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Experiencing Transformative Learning in a Counseling Masters' Course: A Process-Oriented Case Study With a Focus on the Emotional Experience

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Abstract

This case study investigates the transformative learning process and outcomes of a female master's student in a semester-long counseling skills training course based on experiential learning. The data included the student's longitudinal accounts (11 questionnaires on the emotions experienced in every session and three blog posts) and retrospective accounts (a final reflective written activity and an interview) of her experience in the course. Through a thematic holistic analysis, we identified (1) five phases in the student's learning process, which illustrated her evolving meaning-making of the challenging demands and related changes in her emotional experience and (2) two learning outcomes, including the student's insights into the meaning of learning and her increasing self-awareness. The findings are discussed with an emphasis on the value of tracking learners' emotional experience to understand their transformative changes, the contribution of experiential approaches

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to trigger such changes, and the potential of a process-oriented approach to investigate transformation.

Keywords

higher education, transformative learning, process-oriented approach, emotions, case study

Ideally, higher education should transcend its emphasis on the transmission of knowledge to support adult students in the transition towards increasingly sophisticated ways of meaning-making (Kegan, 1994; Perry, 1970). This goal can be addressed by means of transformative learning theory. Transformative learning entails a process of examining, questioning, and revising our understandings, assumptions, and expectations about the world—our *frames of reference*—in the light of experiences that challenge such assumptions and enable us to understand the world from a more complex perspective (Mezirow, 1978, 2000). Over the last three decades, the increase in research under the name of transformative learning has led to the existence of a wide array of conceptualizations of the construct including cognitive (e.g., Mezirow, 2000), extra rational (e.g., Dirkx, 2001), and developmental (e.g., Kegan, 2000). Likewise, recent research has encouraged interesting discussions on how learning should be considered as transformative (Cranton & Taylor, 2012). This, in turn, has made it difficult to ascertain what is and what is not transformative learning and has even led to discussion about whether it exists (Newman, 2012). In this context, Hoggan (2016) has suggested reconceptualizing transformative learning as a metatheory that encompasses the broad range of phenomena of people changing deeply. To do so, he has proposed a typology of transformative learning outcomes—changes in individuals’ worldview, self, epistemology, ontology, behavior, or capacity—and three criteria for them to be considered transformative—depth, breadth, and relative stability.

When investigating transformative learning, a key issue is students’ emotional experience (Dirkx, 2014; Taylor & Laros, 2014). Transformative learning is likely to occur when individuals’ frames of references are challenged. Those frames of reference provide us with a sense of coherence that enable to understand our surroundings. Therefore, when such frames are threatened, individuals might experience emotions such as confusion, uncertainty, or anxiety (Dirkx, Mezirow, & Cranton, 2006; Formenti & Dirkx, 2014; Nogueiras & Iborra, 2017). These unpleasant emotions can be the catalyst for transformative learning in that they might help us in the process of identifying and reconsidering our obsolete assumptions about the world (Mälkki, 2010). With this in mind, we believe that investigating students’ emotional experience in educational settings intended to promote transformative learning might shed light on the quality of students’ potential transformative processes. As emotions provide information on how individuals react to their learning process,

changes in the patterns of emotions might indicate the occurrence of inner reorganizations in individuals' understandings of learning and of themselves as learners.

In relation to the former is the claim for a detailed study of individuals' transformative learning process (Mälkki & Green, 2014; Newman, 2012). This arises from a context where most studies have focused on individuals' transformative learning outcomes and yet have overlooked how such outcomes take place. As for the research on transformative learning processes, so far, it has mostly relied on qualitative retrospective studies of learners' transformative experiences, primarily through interviews at the end of training programs (for this argument, see Merriam & Kim, 2012; Taylor & Laros, 2014). One noteworthy exception is a qualitative, case study by DeCapua, Marshall, and Frydland's (2018), which follows a student's transformative learning during a training course. These authors employed a qualitative approach to follow the transformational learning process of a novice English as a second language teacher through her reflective journaling over an 8-week training course.

In our view, a retrospective account of students' experiences at the end of a learning experience is insufficient to understand individuals' dynamic transformative processes and how they are shaped by the educational contexts (Taylor & Cranton, 2013). As a response to this limitation, we argue that a combination of longitudinal and retrospective accounts of students' emotional experiences in intentionally developmental training contexts may provide detailed insight into transformative learning processes. Although any individual account of an experience is necessarily retrospective, when we suggest collecting students' longitudinal accounts, we refer to the students' identification and brief reflection on their emotions over the course of a training experience. Gathering this kind of longitudinal data is thought to facilitate the follow-up of students' potential transformative processes, in a microscale, giving them the opportunity to register and reflect on their experience as soon as possible. These longitudinal accounts are different from the students' reflection on their experience of a training experience once the training has finished, which is what we refer to as a retrospective account. This retrospective reflection is thought to provide the chance for students to reflect differently on their microprocesses of change as well as to report potential outcomes that they might identify only after the training. The described longitudinal and retrospective reflections are connected to Schön's (1983) concepts of *reflection-in-action* and *reflection-on-action*. Reflection-in-action is "action present" and entails reflecting on a situation while it is still occurring, in such a way that the reflection can benefit the situation. Reflection-on-action involves reflecting on a situation after it has taken place, which can help us to notice the contribution of knowing-in-action to the final learning outcome.

Within the previous framework, the present study intends to achieve a comprehensive understanding of transformative learning processes and outcomes by adopting a process-oriented approach that relies on the collection of longitudinal and retrospective data, with a focus on learners' emotional experience. To this end,

we develop a case study on a female master's student, Rose—a pseudonym—enrolled in a counseling skills training course based on process-oriented experiential learning (McWhirter, 2002). The course was selected because process-oriented experiential learning has been shown to successfully contribute to students' transition toward more complex ways of meaning-making by challenging their prior ways and enhancing students' exploration. Rose was selected from a group of 10 students because she was considered to be a rich example of someone who had experienced transformative learning. The specific research questions that we address are the following: (1) How does Rose emotionally respond to the challenging training demands over time? How is this related to her changing way of making sense of them? (2) What are the outcomes that Rose reports after the training course? Are they evidence of transformative learning? and (3) How might process-oriented experiential learning be contributing to Rose's transformative learning process and outcomes?

Method

Research Context

The research context was a training course on counseling skills in a master's degree in secondary education. The course was held at a Spanish university and took place over 12 weekly sessions of 80 min each. The trainer was the second author. The first author attended as an active observer. The course aimed to facilitate students' development of exploration skills when leading a counseling session. It was based on a process-oriented experiential learning model (McWhirter, 2002), with collaborative and dialogic nuances (Iborra, García, Margalef, & Pérez, 2009). The practice of exploration skills revolved around students' personal issues and was organized in exercises in groups of three with rotation of the roles of counselor, client, and observer. After some sessions practicing natural exploration skills, three formal distinctions were introduced, adapted from the work of McWhirter (2011) who in turn created them inspired by the constructivist notions of *map* and *territory* used by Bateson (1991). According to McWhirter (2011), any model—map or representation—includes specific details. These details are scoped—numbered, sized, bounded, and even qualified—in different manners. The details are connected within this scoping. The *Basic Fractal Language Model* (detail-scope-connection) describes 18 integrated distinctions as a result of combining these three basic elements, which were employed to explore the subjective representations of the participants' personal issues in the experiential exercises throughout the course. The presentation and practice of the model—first, detail, scope, and connection were practiced sequentially; later, they were all applied in two integration exercises—was related to the notions of *spiral curriculum*¹ (Bruner, 1960) and *epigenesis*² (Van Geert, 2003) in that every session was built on previous ones and entailed an increasing degree of complexity. To promote the students' reflection and self-assessment throughout the training, the teacher suggested that they create a

personal blog and participate in a collaborative wiki. The students' participation in both activities was voluntary.

Participants

The participants in the course were 10 graduate students (eight women, mean age 25, age range 22–35). In the first session, they were informed by the trainer about the research purpose and design, asked for their voluntary participation in the study, and given guarantees of confidentiality, after which they signed an informed consent form. All the students participated in the research providing information about their experience throughout and at the end of the training. With the aim of understanding transformative learning in depth, this article focuses on a specific instrumental case (Stake, 2005): A 24-year-old female psychology graduate named Rose. Although all of the course participants experienced a change to some extent, Rose provided a much more detailed and complex description of her experience. This facilitated a more comprehensive account of transformation.

Data Collection

In order to grasp students' experiences in the training with as much detail as possible, we collected data both during and upon completion of the course. The first and the second author were responsible for data collection.

Longitudinal Data

Follow-up questionnaires. At the end of every training session, from the second to the twelfth, students filled in a questionnaire that included time-series data and qualitative data. The inclusion of time-series data was thought to facilitate grasping students' microprocesses of change. First, the students registered the emotions experienced during the session—some emotions were suggested, but the list was blank to promote free expression—indicating when they experienced them and their intensity on a Likert-type scale from *very low* (1) to *very strong* (5) and described what they related the emotions to. Second, the students indicated their position on a security—insecurity scale and a boredom—challenge scale as well as described the most challenging aspect of the session. Unlike other studies that collect participants' data through a limited number of questionnaires spread over time, the high frequency of questionnaires in this study aimed to measure more potential change in learners and follow their process in detail. The questionnaire can be found in the Online Appendix.

Blog posts. Students were encouraged to reflect on their ongoing learning experience and to share these reflections in a personal blog. Eight of the 10 students created a personal blog and wrote on it throughout the training. Rose published three posts on her blog: “Thinking about what I learn” (2nd week), “We reflect not only in the blog” (3rd week), and “Accuracy” (5th week). As part of the data collection

throughout the course, the training sessions were documented with audio recordings and summaries written by the first author.

Retrospective Data

Final reflective activity. Once the training sessions ended, all of the students carried out a written activity in which they were asked to (a) elaborate a self-assessment and (b) reflect on (b.1) the counseling exploration with an unknown client conducted in the last session; (b.2) the personal issues explored in the practical exercises over the course; (b.3) connections between a proposed reading on dialogic therapy and their process throughout the course; and (b.4) the questionnaires filled out over the training. The activity guidelines can be found in the Online Appendix.

Interview. Three of the 10 course participants, who were considered information-rich cases, were selected and requested to participate in an individual interview about their experience in the course. As for Rose, 6 weeks after the training ended, she met the first author to discuss and reflect on her experience. The interview was conducted at the facility, where the training had taken place and lasted 1 hr and 40 min. It was recorded using a digital audio recorder and transcribed verbatim. Prior to the interview, the data collected so far had been revised in detail to identify areas of interest. The interview, which was open-ended structured, started by asking Rose to talk freely about her experience in the course. Subsequent interviewer's interventions entailed prompts to encourage Rose to go into depth about certain topics. At some points during the conversation, the interviewer made reference to data found to be of interest, such as issues highlighted by Rose in her blog posts and her final reflective activity, and other relevant information that she had reported in the follow-up questionnaires.

Data analysis

The analysis was carried out by the first author and supported by the second and third authors who played the role of *critical friends* (Foulger, 2010) by reviewing and discussing the ongoing analysis with the first author. The analysis developed over three stages. In the *first stage*, which started after the course ended, the data collected so far—students' follow-up questionnaires, blog posts, and final reflective activities—were explored in search of information-rich cases. This review, together with our knowledge of the students' process over the training, led us to select three students whom we interviewed in depth about their experience in the course. After these interviews, we selected Rose for the present study. The *second stage* of the analysis involved two interrelated tasks. In order to obtain more detail about Rose's process over the training, we analyzed her blog posts and the information that she provided in the follow-up questionnaires and also reviewed the summaries of the training sessions. This information was organized and represented sequentially in a time line which depicted Rose's emotional experience throughout the course (see Figure 1). Likewise, we reviewed and analyzed the qualitative information reported

in the final reflective activity and in the transcribed interview. This retrospective account of Rose's learning experience was subjected to a thematic analysis with a holistic-oriented approach (Braun & Clarke, 2006; Lieblich, Tuval-Mashiach, & Zilber, 1998). Both analyses, longitudinal and retrospective, were combined to obtain a double verification of meaningful topics. The *third stage* of the analysis entailed the process of writing our insights, which led to the findings report.

Findings

The findings are organized around Rose's learning process throughout the training and the learning outcomes that she identified once the training finished.

Rose's learning process throughout the training course

Five phases were identified in Rose's learning process according to her qualitatively different way of making sense of and emotionally responding to the training demands. The first four phases, represented in Figure 1, correspond to the face-to-face training period. The fifth phase encompasses the period after the course ended.

Phase 1: Becoming Familiar With the Teaching Methodology

This phase encompasses the first two training sessions. Rose reported being both curious and interested while she was becoming familiar with the teaching methodology, which she described as very new. In this connection, despite feeling insecure when using new technologies, Rose created a personal blog. On her first post (after Session 2), Rose acknowledged her surprise about being requested to make explicit her emotions. She also referred to her experience of confusion and curiosity about the concept of "personal issue," which had been covered in an introductory exercise: *Apparently, it was an easy task, but it took me a long time to start writing (...)* *Later, I wrote a list of four issues, that I was incapable of ordering. I did not even know if what I had written were issues or not.*

During this phase, we appreciated Rose's sense of commitment towards learning, as illustrated by her opting to create a blog in which to engage in reflection. Likewise, emotions such as interest and curiosity might be supporting Rose when addressing the new demands. For more detail on Rose's sources of emotions during Phase 1, see Figure 2.

Phase 2: Encountering Difficulties: Learning Conception and Sense of Competence Challenged

This phase encompasses training Sessions 3–6 and entails the beginning of counseling practice. Rose reported the following challenges: (1) reflecting on her personal issues and gaining new insights into them (s.3)³; (2) understanding "correctly" the

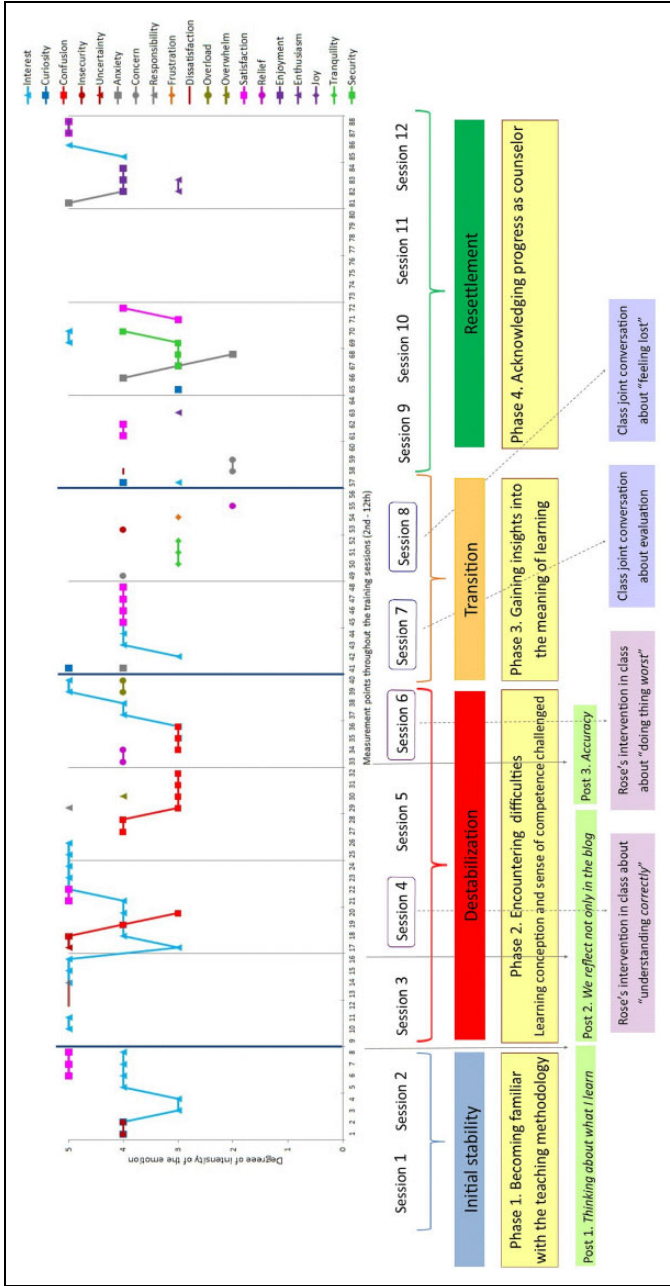


Figure 1. Time line representing Rose's emotional experience throughout the training sessions of the counseling course organized around four phases.

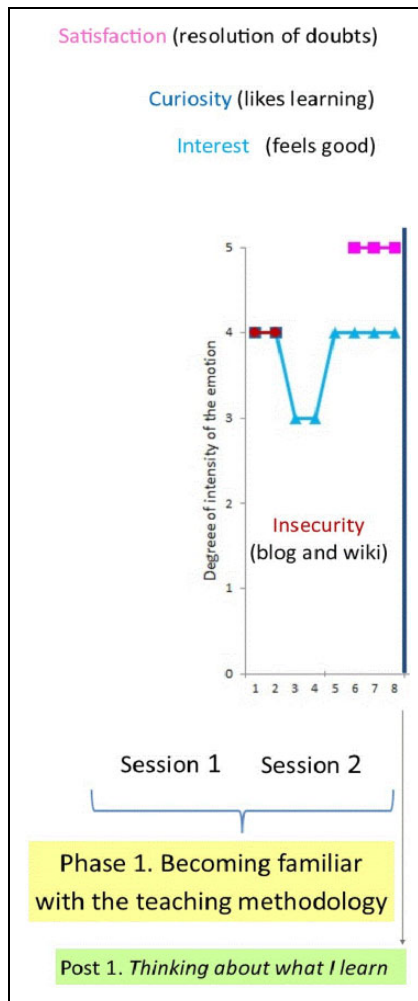


Figure 2. Detail of the time line representing Rose’s emotional experience during Phase 1.

conceptual distinctions proposed by the teacher to be used in the exploration during the counseling exercises (s.4, s.5, and s.6), which was uncertain and confusing; (3) applying correctly these conceptual distinctions (s.5), which was coupled with a sense of responsibility; and (4) understanding the experiential methodology proposed (s.6), which Rose found confusing. Likewise, in her second blog post, published after s.3, Rose acknowledged reflection as a challenging process that students were requested to develop.

As a way of managing the training challenges, Rose dared to share her concerns with her classmates and with the teacher in two class sessions. In Session 4, she

elaborated on her difficulty to understand the new conceptual distinctions correctly, and in Session 6, she described her difficulties when trying to apply these distinctions during the counseling explorations: *I feel overwhelmed while paying attention to so many things: quantifiers, qualifiers, detail . . . If I do it in an explicit manner I do it wrong (. . .) I have the impression that now I do it worse than when I explored in a natural way.* As an additional elaboration on her concerns, Rose published a third post in her blog, after Session 5, in which she reflected on how her sense of accuracy was being challenged.

In light of Rose's concerns, the teacher did several supportive interventions. In Session 4, he introduced the idea of understanding as a process and not as a static outcome. During Session 6, he framed what Rose considered to be "wrong" as something natural in learning: *You are noticing it as wrong because it is not your natural way (. . .) You will be making it more natural and moving to a greater degree of competence (. . .). It is a natural part of learning.* Likewise, in response to Rose's third post, the teacher reframed Rose's use of the term "failure": *There are no failures during learning. There are mistakes that inform us about corrections that we must make, which are in themselves a big part of what we learn. Calling them failures adds a judgment, which is not always useful.*

Apart from the unpleasant emotions linked to the challenges experienced, throughout this phase, Rose reported a consistent interest. Additionally, she reported positive emotions when she started to get learning insights after receiving support from the teacher. She described satisfaction when she realized that her thoughts were neither "good" nor "bad" (at the end of s.4), and relief when she managed to understand the former sessions (at the end of s.6).

Thus, after a phase of familiarization with the training, Rose's encounter with demands that challenged her previous ideas on learning and her sense of competence, led her to feel confused. Rose's sharing of her concerns enabled her to get support from the teacher, whose interventions helped her to move from a static to a processual learning conception. During this phase, Rose's consistent interest kept her engaged despite the difficulties. The incipient changes in Rose's conception of learning continued to be consolidated in the next phases. For more detail on Rose's sources of emotions during Phase 2, see Figure 3.

Phase 3: Gaining Insights Into the Meaning of Learning

This phase encompasses training Sessions 7 and 8. Rose was concerned with the application of the new conceptual distinctions throughout the counseling explorations, which led her to experience anxiety (s.7) and concern (s.8) before the exercises, and insecurity, and frustration while performing them (s.8). As a counterpart, Rose reported relief when she recognized different levels of exploration during one of the exercises (s.8). In this phase, as in the previous ones, Rose reported curiosity and interest about the activities (s.7).

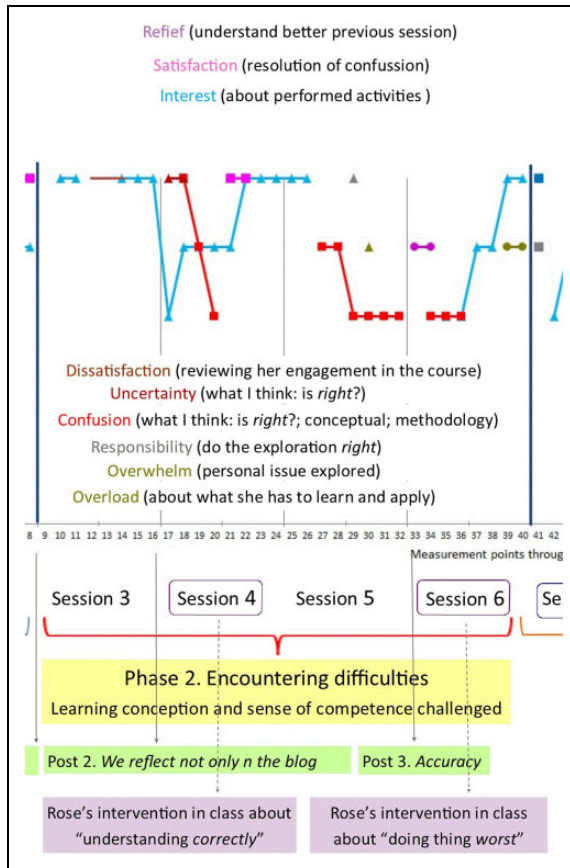


Figure 3. Detail of the time line representing Rose’s emotional experience during Phase 2.

This phase also entailed Rose’s acknowledgment of progress in conceptual understanding (s.7) and in her response to challenge (s.7 and s.8). These changes, initiated in the previous phase, were supported by two conversations in which the students shared with the teacher their concerns about how they would be assessed (s.7) and about their experience of “feeling lost” (s.8). The teacher responded by noting that “it was still early” (s.7) and by stressing that feeling lost was part of any deep learning (s.8): *The creation of any habit or learning requires emotions of uncertainty and discomfort... (...) We are in a society that emphasizes security, certainty... but in experiential learning uncertainties are common.*

Following the teacher’s interventions, Rose provided evidence of revisited learning conceptions. She reported satisfaction when noticing that mistakes could be made and when understanding better her learning process (at the end of s.7) as well as tranquility (at the end of s.8). The latter can be noted in the following Rose’s

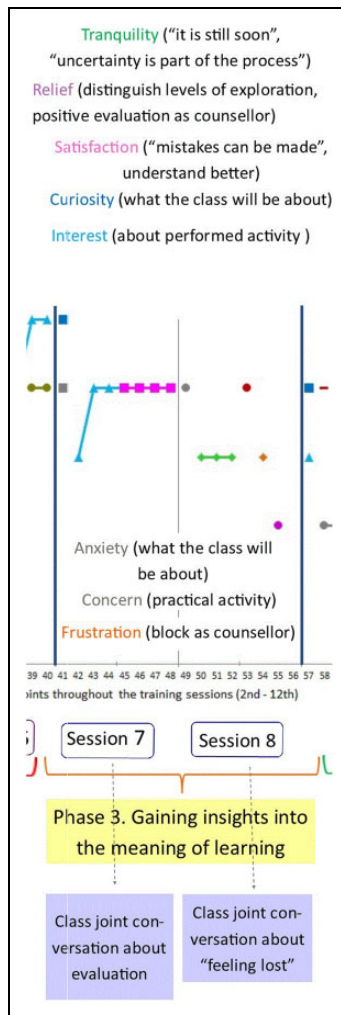


Figure 4. Detail of the time line representing Rose's emotional experience during Phase 3.

comment in the questionnaire: *We started to talk about how we felt with regards to our learning process, and I am reassured to know that it is still soon, and that uncertainty is part of the process.* For more detail on Rose's sources of emotions during Phase 3, see Figure 4.

Phase 4: Acknowledging Progress as a Counselor

This phase encompasses the last training sessions, from Session 9 forward. The most challenging aspect for Rose was carrying out good counseling explorations. Rose

identified unpleasant emotions such as concern linked to her wish to perform explorations correctly (s.9) and anxiety at the beginning of two exercises aimed to integrate distinctions which had been previously practiced separately (s.10, s.12). Rose reported having overcome her anxiety by “letting herself go” (s.10) and by “focusing on doing things correctly” (s.12). This is new evidence of Rose going beyond the conception of learning as something digital or polarized and accepting its ongoing nature. The former responses led Rose to experience security (s.10), enthusiasm, and enjoyment (s.12). On the other hand, at the end of the sessions, she acknowledged her good performance, expressed her desire to keep improving, and reported satisfaction (s.9, s.10, and s.12), enthusiasm (s.9), and joy (s.9, s.12). As in the former phases, Rose remained curious (s.9, s.10) and interested (s.9, s.10, and s.12). For more detail on Rose’s sources of emotions during Phase 4, see Figure 5.

Phase 5: Rose’s Retrospective Reinterpretation of Her Experience Throughout the Training

In coherence with the phases described, when Rose elaborated on her experience throughout the course in the final activity, she summarized it as follows: *It has been a confusing and insecure process (. . .). These emotions have remained throughout the process, until the last sessions when confusion gave way to a greater understanding of what we had worked on, which became evident in the good self-assessment of my interventions as counselor.* This positive self-assessment entails Rose’s new relationship with herself, measuring her performance in a more continuous way, beyond the previous static distinctions. Delving into her learning process, in the interview, Rose highlighted the difficulties that she found when experiencing as a student a learning model that she agreed with intellectually: *Despite I thought I was a person who worked on those values (. . .) that initial shock surprised me: “let’s see, what is happening to me, I mean, if I do really want this, why now it is difficult . . . ?”*

Rose’s learning outcomes from the training course

Rose’s reflection in the final activity and in the interview enabled us to identify two types of learning outcomes achieved that were grounded by events reported in her longitudinal accounts, namely, (a) insights into the meaning of learning and (b) an increasing self-awareness.

Insights Into the Meaning of Learning

Rose acknowledged gaining insights into her way of understanding learning including the processual nature of learning, the value of uncertainty, and the informational role of emotions such as insecurity, the importance of students’ reflection, or the facilitator role of the teacher. These insights emerged through a process in which

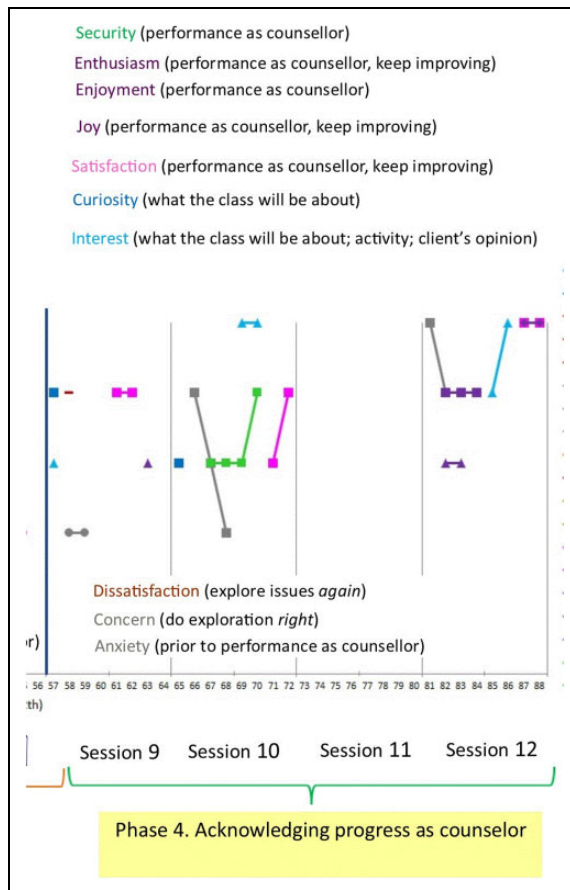


Figure 5. Detail of the time line representing Rose's emotional experience during Phase 4.

Rose compared herself at different moments in the training. This enabled her to generate differential information about her learning process, leading to a more dynamic evaluation of her performance, as opposed to the evaluation in traditional learning settings, which occurs at the end of the learning experience and focuses on content. In this regard, Rose reported that the questionnaires had helped her to move from a static to a processual learning conception, as illustrated in the next excerpt from her final activity: *I thought I could not progress in my learning if I did not master what had been worked before. Therefore, the questionnaires have helped me to understand better what a "learning process" is, that it is continuous, and that insecurity is positive.*

Rose's insights into learning were also demonstrated by her ability to reflect upon features of the teaching methodology that were "light years away" from the practices

that she was familiar with. Related to the promotion of students' reflection, which she described as a key competence boost in the course, Rose emphasized the promotion of students' autonomy and self-direction, which is linked to a more complex learning conception: *Here you set the pace, you reflected as much as you wanted, and anyone told you how much* (interview). Furthermore, Rose described the training course as the first real example of collaborative learning that she had experienced. In this connection, she associated the provided spaces for dialogue with the promotion of one's reflections: *This "process" gives value to that: to my own interpretation, to reflect on what I think and on what I "feel"* (interview). Finally, Rose provided evidence of having acknowledged the fine-tuning nature of the teaching methodology: *[Name of teacher] saw that after the practical exercises we missed discussion, and I think that his way to solve this was when me and [name of classmate] went in front of the class to do it [counseling exploration] (...) Wow! This is what you need in learning: someone who does not judge but comments on what you are doing* (interview).

Increasing Self-Awareness

In the light of the destabilizing training demands, there were three personal features that became salient for Rose, namely, her natural tendencies to (1) understand and do things correctly, (2) reflect thoroughly in her personal experiences, and (3) be accurate in her use of language. This became evident in Rose's blog posts and in the class interventions in which she expressed her threatened competence. Such spaces enabled Rose to objectify and reflect on her challenged personal features, as can be noted in the next excerpt from her third post (after s.5): *I thought I was a quite accurate person when talking (...) Now, after these two tough sessions, I realize that I can "shoot" my words with more accuracy. (...) It challenges me because I have realized that I can be even more demanding, and I do not know if I will be able to do it.* This is evidence of an incipient reexamination of Rose's previous standards when evaluating herself. Interestingly, Rose pays attention to the complexity of doing new things in a conscious manner, which is connected with some of the fine-tuning teacher's interventions, specifically to the typical difficulties when integrating new processes.

Rose provided a more thorough reexamination of her personal features in the final activity and in the interview. In the next excerpt from the interview, Rose refers to the awareness of her cited natural tendencies and to the new acquired possibility of acting upon them: *If I did those things already without noticing them, now I am going to do them being aware, then I think, or I expect, that I will try to do them better.* Something useful for raising Rose's self-awareness was the regular attention paid to her emotions. This is illustrated in the next interview excerpt: *You feel all the time, but making it explicit makes you feel even more and realize what you are feeling (...). It is very positive because it helps you for self-reflection and self-assessment.* What Rose is expressing is the new possibility of objectifying her

emotions while participating in an experience. This enables her to go beyond an automatic reaction to those emotions, taking decisions on how to manage them.

Discussion

As Formenti and Dirx (2014) state, “when we experience transformative learning we are fundamentally different somehow in some small way” (p. 127). Rose’s reports at the end of the training furnished evidence of her becoming different on two levels: On the one hand, she had several insights into the meaning of learning, which enabled her to move towards a more complex conception of learning; on the other hand, she demonstrated an increasing degree of self-awareness. The occurrence of these transformations required Rose’s active engagement (Kegan, 1994) throughout a process in which she became aware of and dared to express her unpleasant emotions. These emotions arose from her assumptions about learning and about herself being challenged by the unexpected training demands (for related results, see Sohn et al., 2016). Rose’s reflection on her emotions, together with the fine-tuned teacher’s interventions, helped her to embrace the unpleasant emotions and reexamine her challenged assumptions (Mälkki, 2010). This process, which evolved through different phases, was also facilitated by the availability of reflective spaces both throughout the course and at the end.

As for Rose’s outcomes, they can be considered as transformative since they entailed changes in her form of thinking and acting which enabled her to better respond to the contextual demands (Mezirow, 2000). This might be taken as evidence of Rose’s increasing sensitivity to self-learning through the new distinctions developed in the training. Hoggan’s (2016) typology of transformative learning outcomes can help to frame Rose’s changes.

On the one hand, Rose’s insights into the meaning of learning, such as starting to accept uncertainty (McCusker, 2013), are examples of transformative outcomes in epistemology (Hoggan, 2016). According to Van Rossum and Hamer’s (2010) epistemological model,⁴ these insights are evidence of Rose’s transition toward Learning Conception 4, “thinking for oneself.” Unlike a less sophisticated conception of learning as reproductive application of knowledge (Learning Conception 3), from this fourth learning conception, understanding, and constructing meaning become core processes. Specifically, there is a shift from understanding knowledge as an objective product to understanding knowledge as a subjective outcome that is attained depending on the quality of the process. An illustration of this is that Rose elaborated on the features of the training methodology, which suggests a qualitative change when understanding the contextual demands (Nogueiras, Herrero, & Iborra, 2017).

On the other hand, Rose’s increasing self-awareness entails, according to Hoggan’s (2016) typology, a transformative change in the level of self. This kind of change encompasses a more complete self-knowledge, including a clearer perception of one’s beliefs and emotions, as in her case. In this connection, Rose was

notably concerned with her destabilized learner identity, which is at the level of ontology. Interestingly, the two kinds of outcomes reported by Rose are in line with Beard and Mälkki's (2013) assertion that the "edge of knowing" required for transformative learning to happen is not only connected with epistemological issues but also with ontological aspects related to the self being challenged.

Shedding light on how Rose's transformative outcomes were attained, we identified five phases associated with Rose's changing way of interpreting the training demands over time, which were linked to her changing emotional experience (Damasio, 1999). These phases might be related to the phases typical of any developmental process according to dynamic systems literature (see Kunnen & Van Geert, 2012): initial stability, destabilization, transition, and resettlement. Thus, the first two training sessions (Phase 1: becoming familiar) could be taken as a phase of initial stability, followed by a destabilization period (Phase 2: encountering difficulties) and a transition (Phase 3: gaining insights) and ending with a resettlement (Phase 4: acknowledging progress and Phase 5: retrospective interpretation).

Throughout these phases, Rose's process can be depicted through the different types of emotions that she experienced—for which we have generated four different labels, which are presented in what follows—and that can be taken as evidence of distinct processes taking place: (1) the experience of *upsetting emotions* such as confusion and uncertainty in Phase 2 were evidence of Rose's cognitive destabilization arising from her challenged learning conceptions and sense of competence; (2) the stable experience of *supportive emotions* such as interest and curiosity over the training enabled Rose to keep engaged in the course despite the inherent challenges; (3) the experience of *integrative emotions* such as satisfaction and relief are taken as evidence of microprocesses of cognitive restabilization, associated at the beginning of the training with Rose's resolution of confusion and at the end to her positive evaluation of her performance as a counselor; and (4) the experience of *generative emotions* such as joy, enjoyment, or enthusiasm at the end of the training functioned as an additional motivator that strengthened Rose's commitment to continuous learning.

Delving into what we called upsetting emotions, they arose when Rose's sense of competence was questioned by the unexpected training demands (for related findings, see Fullana, Pasillera, Colomer, Fernández Peña, & Pérez-Burriel, 2016). In Mälkki's (2010) terms, these "edge emotions" would be signaling challenges to Rose's ways of knowing and to her identity. Knowing that these emotions are natural when asked to move from one's comfort zone may help the student to undergo the typical *liminal space* preceding transformation with more security and understanding (Mälkki & Green, 2014). On the one hand, examining one's assumptions might be facilitated by the teacher by encouraging students to recognize and acknowledge discomfort and uncertainty and by resisting the desire for premature closure (Dirkx, Pratt, & Taylor, 2002). On the other hand, the conscious participation of the learner is needed to reexamine one's assumptions and manage one's unpleasant emotions

(Cranton & Hoggan, 2012; Formenti & Dirkx, 2014). In Rose's case, the latter was obvious in that she dared to express her concerns both in class conversations and through her blog. The former is illustrated in the teacher's fine-tuned interventions, which aimed to reframe students' uncertainty and discomfort as evidence of their learning in process.

As a fruit of Rose's reflective processes supported by the teacher, it is possible to appreciate a turning point in her emotional trajectory, indicating the beginning of a *transition* phase. Rose's metaphor of letting herself go can be taken as an illustration of this turning point, when she started to *trust* both the teacher and her learning process (Iborra et al., 2009). From that point on, she reported changes in her way of evaluating her progress—going beyond what was “correct”—reframed what learning meant—moving from considering mistakes as a sign of lack of competence to considering mistakes as a proof of learning—and what emotions in a learning process meant—moving from being afraid of uncertainty to embrace it as an adaptive measure to the context (Larson & Fay, 2016; Mälkki, 2010). These changes, in turn, were associated with the experience of what we labelled integrative emotions, which became more stable in the phase of *resettlement* in association with generative emotions arising from Rose's positive evaluation of her performance.

The described positive orientation of Rose's emotional trajectory throughout the training, with a predominance of unpleasant emotions at the beginning and a predominance of pleasant emotions at the end is in line with previous findings (Arpiainen, Lackeus, Täks, & Tynjälä, 2013; Nogueiras, Kunnen, & Iborra, 2017). We take the positive emotional shift occurring from the sixth session of the training onward, together with Rose's related behavioral responses, as evidence of Rose's increased ability to cope with the initially challenging training demands, and hence, as a sign of transformative learning.

On this point, it must be noted that the challenging training demands facilitated Rose's process of reexamination of her taken-for-granted assumptions (see also McAuliffe, 2002). On the one hand, the teaching methodology transferred the authority to the students who were encouraged to explore their personal issues and were asked to make meaning of new and complex conceptual distinctions that they had to apply. This is in line with Murrell's (2004) assertion that experiential learning challenges learners to take in and process information in new ways. On the other hand, the emphasis on students' reflection through spaces such as the blog enabled Rose to express and objectify her learning process. In this connection, the dialogic and collaborative nuances of the course helped Rose to freely express her emotional vulnerability, which enabled her to step outside the experience of a situation beyond her comfort zone, exploring her conflictive ideas (Kasworm & Bowles, 2012). In this context, the teacher provided a balanced system of challenges and support from his role as a *provocateur*, generating conditions that challenged students' assumptions to encourage them to be critically questioned (Slavich & Zimbardo, 2012) and as a *learning companion*, creating a trusting environment and being responsive (Cranton & Wright, 2008).

We believe that this case study contributes in several ways to the transformative learning arena. On the one hand, it depicts transformative learning as a process of stability–destabilization–transition–resettlement. These phases are related to the student’s changing way of making sense of and emotionally experiencing the challenging training demands. In this sense, we identified four types of emotions: *upsetting*, *supportive*, *integrative*, and *generative*. Particularly, relevant in this emotional dynamic is the existence of a phase of confusion and uncertainty (see Piaget, 1952, and his concept of *cognitive disequilibrium*), which is considered as a trigger for transformative learning, and the stable experience of pleasant emotions such as interest and curiosity, which acted as supporters of Rose’s commitment to learning. These findings provide more detail on the claim that transformative learning is related to emotional responses (Dirkx, 2001) and entail a first step in providing a processual classification of the different types of emotions that can be experienced throughout transformative experiences. Likewise, they sustain the need for learners to develop emotional awareness as they engage in transformative learning (Taylor & Cranton, 2013).

This study also provides support for process-oriented experiential learning approaches to be taken as an effective way to promote transformative learning. Spaces of exploration, such as the one proposed in the practical counseling exercises, enhanced Rose’s awareness of her own assumptions on learning and on herself as a learner. Likewise, the conceptual distinctions provided throughout the training provided her with specific tools to address a more detailed reflection on her learning process.

In terms of methodology, this study provides ideas to grasp the dynamics of students’ transformative learning processes and outcomes by combining longitudinal follow-ups of students’ processes with retrospective interpretations, which might further trigger such processes and outcomes. The follow-up questionnaires on the experienced emotions and Rose’s blog posts enabled her to externalize and become aware of her challenged assumptions, which were open to reexamination. The final activity and the interview enabled Rose to reflect on her experience about the training from a broader perspective (Nogueiras, Herrero, et al., 2017). Both contexts enabled her to compare herself in different moments of the training, helping her to integrate her progressive reflection-in-action during the training course with a more holistic reflection-on-action after the course (Schön, 1983), and making her more aware of her transformation.

As for the focus on a single case, it has enabled us to get a deeper approach to transformative learning. Rose’s case was the one that best illustrated both the phases and the changes experienced, due to the greater level of detail that she provided. Thus, selecting this information-rich case might enhance future generalization of our findings, particularly naturalistic generalizability—readers’ connection between findings and their experiences—and transferability—case-to-case generalization (see Smith, 2017).

Limitations

One of the arguable limitations of this study is focusing on a student's transformative process during a relatively short time frame, which precludes the follow-up of a change that typically takes a longer period to stabilize. Likewise, by illustrating a student's successful trajectory in an intentional transformative learning context, it necessarily leaves out the approach to other possible trajectories of students that might not undergo a transformation.

Directions for Future Research

The findings of this study lead us to identify three future research directions. First, the follow-up of students who provided evidence of transformative learning in short training experiences would enable to explore the long-term effects of such experiences by looking for evidence that the outcomes are indeed transformative in terms of depth, breadth, and relative stability (Hoggan, 2016). Second, the focus on unsuccessful students' trajectories in intentionally transformative learning contexts would be useful to identify potential barriers to transformation. Third, the investigation of students' experiences in learning settings promoting *informative learning* (Kegan, 2000) would allow for comparison with those experiences in settings that foster transformative learning and thus help to gain a better understanding of effective adult teaching (Taylor & Laros, 2014).

Authors' Note

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Supplemental Material

Underlying research materials related to the paper (data) can be accessed by contacting with the first author. Supplemental material for this article is available online.

Notes

1. The concept of spiral curriculum was coined by Bruner (1960) and involves an iterative revisiting of topics over time at increasing levels of difficulty, where every encounter builds on previous ones.
2. According to the epigenetic explanation of development, the form of a structure is literally constructed by the construction process itself, as every step creates the conditions for the next step (Van Geert, 2003).
3. Hereinafter, “s.” will be used as an abbreviation for “session.”
4. In their epistemological model, Van Rossum and Hamer (2010) distinguish six increasingly complex learning conceptions: (1) increasing knowledge, (2) memorising, (3) reproductive understanding/application or application foreseen, (4) understanding subject matter, (5) widening horizons, and (6) growing self-awareness.

References

- Arpiainen, R. L., Lackéus, M., Täks, M., & Tynjälä, P. (2013). The sources and dynamics of emotions in entrepreneurship education learning process. *Trames. A Journal of the Humanities and Social Sciences*, *17*, 331–346. doi:10.3176/tr.2013.4.02
- Bateson, G. (1991). *A sacred unity: Further steps to an ecology of mind*. New York, NY: Dutton.
- Beard, C., & Mälkki, K. (2013). Student transformation and the interaction between the epistemological and ontological tracks. In K. Tirri & E. Kuusisto (Eds.), *Interaction in educational domains* (pp. 25–36). Rotterdam, the Netherlands: Sense.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77–101. doi:10.1191/1478088706qp063oa
- Bruner, J. S. (1960). *The process of education*. Cambridge, MA: Harvard University Press. doi:10.1119/1.1969598
- Cranton, P., & Hoggan, C. (2012). Evaluating transformative learning. In E. W. Taylor & P. Cranton, and Associates, *The Handbook of Transformative Learning: Theory, Research, and Practice* (pp. 520–535). San Francisco, CA: Jossey-Bass.
- Cranton, P., & Taylor, E. W. (2012). Transformative learning theory: Seeking a more unified theory. In E. W. Taylor & P. Cranton, and Associates, *The Handbook of Transformative Learning: Theory, Research, and Practice* (pp. 3–20). San Francisco, CA: Jossey-Bass.
- Cranton, P., & Wright, B. (2008). The transformative educator as learning companion. *Journal of Transformative Education*, *6*, 33–47. doi:10.1177/1541344608316961
- Damasio, A. R. (1999). *The feeling of what happens. The body and emotion in the making of consciousness*. New York, NY: Hart Court Brace.

- DeCapua, A., Marshall, H. W., & Frydland, N. (2018). The transformational learning journey of a novice ESL teacher of low-literate adults. *Journal of Transformative Education, 16*, 17–38. doi:10.1177/1541344617704645
- Dirkx, J. M. (2001). Images, transformative learning and the work of soul. *Adult Learning, 12*, 15–16. doi:10.1177/104515950101200306
- Dirkx, J. (2014). Editor's notes. *Journal of Transformative Education, 12*, 319–322. doi:10.1177/1541344614556860
- Dirkx, J., 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. *Journal of Transformative Education, 4*, 123–139. doi:10.1177/1541344606287503
- Dirkx, J., Pratt, D., & Taylor, E. (2002). Archetypes of teaching: Tethers in the wind or flashlights in the dark? In J. M. Pettitt (Ed.), *Proceedings of the 43rd Annual Adult Education Research Conference* (pp. 91–96). Raleigh: North Carolina State University.
- Formenti, L., & Dirkx, J. (2014). A dialogical reframing. *Journal of Transformative Education, 12*, 123–133. doi:10.1177/1541344614554508
- Foulger, T. S. (2010). External conversations: An unexpected discovery about the critical friend in action research inquiries. *Action Research, 8*, 135–152. doi:10.1177/1476750309351354
- Fullana, J., Pallisera, M., Colomer, J., Fernández Peña, R., & Pérez-Burriel, M. (2016). Reflective learning in higher education: A qualitative study on students' perceptions. *Studies in Higher Education, 41*, 1008–1022. doi:10.1080/03075079.2014.950563
- Hoggan, C. D. (2016). Transformative learning as a meta-theory: Definition, criteria, and typology. *Adult Education Quarterly, 66*, 57–75. doi:10.1177/0741713615611216
- Iborra, A., García, L., Margalef, L., & Pérez, V. (2009). Generating collaborative contexts to promote learning and development. In E. Luzzatto & G. DiMarco (Eds.), *Collaborative learning: Methodology, types of interactions and techniques* (pp. 47–80). New York, NY: Nova Science.
- Kasworm, C. E., & Bowles, T. A. (2012). Fostering transformative learning in higher education settings. In E. W. Taylor & P. Cranton Associates (Eds.), *The handbook of transformative learning: Theory, research, and practice* (pp. 388–407). San Francisco, CA: Jossey-Bass.
- Kegan, R. (1994). *In over our heads: The mental demands of modern life*. Cambridge, England: Harvard University Press.
- Kegan, R. (2000). What 'form' transforms? In J. Mezirow (Ed.), *Learning as transformation* (pp. 35–70). San Francisco, CA: Jossey-Bass.
- Kunnen, E. S., & Van Geert, P. (2012). General characteristics of a dynamic systems approach. In E. S. Kunnen (Ed.), *A dynamic systems approach to adolescent development* (pp. 15–34). London, England: Psychology Press.
- Larson, J. M., & Fay, M. (2016). Uncertainty management and sense making as precursors to transformative learning in an international immersion service-learning experience. *International Journal for the Scholarship of Teaching and Learning, 10*, 1–8. doi:10.20429/ijstl.2016.100106

- Lieblich, A., Tuval-Mashiach, R., & Zilber, T. (1998). *Narrative research: Reading, analysis and interpretation*. Thousand Oaks, CA: Sage. doi:10.4135/9781412985253
- Mälkki, K. (2010). Building on Mezirow's theory of transformative learning: Theorizing the challenges to reflection. *Journal of Transformative Education, 8*, 42–62. doi:10.1177/1541344611403315
- Mälkki, K., & Green, L. (2014). Navigational aids: The phenomenology of transformative learning. *Journal of Transformative Education, 12*, 5–24. doi:10.1177/1541344614541171
- McAuliffe, G. J. (2002). Student changes, program influences, and adult development in one program of counselor training: An exploratory inductive inquiry. *Journal of Adult Development, 9*, 205–216. doi:10.1023/A:1016004210506
- McCusker, P. (2013). Harnessing the potential of constructive developmental pedagogy to achieve transformative learning in social work education. *Journal of Transformative Education, 11*, 3–25. doi:10.1177/1541344613482522
- McWhirter, J. (2002). Re-modelling NLP. Part fourteen: Re-modelling modelling. *Rapport 59*. Retrieved from <http://sensorysystems.co.uk/dbm-remodelled-nlp/re-modelling-nlp-part-fourteen-re-modelling-modelling/>
- McWhirter, J. (2011). Behavioral remodeling. In L. M. Hall & S. R. Charvet (Eds.), *Innovations in NLP: For challenging times* (pp. 95–114). Carmarthen, England: Crown House.
- Merriam, S. B., & Kim, S. (2012). Studying transformative learning. What methodology? In E. W. Taylor & P. Cranton, & Associates. *The handbook of transformative learning: Theory, research and practice* (pp. 56–72). San Francisco, CA: John Wiley.
- Mezirow, J. (1978). Perspective transformation. *Adult Education Quarterly, 28*, 100–110. doi:10.1177/074171367802800202
- Mezirow, J. (2000). Learning to think like an adult: Core concepts of transformation theory. In J. Mezirow (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 3–33). San Francisco, CA: Jossey-Bass.
- Murrell, P. H. (2004). Continuing judicial education: Cognitive development as content, process, and outcome. *Journal of Adult Development, 11*, 151–161. doi:10.1023/B:JADE.0000024547.23923.5f
- Newman, M. (2012). Calling transformative learning into question: Some mutinous thoughts. *Adult Education Quarterly, 62*, 36–55. doi:10.1177/0741713610392768
- Nogueiras, G., Herrero, D., & Iborra, A. (2017). Teaching for epistemological change: Self-direction through self-assessment. In E. Cano & G. Ion (Eds.), *Innovative practices for higher education assessment and measurement* (pp. 207–225). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0531-0.ch011
- Nogueiras, G., & Iborra, A. (2017). Understanding and promoting self-direction in freshman and master's students: A qualitative approach. *Behavioral Development Bulletin, 22*, 394–404. doi:10.1037/bdb0000024
- Nogueiras, G., Kunnen, E. S., & Iborra, A. (2017). Managing contextual complexity in an experiential learning course: A dynamic systems approach through the identification of turning points in students' emotional trajectories. *Frontiers Psychology, 8*, 667. doi:10.3389/fpsyg.2017.00667

- Perry, W. G. (1970). *Forms of intellectual and ethical development in the college years: A scheme*. New York: Holt, Rinehart and Winston.
- Piaget, J. (1952). *The origins of intelligence in children*. New York: International Universities Press.
- Schön, D. (1983). *The reflective practitioner: How professionals think in action*. New York, NY: Basic Books.
- Slavich, G. M., & Zimbardo, P. G. (2012). Transformational teaching: Theoretical underpinnings, basic principles, and core methods. *Educational Psychology Review*, 24, 569–608. doi:10.1007/s10648-012-9199-6
- Smith, B. (2017). Generalizability in qualitative research: Misunderstandings, opportunities and recommendations for the sport and exercise sciences. *Qualitative Research in Sport, Exercise and Health*, 10, 137–149. doi:10.1080/2159676X.2017.1393221
- Sohn, B. K., Plaas, K., Franklin, K., Dellard, T., Murphy, B., Greenberg, K. H., . . . Thomas, S. P. (2016). Freedom to connect: Insight into the existential dimension of transformative learning in a graduate seminar. *Journal of Transformative Education*, 14, 178–199. doi:10.1177/1541344616631425
- Stake, R. (2005). Qualitative case studies. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed., pp. 443–466). London, England: Sage.
- Taylor, E. W., & Cranton, P. (2013). A theory in progress? Issues in transformative learning theory. *European Journal for Research on the Education and Learning of Adults*, 4, 33–47. doi:10.3384/rela.2000-7426.rela5000
- Taylor, E. W., & Laros, A. (2014). Researching the practice of fostering transformative learning: Lessons learned from the study of andragogy. *Journal of Transformative Education*, 12, 134–147. doi:10.1177/1541344614548589
- Van Geert, P. (2003). Dynamic systems approaches and modeling of developmental processes. In J. Valsiner & K. J. Connolly (Eds.), *Handbook of developmental psychology* (pp. 640–672). London, England: Sage. doi:10.4135/9781848608306.n28
- Van Rossum, E. J., & Hamer, R. (2010). *The meaning of learning and knowing*. Rotterdam, the Netherlands: Sense.

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