, values and beliefs have a spiritual dimension to them.

Transformative learning offers a construct for helping learners contemplate the "deeper emotional and spiritual dimensions of learning" (Dirkx 2000, p. 2) about themselves and the world around them (Bronfenbrenner 2005; Lewis 2011; Mezirow 1991, 2000). Single-loop thinking is effective where issues are clear and solutions evident. Where the issues are more complex and solutions are not apparent, transformative learning allows the learner to be open and inclusive in their exploration for a path forward.

Relational Aspect of Transformative Learning

While it is the individual who participates in the classroom curriculum, they do not do so in isolation. Not only do they bring with them their beliefs, values, and assumptions (Ciporen 2008; Mezirow 1991, 2000) but also the various roles that they play in society (Bronfenbrenner 2005). As Bronfenbrenner (2005) illustrates through his research of human development, there exists this permeability between the individual and their environment, where each exerts influence, intentionally or not, on the other. Figure 1 offers a visual representation of this interaction. The student sitting in the classroom is influenced by the teacher and their peers. At the same time, friends, family, community, and even societal norms also influence the student.

Urie Bronfenbrenner (2005) established a bioecological model which explores the interconnectedness of the individual and the nested structures or settings within which they exist. He describes the importance of being aware of how the impact of interpersonal relationships affects the individuals' ability to change. This model helps to explain why it is rarely enough for an individual to be able to create and sustain enduring change on their own or even when guided by materials such as a "self-help book." A simple example of this is how difficult an individual might find it to quit smoking when their social network is constituted primarily of smokers.

Ciporen's (2008) dissertation analyzed how executives assimilated learnings from an executive development program. In her research, she found that an important component of enacting change is "actively searching for support within one's environment and relationships, when trying to sustain deep change" (p. 197). An example of this is when an individual works to change a habit, such as dieting, eating

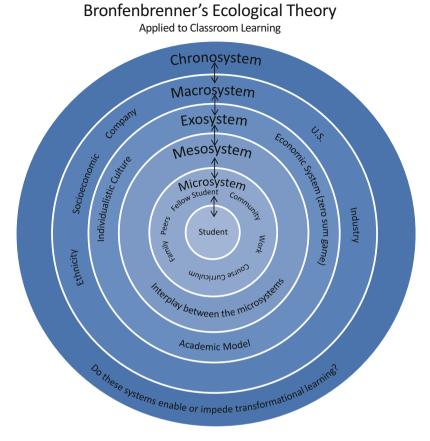


Fig. 1 Adaptation of Bronfenbrenner's model (2005)

healthy, or exercise, and they look to create support structures around them, perhaps asking a friend to exercise with them, joining a diet center, or engaging their family in changing their diets. Mezirow (1991) reinforces this saying, "the social process of perspective transformation further involves testing our new perspective on friends, peers, and mentors. Their reinforcement can be vitally important in making transformation possible" (p. 185). He goes on to say that "transformative learning opens language to both redefinition through reflection and the accretion of new layers of meaning continuously as we seek to be understood and to understand others in dialogue" (Mezirow 1991, p. 215). It is through this dialogic process that we gain clarity and strengthen our affinity to this new way of knowing. This might be a conversation that begins with "As I've been learning about (some topic), I've begun to think about it in a new way." The dialogue that ensues may further shape the individuals' understanding and standpoint on the topic.

Daloz (2000), in referring to his findings in the *Common Fire* study, says, "it is clear that if we really want to understand transformative learning richly we need to

recognize the extraordinary power of the webs of relationships in which we are invariably held" (p. 115). Each of us belongs to a myriad of groups, be they friends, family, peers, organizations, communities, and so on. The relationships we have with those groups, and they with us, shape our understanding of ourselves and the world around us.

The process of transformation is an iterative one. The student, through interaction with others, comes to realize something new about themselves or the world around them. "We give meaning to experience in large part by participating in dialogue with others. This includes understanding what is valid in the assertions made by other and achieving consensual validation for our own assertions" (Mezirow 1991, p. 58). It is through our exchange of ideas with others that we become open to the possibility of other ways of viewing the world. From this place of tension between what one had known to be true and new possibilities for truth, the student can then reflect upon what that new learning means to them and whether and how they will incorporate the learning into their life.

Vital to this exploration of difference is infusion of diversity, where the students are both supported and challenged to look at things from a variety of perspectives. Through this, the students "do the work and learning of asking provocative questions, challenging assumptions, surfacing contradictions, and confronting themselves and one another" (Mirvis 2008, p. 176). Mezirow (1991) claims that "the diversity helps to assure that there will be more than one learner in any given phase, so that the chance of forward movement is enhanced for everyone. There is some evidence to suggest that those just one phase ahead can be more influential in fostering transformative changes than those more advanced. Modeling is extremely useful in bringing about major transformative changes" (p. 218). At the same time, the literature also speaks to the importance of creating learning spaces or holding environments (Ciporen 2008; Hoover et al. 2010; Kolb and Kolb 2005; Lewis 2011) where students could safely explore differences, as being integral to the transformative learning process. Throughout the classroom experience, whether that be a day or a full semester, students can work to support and encourage one another's learning.

Fostering Transformative Learning in the Classroom

The ideal conditions outlined by Mezirow as being essential for fostering transformative learning include the need to promote a sense of safety, openness and trust; the importance of instructional methods that support a learner-centered approach and encourage student autonomy, participation and collaboration; and the importance of activities that encourage the exploration of alternative personal perspectives via problem posing and critical reflection. (Taylor 2000a, p. 312)

As facilitators contemplate creating a curriculum that supports transformative learning in adults, there are many considerations to take into account. Taylor (2000b), in talking about the facilitator's role in the transformative learning process, has this to say:

Learners work together in groups to articulate their existing beliefs, try out new ideas, and explore the contradictions that may ensue. In this way, as well as through instructor-facilitated discussion, learners can work toward constructing new meaning that takes into account a variety of perspectives. Paradoxically, providing authoritative ready-made meanings (such as those of the teacher or texts) may not challenge adults' existing beliefs, whereas using their ideas as a starting place for further exploration is likely to raise to awareness the assumptions that are often hidden even from themselves, thus encouraging self-questioning. (p. 166)

In *Teaching Smart People How to Learn*, Argyris (1991) highlights several concerns about the student that may mitigate the facilitator's impact in enabling transformative learning for the student. These include:

- Highly skilled professionals are frequently very good at single-loop learning.
 After all, they have spent much of their lives acquiring academic credentials,
 mastering one or a number of intellectual disciplines, and applying those disciplines to solve real-world problems. But, ironically, this very fact helps explain
 why professionals are often so bad at double-loop learning (p. 100).
- Because many professionals are almost always successful at what they do, they
 rarely experience failure. And because they have rarely failed, they have never
 learned how to learn from failure (p. 100).
- One of the paradoxes of human behavior, however, is that the master program people actually use is rarely the one they think they use. Ask people in an interview or questionnaire to articulate the rules they use to govern their actions, and they will give you what I call their "espoused" theory of action. But observe these same people's behavior, and you will quickly see that this espoused theory has very little to do with how they actually behave (p. 103).
- Defensive reasoning encourages individuals to keep private the premises, inferences, and conclusions that shape our behaviors and to avoid testing them in a truly independent, objective fashion (p. 103).

Each of these presents a challenge that the facilitator must be aware of and work to address, if they hope to impact this deeper learning. Transformative learning involves being able to examine our lived experiences for insights into who we've been in order to more fully self-author who we are becoming. This process includes becoming aware of, and critically assessing, the gap between espoused and lived beliefs in order to be able to behave in a manner that is consistent with our own internal compass. This work is accomplished through self-reflection, by casting a light on our stories and using that light to see them in a new, perhaps more objective, way.

Ciporen (2008) submits that "when the goal of a program is to foster personally transformative learning, the findings suggest that effective training design goes beyond relevant curriculum and effective instruction and involves the creation of a holding environment that incorporates significant interactions among participants and faculty" (p. 185). A tenet of the curriculum becomes creating a safe space where the learner can actively reflect upon their learning and can experiment with and

practice "new behaviors, thoughts, and attitudes" (Ashford and DeRue 2012, p. 150), creating new conceptual frameworks that can transcend context (Kolb and Kolb 2005).

(Dirkx 2006) appears to take more of an inside-out, or feelings-based, approach to the work of transformative learning, declaring his focus as exploring how our thoughts, beliefs, and feelings shape our perspective of, and our role in, the world around us. This speaks of the importance of creating space and a safe environment to explore thoughts, ideas, and feelings associated with the learning. He encourages facilitators to be intentional in designing a curriculum that attends to these inner aspects of the learning experience (Dirkx et al. 2006). As an example, as you hear a poem being read, what feelings does it elicit? Dirkx suggests that any topic of study can engage the soul. And, in doing so, the learning takes on a different import, reshaping or reaffirming our understanding of ourselves and the world (Dirkx et al. 2006). How can we, as facilitator's, create classroom experiences that challenge students to reflect upon, struggle with, and, ultimately, broaden and deepen their ways of knowing?

The intention of the facilitator is to create an environment where the student can become aware of, and reflect on, who they are (are becoming) as an individual. Kasl and Elias (2000) speak of this as "our practice as facilitators teaches us that transformation in the context of consciousness is facilitated most effectively when we nurture interdependent processes of discernment and critical reflection" (p. 231). It is through the iterative process of awareness and reflection that the student is able to begin to internalize what the new learning means to them and how they will incorporate it into their way of being. The facilitator plays a pivotal role in this development, both by providing a framework and tools through which the student can reflect and by encouraging students to enact the practice of reflection (Mezirow 2003b).

Dirkx et al. (2006) remind facilitators that this deeper learning can be challenging as it typically asks individuals to call into question entrenched ways of being and knowing. This may be why when asked to reflect on the teachers or the classroom lessons that have had the greatest impact on us, we tend to recall those that caused us to pause and reflect on the impact of the experience on our life. While Kolb and Kolb (2005) point to the fact that "such deep learning is facilitated by deliberate, recursive practice on areas that are related to the learner's goals" (p. 208). These two concepts are intertwined. The point that Kolb and Kolb are making is that the learning can be enhanced through the process of practice, where the student intentionally works to address the gap that they have identified. Herein lies the tension between where the student is on their developmental journey and to what they aspire.

The educators' role is to "help people see what has been uncritically accepted" (Cranton 2000, p. 198). In the space of transformative learning, what has been "uncritically accepted" are typically the values, beliefs, and motivators of the individual, topics which are very personal. Because of this, it is important that the facilitator heed Kegan's (2000) caution, "we cannot overattend to where we want the student to be... and ignore where the student is" (pp. 60–61). While the facilitator will have a clear sense of their expectations for the students, it is only by understanding where on the development journey the facilitator has joined the student that can they assess the students' progress.

Transformative learning in the classroom requires the facilitator to shift their focus from curriculum-centered to learner-centered education. This puts the curriculum in service of the individual's development (Bilimoria and Wheeler 1995). The emphasis is on creating a curriculum that encourages the student to fully engage in the transformative learning process. Further, this curriculum must meet the learner where they are on their transformative learning journey and provide them with opportunities to continue to progress.

In referring to Nouwen's work, Kolb and Kolb (2005) talk of creating a learning space where "students and teachers can enter into a fearless communication with each other and allow their respective life experiences to be their primary and most valuable source of growth and maturation" (p. 207). It is through mining our experiences that we are able to come to understand ourselves more deeply. Modeling by the facilitator (Brookfield 2013) can create an environment where each student is able to fully express themselves and to be open to learning from the different perspectives that others have to offer (Cranton 2000).

The educator's role is one of "fostering a qualitative evolution of mind that actually creates the distinction between the socialized mind and the individuals own meaning-making" (Wiessner and Mezirow 2000, p. 351). Facilitators endeavoring to support the transformative learning process for their students need to be able to help the students to begin to identify the separation between what they have been taught to know and their own knowing. When we "explicitly teach with developmental intentions" (Taylor 2000b, p. 167) and "provide the kinds of support and challenge that, taken together, have been shown to facilitate new ways of thinking and knowing" (Taylor 2000b, pp. 155–156), there is a greater likelihood for students to experience transformative learning.

Effective adult learning programs recognize that the participant brings into the learning environment the many facets of themselves, including their feelings about learning, their roles or identities, and their lived experience, to name a few. These programs appreciate the multifaceted learner and strive to build a learning experience that acknowledges and engages the complex being, enabling them to reexamine their viewpoints (Belenky and Stanton 2000; Brookfield 2013; Kolb and Kolb 2005). The shift in curriculum design from a program seeking to impart skills and one aimed at encouraging the participant to learn who they are as an individual is significant. In some ways this becomes more individualized where the facilitator works to understand where the participant is on their developmental journey, what they need in order to continue to progress, and how to create an environment and learning experiences that will encourage that progress (Bilimoria and Wheeler 1995; Kegan 2000; Taylor 2000b; Mezirow 2003b).

Pedagogical Design Considerations

Equally important to establishing a (transformative) learning situation are conditions such as the need for the teacher to be trusting, empathetic, caring, authentic, sincere, and demonstrative of high integrity; emphasis on personal self-disclosure; the need to discuss and work

through emotions and feelings before critical reflection; the importance of feedback and self-assessment; the need for experiential hands-on learning activities; and the importance of solitude and self-dialogue. (Taylor 2000a, p. 313)

Bronfenbrenner's ecological theory model (2005), Figure 1, may offer two potential keys to furthering the understanding of the efficacy of transformative learning in classroom. First, as we move inward on the model, the facilitator can explore the influences exerted by the various systems that may inhibit or encourage transformative learning. As an example, there may be pressure from the micro- and mesosystems for these individuals to continue to behave in a manner that these groups have become accustomed to. Conversely, the facilitator may design constructs to support the transformative learning process, which encourage exploration of new ways of knowing. A second potential key lies in discerning what enables the individual to realize the transformative learning process in the face of this pressure, as well as what causes the individual to mitigate or abandon their development as a result of this pressure.

Mirvis (2008) speaks of how autobiography can "help to surface unexamined and sometimes repressed feelings about one's life course and to lift them up for fresh consideration" (p. 177). Similarly, Dirkx (2000) talks about "fostering learners' insight into those aspects of themselves and their worlds that remain hidden from conscious awareness, yet serve to influence and shape their sense of self, interpretations of their external world, and their day-to-day actions" (p. 4). Facilitators enable this introspection through the practice of telling life stories or critical incidents. This storytelling may happen within the classroom, with peers, or individually – through self-reflection or journaling.

Reflection, "the most important element of continued consciousness raising" (Mirvis 2008, p. 185), enables the learner to "truly have the experience" (Ashford and DeRue 2012, p. 151). This means that the student is able to separate themselves from the experience and consider it more objectively. This process may lead the learner to identify a gap between how they perceive themselves and how they are behaving (e.g., the difference between words, thoughts, and deeds). As the learner seeks to bridge this gap, which Dirkx (2000) notes often feels like "swimming upstream," the learner may "begin to experience an alignment of our outer lives with the movement of individuation" (p. 5). In other words, as the learner steps more fully into himself or herself – trusting their inner voice – they may find that it becomes easier to know how to navigate the world around them.

Ashford and DeRue (2012) and Johnson et al. (2012) highlight the importance of having the opportunity to test new behaviors and practice integrating them into the individuals' way of being. A peer group, such as fellow students immersed in the same curriculum, can offer a safe place for the student to explore and try on new ways of being.

"Development is, of course, an ongoing process and not a destination; at some point, however, adults may look back and discover that the totality of their experience seems somehow greater than the sum of the small shifts that have accrued – that they have, in some substantive way, changed. As Daloz observed, 'nothing is

different, yet all is transformed" (Taylor 2000b, p. 159). With each exercise, with each experience, through each reflection, the student is unlocking another greater understanding of themselves and the way in which they interact with the world around them.

The transformative learning process makes frames of reference, the lenses through which we see ourselves and the world around us, more permeable. The idea being that as we come to a stronger sense of self-awareness, we are better able to engage with others from a position of inquiry and curiosity. The concepts presented by (Dirkx et al. 2006; Kolb and Kolb 2005) are interwined. Outcomes of transformative learning are discussed as greater appreciation for difference (Mezirow 1991; Taylor 2000a), tolerance for ambiguity (Taylor 2000a), and greater self-trust (Taylor 2000a). The idea being posited here is that individuals who are able to act from this frame of reference are likely to make better decisions.

Course Design Considerations

Education Is the Kindling of a Flame, Not the Filling of a Vessel: Socrates

Transformative teaching enables learners to discover themselves and continue the inquiry outside of the classroom where new experiences are viewed as learning opportunities. Therefore, it is important to structure courses that foster an environment where students feel safe to explore, try on, struggle with, and consider the topic being discussed. This deepens student comprehension of how course material might enable them to interact with their world in a more meaningful and effective way. Harkening back to the concept of transformative learning, this ties to Mezirow's idea of the individual identifying new ways of being in the world. Teaching, in this way, is not about ensuring that students know the answer but, rather, it is about helping them to discern ways of thinking about the issue.

In an increasingly complex world, there is rarely an absolute right answer. The process of further exploring the precepts that led to the initial answer exposes the learner to more fully understand and support their conclusion. This process allows the student to explore how their choices are shaped by external influences as opposed to being self-authored. Therefore, the role of a teacher is to provide students with tools to help them understand how their values, beliefs, motivations, and experiences influence the way they view an issue and, as a result, posit possible solutions. Armed with this self-knowledge, the teacher is then able to support their students in discovering how to engage others in meaningful dialogue that can further shape the student's thinking on issues.

Because individuals learn in different ways, in order to support the transformative learning process, the classroom needs to offer a variety of modalities through which the student can engage with the topic. It is, therefore, recommended that the teacher strive to provide a curriculum that is multifaceted. Suggestions for accomplishing this include:

• Infusing the classroom teaching with research and theory that support the topic.

- Sharing your own journey of practicing and deepening your understanding of the topic as a model for the students.
- Incorporating storytelling is a powerful way of conveying concepts in a way that is tangible and real.
- Introducing video, guest speakers, and case studies enable students to interact
 with the stories of individuals who have a demonstrated relationship to the topic
 being taught.
- Critical reflection offers the student an opportunity to discern their relationship to the topic by ruminating on how they might apply these learnings in their own lives.

It is important to make the effort to create a classroom environment that can become a safe container where students feel free to question, explore, and reassess assumptions that they have held in a way that is open and honors the beliefs of others. This process furthers their development as students, leaders, and human beings. Through this journey of self-discovery, students become more attuned to the journey of others. Therefore, they are better able to approach areas of difference from a position of open curiosity, seeking to appreciate how these differences can create an opportunity for greater learning. Students are able to apply these lessons in their communities, workplaces, and families.

Below I offer an example of how one might arrange the introductory section of their syllabus in order to clarify for students the structure and intention of the course. While this example is for a course specifically designed to address leadership development, it offers a template that can be adopted for other curricular needs.

Sample Syllabus Introduction

The course will follow a seminar format that emphasizes self-development and a learning community. In this seminar format, the instructor will facilitate discussion (dialogue, critique, and inquiry). You are expected to be conversant in the articles and engage in meaningful discussion. We will focus on engaging richer dialogue and skill development. Students must be prepared to discuss *all* assigned articles and offer contributions in terms of critical thinking, analysis, insight, and effective communication of ideas. Students who are not prepared and contributing to the learning environment will be counseled about the need to improve their preparation and contribution.

To prepare for this class, you should:

- (a) Read all assigned articles.
- (b) Analyze each article to identify the key message/contribution.
- (c) Integrate across articles to address how the articles "speak to" one another.
- (d) Have specific ideas for how you would apply these concepts in your leadership of self and others.

Expectations and Grading Rubric for Written Assignments

The grading rubric indicates what comprises a strong submission. A less strong assignment would incorporate one or more of these things to a lesser degree (scaled on a 1–3 scale). A strong assignment would fully explore all three dimensions:

Curriculum based – The student grounds their response in concepts covered in the curriculum.

Evidence – This writing draws upon personal experiences, relevant information from the readings, and class discussion.

Actualize – This writing explores the implications for the student's leadership by demonstrating how the concepts learned would be applied in their professional and personal life.

Assignment/deliverable	Grade %
1. Weekly writing assignments	25
2. Final paper	30
3. Participation – classroom and subgroup	25
4. Midterm paper	20

Further clarification of each of the written assignments includes:

Weekly writing assignments — Each week the student will be required to submit a short response (approximately one page in length) in which the student explores their relationship to the concept covered in the classroom. This exploration might highlight the student's struggle to understand the concept, their thoughts on how they might experiment with the concept, or their attempts at having utilized the concept.

Midterm paper – This paper enables the student to explore the ways in which this course is furthering their understanding of themselves and their leadership, as well as to identify questions and concerns about implementing learnings beyond the classroom. This paper should draw upon course concepts, assigned exercises, and learnings from small group discussions. This paper should be 5–10 pages in length.

Final paper – This paper allows the student to reflect on learnings over the course of the semester as they build a year-long actionable plan. This plan allows the student to:

- Map out the ways in which they intend to integrate their learnings into their life.
- Identify methods, such as engaging mentors and peers, in feedback.
- Monitor their progress in embedding the behaviors into their life going forward.

Conclusion

Similar to a physical excursion, the individual does not endeavor on this journey without baggage. Not only do they bring with them their beliefs, values, and assumptions and the origins of each of these (Ciporen 2008; Mezirow 1991, 2000) but also the various roles that they play in society (Bronfenbrenner 2005). As Mezirow (2000) alludes to in the above passage, the final stage of transformative learning is reintegration, bringing this learning back into society. However, achieving this stage is, as he points out, incredibly difficult. One cannot unlearn what they have discovered about themselves. Yet, because this process involves calling into question deeply held values and beliefs and because of the risks potentially associated with enacting these new views within the networks that the individual is entrenched, they may choose (consciously or subconsciously) not to progress. How then can facilitators help to ensure that this difficult process occurs, such that students are able to reintegrate the learning into their way of being and how they enact their learning? How might we support students in developing this "more inclusive, differentiated, permeable, and integrated perspective" (Mezirow 1991, p. 155)? We must seek to understand the conditions under which we, as facilitators, enable the transformative learning process for those we have the privilege of teaching.

Schuyler (2012), citing Boyatzis (2006), supports the assertion that the models that currently exist to assess change are insufficient to address the complexity of transformational learning. Literature reviews of transformative learning theory (Snyder 2008; Taylor 2000a, 1997) note that an avenue for future research includes understanding the facilitator's influence on the transformative learning process. This literature stream further notes that most of the studies done to date have asked the participants to reflect retrospectively upon their learning experience, rather than to follow the participant through the process. Finally, the literature suggests that methods other than interview, such as those that allow the researcher to observe and investigate the transformative learning process as it is occurring (Taylor 1997), would further our understanding of the facilitator's impact on that learning. Specifically, it is Taylor's (2000a) call that "If this theory of adult learning is to remain of significance to adult educators it must continue to inform adult educators in ways that they can improve their teaching practically and theoretically" (p. 286). "This means not only identifying what learning strategies are essential but what conditions need to be present internally as well as externally for the process to unfold" (Taylor 2000a, p. 292). Deeper focus on these phenomena may offer insight into how facilitators could make it more likely that the difficult process of transformative learning more routinely occur.

Daloz (2000) reminds us that "deep change takes time, strategic care, patience, the conviction that we are not working alone, and faith" (p. 121). Through this chapter I hope to have offered facilitators and students constructs for improving the transformative learning process in the classroom such that they may fulfill Mezirow's (2000) aspirations for transformational learning theory by enabling individuals who are able to lead themselves and others from an integrated sense of

self. I also hope I have been able to offer facilitators insights into the query I frame as, "how are facilitators able to plant the seeds of transformative learning and nurture and tend to those seedlings over the course of their time with the student, such that the seedling has the opportunity, at some point, to bloom?"

This chapter has endeavored to explain to its readers how transformative teaching can support transformative learning in the classroom. I began by laying out the theories of transformative learning and transformative teaching. Next we turned our attention into the classroom, first investigating how the classroom setting is a ripe environment to encourage the relational aspects of transformative learning. Finally, I discussed the role facilitators can play in shaping the curriculum and designing experiences that engage the student in this deeper learning.

Cross-References

- ► Identity and Meaning in transformation
- ▶ Leader Self-Development, Maturation, and Meditation: Elements of a Transformative Journey
- ▶ Self-Knowledge: Master Key to Personal Transformation and Fulfillment
- ▶ The Co-created Classroom: From Teacher/Student to Mentor/Apprentice
- ▶ The Truth About Transformation: One Person Can Change the World

References

Aral S, Dellarocas C, Godes D (2013) Introduction to the special issue – social media and business transformation: a framework for research. Inf Syst Res 24:3–13

Argyris C (1991) Teaching smart people how to learn. Harv Bus Rev 69:99-109

Argyris C (2002) Double-loop learning, teaching, and research. Acad Manag Learn Edu 1:206–218 Ashford SJ, Derue DS (2012) Developing as a leader: the power of mindful engagement. Organ Dyn 41:146–154

Bass BM (1990) From transactional to transformational leadership: learning to share the vision. Organ Dyn 18:19–31

Belenky MF, Stanton AV (2000) Inequality, development, and connected knowing. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco

Bilimoria D, Wheeler JV (1995) Learning-centered education: a guide to resources and implementation. J Manag Educ 19:409–428

Bronfenbrenner U (2005) Making human beings human: bioecological perspectives on human development. Sage, Thousand Oaks/London/New Delhi

Brookfield S (2000) Transformative learning as ideology critique. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco Brookfield S (2013) Powerful techniques for teaching adults: the essence of powerful teaching.

Jossey-Bass/a Wiley Imprint, San Francisco Ciporen R (2008). The role of personally transformative learning in leadership development: a case

study examining the transfer of learning from an executive education program. Dissertation, Columbia University

Cranton P (2000) Individual differences and transformative learning. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco

Daloz LAP (2000) Transformative learning for the common good. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco

- Dirkx JM (2000) Transformative learning and the journey of individuation. ERIC Digest 223:1–7
 Dirkx JM (2006) Engaging emotions in adult learning: a jungian perspective on emotion and transformative learning. New Direct Adult Cont Educ 2006(109):15–26. https://doi.org/10.1002/ace.204
- Dirkx JM, Mezirow J, Cranton P (2006) Musings and reflections on the meaning, context, and process of transformative learning: a dialogue between John M. Dirkx and Jack Mezirow. J Transform Educ 4:123–139
- Hoover JD, Giambatista RC, Sorenson RL, Bommer WH (2010) Assessing the effectiveness of whole person learning pedagogy in skill acquisition. Acad Manag Learn Edu 9:192–203
- Johnson SK, Garrison LL, Hernez-Broome G, Fleenor JW, Steed JL (2012) Go for the goal(s): relationship between goal setting and transfer of training following leadership development. Acad Manag Learn Edu 11:555–569
- Kasl E, Elias D (2000) Creating new habits of mind in small groups. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco
- Kegan R (1982) The evolving self: problem and process in human development. Harvard University Press, Cambridge, MA
- Kegan R (2000) What "form" transforms? A constructive-developmental approach to transformative learning. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco
- Kegan R, Lahey LL (2009) Immunity to change: how to overcome it and unlock potential in yourself and your organization. Harvard Business Press, Boston
- Kolb AY, Kolb DA (2005) Learning styles and learning spaces: enhancing experiential learning in higher education. Acad Manag Learn Edu 4:193–212
- Lewis PM (2011) The discerning heart: the developmental psychology of Robert Kegan. Philip Lewis.
- Mcgregor D (1966) The human side of enterprise. MIT Press, Cambridge, MA
- Mezirow J (1981) A critical theory of adult learning and education. Adult Educ Q 32:3-24
- Mezirow J (1990) How critical reflection triggers transformative learning. In: a. Associates JM (ed) Fostering critical reflection in adulthood (pp 1–20). Jossey Bass
- Mezirow J (1991) Transformative dimensions of adult learning. Jossey-Bass, San Francisco
- Mezirow J (2000) Learning to think like an adult: core concepts of transformation theory. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossev-Bass. San Francisco
- Mezirow J (2003a). Epistemology of transformative learning
- Mezirow J (2003b) Transformative learning as discourse. J Transform Educ 1:58-63
- Mezirow J (2009) An overview on transformative learning. In: Illeris K (ed) Contemporary theories of learning: learning theorists... in their own words. Routledge, New York
- Mirvis P (2008) Executive development through consciousness-raising experiences. Acad Manag Learn Edu 7:173–188
- Palmer PJ (1998) The courage to teach: exploring the inner landscape of a teacher's life. Jossey-Bass, San Francisco
- Pavlov IP (1941) Conditioned reflexes and psychiatry. International publishers, New York
- Schuyler KG (2012) Increasing leadership integrity through mind training and embodied learning. In: Inner peace, global impact: Tibetan Buddhism, leadership, and work. Information Age Pub, Charlotte
- Skinner BF (1957) The experimental analysis of behavior. Am Sci 45(4):343-371
- Snyder C (2008) Grabbing hold of a moving target identifying and measuring the transformative learning process. J Transform Educ 6:159–181
- Taylor EW (1997) Building upon the theoretical debate: a critical review of the empirical studies of Mezirow's transformative learning theory. Adult Educ Q 48:34

- Taylor EW (2000a) Analyzing research on transformative learning theory. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco
- Taylor K (2000b) Teaching with developmental intention. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco
- Wiessner CA, Mezirow J (2000) Theory building and the search for common ground. In: Mezirow J (ed) Learning as transformation: critical perspectives on a theory in progress, 1st edn. Jossey-Bass, San Francisco
- Wyrwicka W (1975) The sensory nature of reward in instrumental behavior. Pavlo J Biol Sci 10:23-51