

## Transformative learning for knowledge: From meaning perspectives to threshold concepts

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### Abstract

Mainstream transformative learning emphasizes personally significant learning and liberation from limited ways of being in the world. Reflecting humanistic and emancipatory philosophical commitments, this emphasis can make it difficult to appreciate the transformative potential of learning for and by knowledge, a type of transformation adults can experience in the process of learning occupations and disciplines. The analysis presented in this paper is prompted by a small, qualitative study of transformative learning that highlights the role occupational knowledge can play in triggering and bestowing meaning upon personal change. While mainstream transformation theory illuminates aspects of this learning, the alternative theory of 'threshold concepts' accounts for the part played by formal knowledge. It is argued that transformation theory can be enhanced by threshold concepts theory when it is shown that the transformative potential of formal knowledge can be viewed as consistent with humanist and emancipatory principles.

**Keywords:** philosophy of adult education, transformative learning, threshold concepts, disciplinary knowledge, disciplines, occupational knowledge, occupations

### Introduction

Transformative learning has been researched in diverse settings including formal contexts such as disciplinary and occupational learning in which the overarching goal is mastery of some body of knowledge. Yet what is classified as 'technical' or 'instrumental' knowledge in the transformative learning literature is not often seen as intrinsically connected with transformation. Cranton (2006) describes this situation, and the scope for formal learning to trigger transformation:

The current adult education literature places little emphasis on the acquisition of technical knowledge....I am...very conscious of how instrumental learning (the acquisition of technical knowledge) spirals into transformative learning....Learning how to be a carpenter has as much potential to lead people into a deep shift in the way they see themselves and the world round them as does studying critical theory or exploring childhood trauma through narrative. (pp. 102-103)

Here, the potential of learning oriented to an 'instrumental' end for a transformational outcome is evoked.

Historically, adult education theory and research has defined itself against powerful, long-established educational traditions. Thus, adult education has been distinguished from schooling for young people, from higher education, and from occupational education or 'training'. Lindeman's (1926) influential argument positioned adult education as a field that addresses the learning of adults beyond formal education. An artefact of such a demarcation is that disciplinary and occupational bodies of knowledge have been regarded as provinces of formal educational endeavor that lie outside the purview of adult education proper. It must be stressed that the argument developed in this paper is not that the significance of learning for knowledge is denied in adult education research and theory, but rather that its potential is not adequately appreciated.

If Lindeman's (1926) argument to demarcate adult education among other educational fields served to downplay the significance of bodies of knowledge in adult education research and theory, a complementary and no less influential commitment in adult education is to the philosophy of humanism (Elias & Merriam, 2004). Humanism, with its inherent attunement to individual potential, has decisively shaped transformative learning theory. Transformation theory sits within a tradition that has sought the principles of curriculum for adult education – *what* is taught and learned – in a postulated need for growth and actualization of potential on the part of adults. The work of Knowles (1990) offers an example of this kind of reasoning. He argued that bodies of knowledge were increasingly vulnerable to redundancy in contemporary life, and that the development of the adult as an autonomous learner was a legitimate alternative basis of education. Mezirow's (1991) theory of transformative learning continues this emphasis on adult learning as something that can be conceptualized in terms of gains in autonomy by adults in a complex, changing society. In this picture of transformation, mastery of bodies of knowledge is a secondary or even irrelevant issue. The influence of humanism on transformative learning is also reflected in holistic conceptualizations of 'what' is learned by transforming adults. Transformative learning concerns more aspects of the learner, or the learner as a whole, with meaning perspectives taking in conative and affective as well as cognitive dimensions (Mezirow, 1991, p. 42).

Alongside humanism, a commitment to emancipatory principles is evident in transformative learning theory, and this perspective is also inimical to the idea of education as mastery of formal knowledge. The practice of critical reflection on assumptions that is central to the process of transformation involves building awareness of limitations of existing stocks of knowledge, a process that can be described as 'emancipatory'. According to Mezirow,

Emancipatory learning is often transformative. In emancipatory learning, the learner is presented with an alternative way of interpreting feelings and patterns of action; the old meaning scheme or perspective is negated and is either replaced or reorganized to incorporate new insights. In emancipatory learning we come to see our reality more inclusively, to understand it more clearly, and to integrate our experience better. (1991, p. 88)

The emancipatory element in transformative learning militates against subordination to existing bodies of knowledge with their pre-established truths, approved ways of thinking, power structures and pedagogic regimes. Thus, learning formal knowledge can be seen as peripheral or even threatening to the project of adult education. The outcomes of emancipatory learning are rather conceptualized in terms of breaking away from meaning structures that have hitherto dominated the learner's consciousness.

Despite questions and doubts about the role of formal bodies of knowledge in transformative learning, there has been a rise in the amount of transformative learning research addressing formal learning contexts. Kasworm and Bowles (2012) reviewed about 250 studies of learning in higher education that employed concepts of transformative learning. Considering ways 'transformative learning' was understood in these studies, Kasworm and Bowles concluded that,

transformative learning represented a learner or environmental process focused on learner change in perspective, worldview, and/or sense of self. This change or transformation was

most often based in a self-reported shift from previously held beliefs and assumptions about self and world. (2012, p. 389)

This conclusion conveys the idea that while transformative learning can indeed be found in formal educational contexts, its significance remains personal. As such, the humanistic and emancipatory commitments of transformation theory remain unchallenged despite formal education being acknowledged as a setting for transformation. Magro's (2009) research is more specific about the nature of transformation in the context of the acquisition of formal knowledge. Magro considered the relevance of transformation theory to 'technical and vocational education' (TVET). In TVET, behavioral and apprenticeship models of learning have predominated. These approaches each seek to impart bodies of knowledge and skill, either formally represented in objectives and competencies, or embodied and experienced in the everyday practice of the occupation. Magro explains that a different approach to TVET is emerging. 'Although traditional applied technical education is still offered, more holistic educational programmes emphasizing emotional intelligence and personal development are assuming greater importance' (2009, p. 2661). She suggests that blending these approaches – the focus on 'technical' subject matter relating to occupational knowledge and the focus on personal development – can 'enhance and enrich' this kind of education. Transformative learning theory is envisaged as a way to inform such development in TVET. Specifically,

A strength of transformative learning theory as it relates to technical and vocational contexts is its emphasis on active participation, critical thinking, and divergent thinking through dialogue and discussion. (2009, p. 2666)

Here, curriculum based on occupational knowledge gives way to generic skills with specific pedagogies foregrounded as organizing principles of programming. Magro is right to suggest that contemporary TVET curriculum is not focused exclusively on occupational knowledge. For some decades generic skills such as team work, communication and information technology 'skills' have been regarded as a necessary complement to more 'technical' or 'vocational' skills in occupational curricula (Brennan Kemmis, Hodge & Bowden, 2015). Magro argues that generic skills should be supplemented by capacities such as 'critical thinking' and 'divergent thinking' to promote transformative learning in TVET learners. The argument positions transformative learning as a process in which occupational learning bodies of knowledge complements transformative learning. Important for the present argument is that transformative learning is conceptualized as distinct from learning 'subject matter' in the context of learning for occupations.

What may be distilled from the analyses of Kasworm and Bowles (2012) and Magro (2009) is an approach to formal learning – the 'acquisition' of disciplinary and occupational bodies of knowledge – that positions such learning as a possible *occasion* for or complement to transformative learning. In neither case is the idea pursued that transformative learning can be focused on and have as an 'outcome' mastery of disciplinary or occupational knowledge. Even Cranton's (2006) discussion does not consider *what it is* about carpentry (her example) that triggers the 'spiral' of transformation although she questions Mezirow's distinction between instrumental and transformative types of learning.

In the following discussion it has been deemed necessary to limit the analysis to two conceptual frameworks. One, characterized above, will be termed 'mainstream' transformation theory – basically, the body of ideas developed by Mezirow and elaborated in numerous studies by other

researchers. The other framework, considered in some detail in the next section, derives from a different literature that shares with Mezirow's theory a concern with disruptive adult learning experiences. But other frameworks could account for some or perhaps all of the experiences considered below. Developmental literature, for instance, offers theoretical resources that would be worth applying. Development is conceptualized in Kegan (2000) as leading to more complex ways of knowing – an outcome of deep learning that invites comparison with the key findings that are the focus of this paper. Again, cultural development theory (e.g. Trommsdorff, 2012; Schönplflug, 2001) draws attention to learning experiences tied to cultural contexts and transitions that parallel some of those reported below and presents conceptualizations that could promote a coherent alternative understanding. A more complete examination of the issues raised in this paper is therefore possible and desirable, but within the compass of this paper it is only one alternative that is explored.

### **Transformative learning for knowledge**

Taking a step back from the dominant paradigm of transformative learning with its commitments to humanistic and emancipatory principles, it is evident that researchers concerned with learning in formal contexts have encountered and engaged with the specific problematic of transformation. The theory of 'threshold concepts' has evolved in the context of inquiry into the process of learning bodies of knowledge in the higher education context particularly when that process entails disruption in the lives of learners. Threshold concepts distinguish a type of pre-specifiable formal content that, when mastered, allows students to comprehend a set of related concepts that comprise a domain of knowledge (Meyer & Land, 2003). According to this theory, of all the objectives educators can define for learning a body of knowledge, some are especially difficult for students the learning of which can lead to a breakthrough in their understanding of the subject as a whole. Examples include the concept of 'complex numbers' in mathematics, 'signification' in literary and cultural studies and 'opportunity cost' in economics. Concepts like these, according to educators questioned by Meyer and Land (2003), pose special difficulties for most students but are essential for developing a coherent understanding of the discipline. These concepts can be considered a 'threshold' to fuller learning. As Meyer and Land put it,

A threshold concept can be considered as akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress. As a consequence of comprehending a threshold concept there may thus be a transformed internal view of subject matter, subject landscape, or even world view. (2003, p. 412)

These threshold concepts are often among what educators call 'core' or 'key' concepts within a discipline, but they possess the additional quality of personal challenge for students and of having a coordinating or integrating effect on other parts of the body of knowledge once understood. According to Meyer and Land, threshold concepts possess certain characteristics. The main one is that a threshold concept is 'transformative',

in that, once understood, its potential effect on student learning and behavior is to occasion a significant shift in the perception of a subject, or part thereof. In certain powerful instances, such as the comprehension of specific politico-philosophical insights (for example,

aspects of Marxist, feminist or post-structuralist analysis) the shift in perspective may lead to a transformation of personal identity, a reconstruction of subjectivity. (2003, p. 415)

Interestingly, the authors draw attention at this point in their discussion to ‘correspondences’ between their theory and Mezirow’s, although they do not pursue the parallels beyond an acknowledgement. Other characteristics of threshold concepts are that they are ‘probably irreversible’ (not easily forgotten or un-learned), they are ‘integrative’ (reveal previously hidden interconnections in the body of knowledge), ‘possibly bounded’ (opens into a circumscribed disciplinary domain) and ‘troublesome’. With respect to this last characteristic, Meyer and Land point out that,

The notion of a threshold concept might remain merely an interesting issue of cognitive organization and perspective were it not for the strong indication from our data that such concepts often prove problematic or ‘troublesome’ for learners. (2003, p. 417)

It is this ‘troublesome’ feature of threshold concepts that justifies the attention of educators and education researchers and invites, along with the transformative effect of overcoming this troublesomeness, comparison with the theory of transformative learning for which a ‘disorienting dilemma’ is an important consideration. Troublesomeness pushes learners into a difficult situation that can lead in the direction of self-questioning and struggle and traversal of what Meyer and Land call ‘liminal space’ and through the threshold, or it might lead to compromise, delusion and a reversion to the preliminal state.

It is to be noted that reception of threshold concepts theory by researchers in the dominant paradigm of transformation has been muted or even hostile. Tisdell (2012) reviewed the potential contribution of threshold concept theory as elaborated in a chapter by Land, Meyer and Ballie (2010), including the contention that this kind of learning can entail changes in learner identity. She dismisses this last claim, explaining that

In actuality...the chapter authors take on an examination of “threshold concepts” related to their academic disciplines, drawing on the cognitive sciences to understand the cognitive dimension of transformative learning and the interrelatedness of ideas. They consider components of integrational thinking that is transformative relating to new intellectual concepts rather than the type that transforms one’s identity. This is transforming one’s *thinking* rather than transforming one’s *being*... (2012, p. 26)

The contrast Tisdell makes between the scope of threshold concept theory and transformative learning theory reflects the familiar theme of the holism of transformation and the relative limitation of conception evident in learning theories that address the traditional problems of mastering bodies of knowledge. A similarly disparaging view is articulated by Roessger (2010) in a review published in this journal of a book on threshold concepts by Meyer, Land and Ballie (2010). Roessger wrote that ‘much of the text appears incongruent with accepted adult learning principles that call for learners, rather than educators, to determine the value and relevancy of a subject according to their life experiences and knowledge’ (2010, p. 288). Here, Roessger embroiders the humanist theme of the priority of learner needs in determining curriculum and the emancipatory concern with the problem of power wielded by pedagogues in formal learning situations.

## Exploring transformative learning for knowledge

The preceding note about the reception of threshold concepts theory is included to highlight the fact that a challenging question emerges when the role of formal bodies of knowledge in transformation is considered. To precipitate this question, a small qualitative study of transformative learning in the formal occupational context is introduced. This multiple case study research employed Mezirow's (1991) theoretical framework to conceptualize the project and analyze the findings (Hodge, 2010, 2011, 2014). Three case studies of occupational learning were selected using a modified version of King's (1998) survey instrument (designed to research transformative learning) to identify two programs in which higher levels of transformative learning were evident (as indicated by the survey responses), and one with lower levels. Learners in 12 occupational areas, from auto body repair through to instructor training were surveyed. The three cases selected were programs for youth workers, managers (cases of higher levels of transformation) and motorcycle mechanics (an example of lower levels). All students in the three case programs were invited to participate in interviews upon completion of their studies about their learning experiences. Interviews were held with their teachers along with experts in these occupations. The occupational experts were interviewed to ascertain whether there may be meaning perspectives that could be identified for practitioners in the occupation. The last data were sought to answer the research question whether transformative learning during occupational education programs could contribute directly to occupational readiness.

With respect to the youth worker program case, according to the recruitment survey, five of 12 enrolled students who consented to participate in the research appeared to experience most or all of Mezirow's phases of transformation. Three of these five consented to participate in follow-up interviews. The management program was conducted by an institution that primarily enrolled students currently in management roles (in contrast with the youth work education provider which enrolled mainly new entrants to the field). The survey indicated six of the ten students enrolled in the course had experiences of transformation and five of these students were among those who consented to be interviewed. The discussion below is based on these interviews.

The extent to which the learners' experiences resonate with the mainstream understanding of transformative learning can be illustrated with an example drawn from each of the cases. The understanding referred to here is represented in Mezirow's phases of perspective transformation which commence with a disorienting dilemma and critical self-reflection. This understanding is also reflected in a broad characterization of transformed perspectives as 'more inclusive, differentiated, permeable, and integrated' (Mezirow, 1991, p. 151). The first vignette is drawn from the youth work program case. Hannah, aged 42, was a single parent who had decided to build a career after working in a range of unsatisfying, short-term positions. Her researches led to the decision to become a youth worker. She enrolled in the case program to acquire the qualification required to enter the occupation. Reflecting on her perceptions of youth work prior to enrolment, Hannah explained that as an 'optimistic, positive person', 'I thought I could have a positive impact on someone's life, just help to take them from point A to point B in some way, shape or form.' Her initial perceptions were challenged in the program which exposed students to life histories of youth work service clients that vividly portrayed negative experiences in childhood and the ongoing impacts of these experiences. She reported that 'I was just learning that these kids aren't learning any good, they're not around good people'. She described her inner reaction to the new material:

My God, you know. The heart-wrenchingness of it. Like shock, but not as severe as shock, but it really played on my mind, and I'd think about it at night, I couldn't blank it. It was consuming me.

She reported significant discussions with family and other students in the program during this period. After considering withdrawing from the program, Hannah decided to push herself to complete. By the time of the interview, she had been employed as a youth worker for several weeks. Reflecting on the changes wrought by the disorienting learning experiences, she reflected,

I'm probably a lot deeper than I ever used to be. I used to be – well I think – I used to be fairly superficial. As long as it looked good on the outside, and everyone looked happy, then it was OK. [Now] it really doesn't matter what the surface looks like anymore. It's what is happening underneath is really long-term important. I do that all the time now. I think I'm a better person. I think I'm more relatable to a lot of people. Not necessarily them relating to me, but me relating to them. I have a greater understanding of hardships, other people's hardships. I haven't ever experienced drastic ones. So I think I'm a lot more empathetic than I used to be.

Hannah's change described here may be interpreted as a shift to a 'more inclusive, differentiated, permeable, and integrated' view of the world, centered as it appears on a sophisticated comprehension of the complex determinants of human behavior.

The second example is of a student in the management course. Liz was employed in a large organization and came to the decision she should undertake a management course to advance her career in the organization. Going into the course, Liz explained that she expected the course to give her some up-to-date information, but she did not believe she would learn anything really new about management because she had seen a lot of managers at work in what was a successful organization. But what she found promoted in the course was quite a different view of management. The curriculum of the program was influenced by the theories of Peter Drucker and Tom Peters (Hodge, 2011), who see management as facilitation of worker energies rather than exercise of paternal authority. These new views of management were not consistent with Liz's experience. Talking about the influence of the program, she said,

I had to go and think about the topics we did and how all of those things we discussed and learned related to what I could see happening in the workplace so it really opened up my awareness to not just things that were happening to me but things that were happening to other people (in the organization)...

She explained that despite having experienced 'caring' managers, the culture of management as a whole at the organization was problematic:

the management from there on up was pretty horrible, just the way they treated people. They just wanted to get the big projects done at whatever cost. It didn't really matter to them.

The program prompted some fundamental questions: '...once I started doing the course I ended up saying I had been with this company for 9 years, "do I really want to stay any longer"?' After the

course, Liz decided to leave the organization. Asked about how she would describe the change in herself precipitated by the program, she said,

I guess in that way it gave the courage to say, 'Yes I am going to move on,' and to have I guess more confidence in myself and my skills and those kinds of things whereas I had sat on the fence for quite a few years and really wondered about how I was in the world in the scheme of things.

I felt really empowered. It was really amazing. I felt a lot more powerful than what I did when I first started the course. It really gave me a lot of encouragement.

Liz shifted to a more sophisticated understanding of human motivation and the ways that management can be a tool of flourishing rather than repression.

Now while the research participants who reported strong change in themselves and their lives described phases and processes that are consistent with and illuminated by transformative learning theory, there were responses to questions about the 'content' of the transformed perspectives that did not seem to 'fit' with the theory. The topic of content – connected with the research question about how (if at all) does transformative learning contribute to occupational readiness – was initially investigated through interviews with occupational experts. By asking these experts about meaning perspectives that may be shared by practitioners in particular occupations, the research explored the possibility that what may be learned through perspective transformation in these occupational programs were meanings with an established role in the body of occupational knowledge and skills. It was noteworthy that for the experts interviewed (one small set for each occupation addressed by the case programs), it was affirmed that sets of assumptions exist that are typical of 'effective' practitioners in the occupation. In the context of the youth worker program case, a grounded theory analysis of five experts' interview data suggested the following characteristics of meaning perspectives were shared by effective youth workers:

- Young people are interesting
- Young people are innately good
- Environment is the main influence on young people's behavior
- Youth workers model adult behavior
- Youth work is reflective work

Analysis of data from four management experts indicated the following assumptions of effective managers:

- Managers focus on and communicate organizational goals
- Managers systematically and flexibly organize work to achieve goals
- Understanding and mobilizing the potential of people is essential to achieving goals
- Managers reflect on themselves and their work

The design of the study called in part for comparison of the postulated occupational meaning perspectives with transformed meaning perspectives described by learners. Perspective transformation experienced in the two high transformative learning cases – youth work and business management – indicated correspondences between transformed perspectives and certain



assumptions of the occupational perspectives. For example, a youth work student described himself at the start of the program as a 'fairly moral, fairly strict sort of person' who tended in his mind to 'condemn' young people for the challenging behaviors that would bring them into the youth justice system. Describing what changed for him, this student explained that,

you have to accept people for who they are, and understand why their behavior is a certain way. [I]t doesn't necessarily make the behavior acceptable; it means you understand it if someone has been raised or has lived in a certain way.

The 'content' of the shift reported by this student was similar to that reported by the other high transformation students. Hannah's exclamation 'that these kids aren't learning any good, they're not around good people....You can't expect a kid to know it they've never learnt it' reflects a similar understanding of the causes of youth work client behavior. A third participant described her initial view of the cause of challenging behaviors as a mix of environment and the 'nature' of the individual young people. Her transformative learning resulted in a new perspective on the reasons young people enter the youth justice system:

almost every single kid I've met [during the work experience placements] it's actually the things their parents have done to them or the lack of what they've done....I went in with preconceived ideas and they've changed.

These excerpts indicate that a common content was present in the transformed perspectives of these students. At the same time, this shared content aligns with one of the features of the occupational meaning perspective described by the youth work experts. For example, one explained effective youth workers assume

that young people, through no fault of their own, have found themselves in need of services. They may be doing things that are their fault, like committing crime and stuff, but they've found themselves in need of services from being a child in a dysfunctional family, in some way. I think that would be a common belief, that these kids have not brought it on themselves.

The disorienting 'curriculum' for the learners in the youth worker program addressed causes of challenging behavior on the part of young people, the kind of behavior that could lead to young people to join the clientele of the employers of graduates from the youth work course. The content of the youth work learners' transformed meaning perspectives included an assumption about these causes that was independently described by occupational experts as common to effective youth workers.

As in the youth work case, the management students whose survey results suggested transformation were asked questions about the nature of their discomfort and possible triggers. Through the interviews it became clear that seven of the participants were unsettled by tensions experienced between what they learned during the course and what they were accustomed to in their places of work. Liz, introduced above, revealed that,

The area I was working in last made me realize that there are a lot of managers out there who don't care about the people. They just care about getting things done and that is one of the things that [were] highlighted to me by the course.

Another student who was also in a management role said

the course really gave me some simple tools of going through the motions and managing staff in a more professional way than I would otherwise have ... I probably thought managing people is getting them to do what you want, full-stop, no matter what; whereas now I am more inclined to give individual people an opportunity to have input and steer them rather than direct them which doesn't come naturally but it seems to work better.

A third student – again in a management role – explained that,

I suppose the course really made me realize that I can only be a good manager if I have the staff on my side, so the way I see it is: the better I can motivate staff and get them to sort of pull in the direction, the easier my job as a manager will be—and that is something that wasn't really clear to me.

Another student declared that other managers in his organization should attend the course since they were exemplifying 'authoritarian' management styles and did not know that the approach may be unproductive. A striking finding from the management case study was that for the students who reported disorientation, reflection and change, the basic tension was similar: they assumed or were in an organizational culture that assumed management was about getting things done without necessarily taking into account the preferences, motives or potential of subordinates. The curriculum of their management program promoted the view that on the contrary, a good understanding of people, their potential, and how to release it was central to effective management. This idea was one of the aspects of the effective management mindset or meaning perspective articulated by the occupational experts. As one of them put it,

A good manager will in fact recognize where people are coming from and where they want to go, what their own personal vision is....[good management is] working through others, respecting them for what they want to get out of their jobs...the mindset of working through others and not forcing them to work how exactly you want it done.

### **Two perspectives on transformation**

As in the youth work case, the management program presents examples of experiences that may be interpreted in terms of mainstream transformation theory. A number of learners in each program were confronted by curricular material that was disturbing. The process of learning in most cases was illuminated by the conceptualization of 'phases' of transformation identified by Mezirow. Learners reported disorientation, self-questioning, competence development and reintegration with life context on a new basis. The content of the learning could also be understood in terms of Mezirow's (1991) generic description of transformed perspectives as 'more inclusive, differentiated, permeable, and integrated' (p. 151). The transformed perspectives described by the learners may be regarded as more *inclusive*: those learning to be youth workers more readily accepted young people as they are while those learning management learned to accept that people need to be recognized for what they bring to the organization. Transformed views of work appeared to be more *differentiated*: young people's behavior can be understood in a more nuanced way while managers need to understand diverse individuals for what they may contribute. The transformed view could be described as more *permeable*: new and different views of young people and managers'

subordinates can be entertained, and integrated: the new outlook enabled the interrelations of different techniques and ideas of youth work and the interrelation of organizational goals and individual worker motivations to be appreciated.

At the same time the research points to a challenge for mainstream transformative learning research. The challenge is that the transformative learning just described and analyzed appears to possess additional characteristics that do not easily fit within the standard paradigm. To be precise, in each program particular curricular content seemed to trigger transformation and transformed perspectives seemed to conform to understandings that were specific to occupational practice and could be specified to a large extent in advance. The theory of threshold concepts offers a compelling alternative account of the experiences reported by the learners. The challenge for transformative learning theory raised by that study was the 'convergence' of transformative learning experiences on common, pre-specifiable assumptions. The learners who reported transformative learning in the youth work case described the disorienting or troublesome 'content' as the notion that it is the environment, rather than the free choice of individuals, that is the main determinant of young people's behavior. Occupational experts described the mindset of effective youth workers in terms of the assumption that environment is the key influence on the behavior of young people. Given the experiences of learners in the youth worker program, this 'content' may be regarded as a threshold concept among other core concepts in the body of knowledge and skills characteristic of the youth worker occupation. Again, learners in the management case were disturbed by the idea that effective management was a matter of understanding, tapping into and finding ways to reconcile the strengths and motives of people with the overarching goals of the organization rather than imposing behaviors and norms. This notion acted like a threshold concept, troubling learners and offering a portal to a new understanding of management as a whole. Apart from being troublesome, reports by learners indicate this content could be described as 'transformative' – especially in terms of its significance for identity and subjectivity.

Unfortunately, the threshold concepts research program has not yet extended to the proposal of threshold concepts for the vocational areas of youth work and management. Indeed, extension of this research beyond the university setting is rare (Hodge, Atkins & Simons, 2016). It is therefore not possible to compare the interpretation just offered with a log of established threshold concepts research to assert with confidence that the participants were encountering threshold concepts in the context of the case programs. Nevertheless, key features of threshold concepts were present in the reported experiences of the participants and the theory of threshold concepts more broadly offers a promising framework for interpreting such experiences. But other questions open up too. What about the other assumptions suggested by the experts as part of the mindset of effective workers in their respective fields? Should we have expected the participants to refer in some way to these as well when describing what changed for them? This question may be addressed in at least two ways. First, was the grounded theory methodology employed in the task of discerning possible occupational meaning perspectives really the most effective? Again, would an analysis of the relationships between the assumptions identified by the experts suggest elements that are more fundamental than others? Could the participants have been reacting to some core assumption, or to something more peripheral? Secondly, given that the interviews focused on experiences as reported by the participants, might a more structured 'checklist' approach have been useful for determining the extent to which the participants subscribed to the gamut of assumptions identified by the experts? More systematic research and analysis would be required to address these questions.

## Discussion

The generation of this alternative interpretation of transformation could be left as a potentially interesting intellectual exercise if the theoretical stakes were not so high. On the one hand, the yield of the above analysis in terms of threshold concepts confronts mainstream transformation theory with the question of the place of knowledge – bodies of occupational and disciplinary knowledge – in transformation. Can the historical demarcations of adult education and commitments to humanism and emancipation be maintained if transformation can be transformation for and by knowledge? On the other hand, can the relatively narrow, academic focus of the threshold concepts paradigm be sustained if the transformations it studies can be accommodated to the inwardly significant journey of the adult learner? Are there lessons in the mainstream theory of transformative learning that can enrich threshold concepts research?

The characterization of mainstream transformative learning theory presented in this paper has historical and philosophical elements. According to this characterization, transformative learning theory is heir to a self-understanding of adult education and learning that in part rests on a demarcation of the proper sphere adult learning and education from established institutional spheres of education. Lindeman (1926), as mentioned, distinguished education devoted to the formation of young people and preparation of workers and professionals on the one hand from the type of educational activity adults might engage in when following their own interests. Adults would not need the institutional structure of formal education to benefit from further education and certainly would not require submission to the regime of the pedagogue to access and enjoy the treasures of human culture and science – if this is where their learning journey happened to take them. Now one part of Lindeman's picture must be updated and that is the possibility that occupational learning as much as learning *per se* can be over and done with at some point. Most of the learners in the research presented above were advanced in careers or embarking on a new career having put another or others behind them. The participation of mature adults in occupational education is a global phenomenon as job roles become more transient. Occupational learning has become a life-long reality for adults in contemporary society (Hodge et al., 2016).

Lindeman's (1926) argument has another strand, however, that concerns self-direction and meshes with the humanist philosophical commitment of mainstream transformative learning theory (Elias & Merriam, 2004). He describes 'modern' adult education as

Small groups of aspiring adults who desire to keep their minds fresh and vigorous; who begin to learn by confronting pertinent situations; who dig down into the reservoirs of their experience before resorting to texts and secondary facts; who are led in the discussion by teachers who are also searchers after wisdom and not oracles: this constitutes the setting of adult education, the modern quest for life's meaning. (p. 7)

Consistent with the tenets of humanism, Lindeman locates this quest within the adult learner. He is concerned to shield the wellspring of human growth from external prescriptions, recognizing the potential for it to be colonized by powers beyond the individual. Since there cannot be any particular

*a priori* characterization of the human that can dictate the course of growth, the question of general orientation becomes urgent. Thus Lindeman (1926) asks, 'In what areas do most people appear to find life's meaning? We have only one pragmatic guide: Meaning must reside in the things for which people strive, the goals which they set for themselves, their wants, needs, desires and wishes' (p. 8). This statement encapsulates the humanist principle of self-direction and a firm renunciation of external guidance, however well-intentioned. From the humanist perspective, formal education appears as an intrusive if not dangerously overwhelming form of external direction.

A strict interpretation of humanism in the adult learning context makes self-direction sovereign, but does not rule out tactical suspension of the exercise of certain types of autonomy in the service of greater self-determination. Even Lindeman's aspiring adults find value in a teacher's guidance and may resort to 'texts and secondary facts' in the context of the dictates of confrontation with pertinent situations. The learners in the above research each submitted to the rigors of mastering occupational bodies of knowledge as a temporary inconvenience endured for personal reasons, a submission made in the light of reflection on their experience and judgements about longer-term flourishing. The learners in the threshold concepts literature likewise endure the rigors of formal learning with a view to a greater purchase on life.

The emancipatory philosophy has a central role in mainstream transformative learning theory, with the journey from one set of assumptions to another conceptualized in terms of liberation (Mezirow, 1991). But the extent to which this personally significant process can be regarded as emancipatory has been questioned by those for whom such a philosophy entails political dimensions (e.g. Inglis, 1997). For Mezirow, however, personal emancipation precedes social emancipation (Cranton, 2006) or at least is not incompatible with it. Thus the lack of a social dimension to transformation is as little an objection to the emancipatory potential of threshold concept learning as it is of meaning perspective transformation. Mezirow's own theorization of the emancipatory element of transformative learning drew on the critical theorist Habermas (1978) who distinguished instrumental, practical and emancipatory 'interests' that each constitutes a domain of knowledge and practice. We express a need to analyze, explain, predict and control – practices and knowledge that Habermas labels 'instrumental'. Again, we express the need to communicate with and understand each other and groups and society, generating knowledge and practices that Habermas termed 'practical'. We also confront and criticize power relations and structures, generating a third sphere of knowledge and practice Habermas termed 'emancipatory'.

Mezirow (1991) posits a type of learning corresponding with each of Habermas's interests and explicitly aligned transformation to learning in the emancipatory sphere although learning in the service of practical and instrumental interests can promote critical reflection. In the detail of Mezirow's appropriation of Habermas's framework it emerges that learning in the practical or 'communicative' sphere has more obvious potential to foster transformation than that in the instrumental or 'technical' sphere. Here perhaps an appreciation of the transformative potential of instrumental learning is deflected by Mezirow's critical observation about the traditional tendency to identify learning as such with learning in the instrumental sphere. The communicative domain has not received as much attention as a sphere of learning, maybe because the outcomes from such learning are not measurable acquisition and control. Yet it is in the dynamics of social interaction that there is clear scope to be challenged, to be forced to self-reflect and confront one's limitations. But although Mezirow did not develop the part of his own theory concerning links between

instrumental and emancipatory learning, he not rule out the possibility of instrumental knowledge contributing to emancipation by generating critical reflection. He explains that,

Although for Habermas emancipatory interest focuses upon critical self-reflection, critical reflection clearly constitutes an integral element in the process of validating learning about the environment and other people as well as ourselves; that is, both instrumental and communicative learning. (1991, p. 87)

Mezirow adds further on that,

...any analysis of adult learning or adult learning gains must address both instrumental and communicative learning, including learning about oneself, as well as the nature, extent, and impact of critical reflection in both domains. (1991, p. 89)

Thus the critical reflection that underpins emancipatory learning can emerge in either the instrumental and communicative domains, although perhaps it is more readily triggered in the volatile world of human interactions in which many of us have greater emotional investment than in the technical world. In the research reported above, critical reflection was prompted by an encounter with occupational knowledge. The knowledge acquired through these programs introduced ideas into the lives of the learners both liberated them from limited assumptions and for effective engagement with chosen occupations. Learning an existing body of knowledge in a broadly instrumental context triggered transformation, with certain parts of this knowledge proving crucial to the process for a number of learners. These are termed 'threshold concepts' in the alternative transformative framework.

A closer examination of Mezirow's appropriation of Habermas thus suggests that although communicative learning has higher potential for transformation for many people, instrumental or technical learning also has this potential. Threshold concepts theory might then be construed as a logical development of transformative learning theory concerned with emancipatory learning generated within the instrumental sphere. There are features of bodies of knowledge that have emancipatory potential and threshold concepts research can be viewed as their exploration. By the same token, it may be that transformative learning researchers have been too ready to collapse the distinction between communicative and emancipatory learning, suppressing appreciation of how learning bodies of knowledge can also contribute to transformation.

If an accommodation of threshold concepts theory can be conceived from the side of mainstream transformative learning theory – with historical demarcations and philosophical commitments amenable to updating or reinterpretation such that the transformative potential of knowledge can be admitted – the question arises of ways transformation theory might contribute to threshold concepts research and theory. It has been argued that the humanist commitments of transformation theory can obscure the potential of formal knowledge to trigger and shape perspective transformation. At the same time, the academic values of threshold concepts research appear to limit theorization of transformation within that paradigm. Mainstream transformative learning theory calls attention to the place of transformation within the broader life project of adults. Adults come to transformation with a coherent worldview and indeed it is the sheer effectiveness of initial perspectives developed in the process of 'formative' learning (Mezirow, 1978) during childhood that produces the essential challenge in transformation. It is the collision between new experience and

one's existing meaning perspectives that fosters the disorientation and self-questioning preliminary to transformation.

Threshold concepts theory, in contrast, conceptualizes transformation simply in terms of ignorance versus knowledge. The theory does acknowledge a 'preliminal' zone with potential to create tension and confusion, but the learner's state at this point is understood in deficit terms. Meyer and Land (2005) and other theorists recognize the peculiar difficulties of learners who approach conceptual thresholds and have begun to theorize 'preliminal variation'. Transformative learning theory can contribute here by emphasizing the efficacy of learner perspectives prior to an encounter with threshold concepts. Learners do not approach the next phase of their learning journey empty of relevant knowledge and understanding. Rather, they come with a coherent system for interpreting the world, including the phenomena and ideas related to the body of knowledge in question. By considering adult learning in a humanist frame, mainstream transformation theory respectfully considers the existential dimensions of 'troublesome knowledge'. Threshold concepts theory could gain by recognizing and appreciating the life-long learning journey of the adult and the effectiveness of prior achievements of knowledge that structure any encounter with new bodies of knowledge. Research into preliminal experience might benefit by adopting the view that representations of threshold concepts will find a place in an already integrated and at least until now successful system. This possibility increases the difficulties of managing disorientation at the threshold since it will not merely be a matter of addressing the vacuum of ignorance. However, framing the question here in terms of the meaning perspectives learners bring to a body of knowledge could bring the real magnitude of the adult learner's risk and promise into focus. By being sensitive to the hard-won facility of existing meaning perspectives, threshold concepts theory may better appraise what is at stake for adult learners who struggle with a new form of knowledge.

## **Conclusion**

As mentioned in the introduction, a limitation of the analysis offered in this paper is that only one alternative to mainstream transformation theory is explored. But bearing in mind this limitation, some tentative conclusions can be advanced. The first is that threshold concepts theory offers a way of analyzing transformation that can account for the convergence of learning upon recognizable features of a body of knowledge. A substantial role for knowledge in transformation is something claimed to pose a difficulty of mainstream transformative learning theory. Threshold concepts theory accounts for transformative learning for and by knowledge, where the process of mastering formal knowledge triggers transformation and where the change relates back to the knowledge in question. From the perspective of mainstream transformation theory this account appears to depart from the core commitments of the paradigm. These commitments – to humanist and emancipatory principles – seem to be contradicted by learning involving submission to institutional discipline and the acquisition of bodies of knowledge focused upon academic or occupational ends. It was argued, however, that the tradition of adult education entertains tactical deferral to pedagogues and book learning for the ultimate end of individual flourishing. And flourishing can directly reference bodies of knowledge since the latter have been and are the passion of scholars, professionals and expert workers for whom what may appear to be formal, even 'narrow' knowledge is inherently concerned with life and living. It was also shown that upon a closer look at Mezirow's appropriation of Habermas's theory of knowledge constitutive interests it seems that in principle, instrumental or

technical learning does have the potential to be the source and end of critical reflection and thus perspective transformation.

From this perspective, the criticisms of the threshold concepts approach presented by Tisdell (2012) and Roessger (2010) can be construed as tendentious. Tisdell's criticism – that threshold concepts theory is too narrowly focused on the cognitive – does not grapple with the fact that the self-directed adult can deeply commit to mastering a body of knowledge and that this endeavor, as represented in the threshold concepts literature, can bring about existential challenges for the individual. Learning bodies of knowledge, if it is an existential commitment of the adult, makes more than merely cognitive demands on the individual, and up-close to bodies of knowledge a great deal of sanguine commitment has been and continues to be involved. Roessger's criticism – that threshold concepts theory assumes submission to institutional pedagogical regimes – does not allow that temporary deferral to someone with better understanding of something can be an entirely appropriate action in a broader emancipatory project. At the same time, as has been indicated, the threshold concepts approach might benefit from better acquaintance with the adult education literature and its contemporary paradigm in transformative learning theory. Meyer and Land (2003) did register a possible affinity between their conceptualization of transformation and Mezirow's work, but have not systematically explored the parallels. The tradition of adult education articulates and celebrates the self-directed adult learner, and contemplates the prospect of formal learning from the perspective of individual growth. Threshold concepts theory might be expanded in a fruitful way by viewing the adult's engagement with bodies of knowledge as a stage on the way rather than a terminus. Transformation theory sees perspective transformation as a process from one relatively meaningful form of life to another. Threshold concepts theory could benefit from considering the whole of the learner's journey as committed to legitimate, coherent meaning, not just that part promised by mastery of particular concepts. At present, threshold concepts theory is beholden to an academic perspective on learning and life. But in a contemporary context that increasingly views formal learning as regular part of adult life, it seems appropriate for threshold concepts theory to consider the complex reality of adult learning as the backdrop for understanding troublesome learning in formal programs.

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