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REVISITING POSTLIMINAL VARIATION IN THRESHOLD CONCEPTS: ISSUES OF UNEXPECTED TRANSFORMATION AND LEGITIMISATION

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Abstract: Within the Threshold Concepts Framework, 'postliminal variation' has been defined as the variation in the point and state of exit into a new conceptual space, and the epistemological and ontological terrain encountered from that point onwards. However, in the extensive published literature on threshold concepts, we find many cases in which its practical application has been utilised in a reductionist way, ignoring or omitting said variation, and treating mastery of threshold concepts as if they had a predetermined process, being the same, or very similar, for all students. In this paper, we aim to highlight the danger of ignoring the variation in the threshold concept framework and emphasise the potential usefulness of unexpected transformations as part of a knowledge creation process. In addition, we raise the question of our awareness of what ways of thinking, practising and being we are privileging in our identification and reinforcement of disciplinary threshold concepts and transformations. As a consequence of these discussions, we hope to remind the reader of the original assertion that threshold concepts are always epistemologically informed and are not universal or static entities, but rather they are provisional, contestable, and situated.

Keywords: threshold concepts; postliminal variation; knowledge creation; knowledge legitimisation; higher education

Introduction

The *Threshold Concepts Framework* (TCF) and its associated characteristic features, proposed by Meyer and Land (2003, 2005), have been criticised for being too fluid (Rowbottom, 2007; O'Donnell, 2010; Barradell and Fortune, 2019), as they do not specify to what extent a concept must fulfil those characteristics to be considered a threshold concept. In addition, when researchers have worked to identify threshold concepts within disciplines, they have used a wide range of methodologies and frequently focused on particular aspects of the framework rather than the framework in its entirety (Barradell, 2013; Quinlan et al., 2013). Researchers have given prominence to a consideration of the troublesome, irreversible and transformative characteristics of the framework, with a multitude of papers exploring these characteristics, but we know considerably less about the integrative and bounded nature of threshold concepts and even less about the liminal space (Land et al., 2014; Felten, 2016; Rattray, 2016). This, it is argued, is partly due to the imprecise and flexible framing of the original ideas (Irvine and Carmichael, 2009). Whilst Land et al. (2016) have defended their treatment of threshold concepts as a framework that is flexible rather than a set of criteria to be fulfilled, arguing that it has more utility this way, it has left the framework open to interpretation by others potentially resulting in a varied treatment of the ideas both methodologically and conceptually.

The key exception to this flexibility is the *transformative* nature of TC, which has been characterised as non-negotiable (Baillie et al., 2013; Land et al., 2016; Timmermans and Meyer, 2017). The potential transformation that the learner will experience as a consequence of mastering the threshold concept and reaching the 'postliminal state' is an essential property of a threshold concept. Whilst it has been argued that every learning experience involves a kind of change (Rowbottom, 2007), threshold transformations

require both an epistemological and ontological shift in the individual. The learner must experience an irreversible change in the way they see the discipline and even the world to be considered to have undergone a threshold transformation.

As Timmermans (2010) argues, these transitional moments of transformation located within the liminal space are the aspect of the TCF that remains more nebulous. Understanding them, however, is crucial to improving our understanding of the experience of mastering a threshold concept. In their seminal work, Meyer and Land (2003, 2005) claim that there is potential variation in the way that the learner encounters the threshold concept, crosses the liminal space, and is transformed. Under this perspective, it is obvious that different types of transformation can arise from the same threshold concept. This is what in threshold concepts literature has been called *postliminal variation* (Land et al., 2005; Meyer et al., 2008; Land and Meyer, 2010).

However, in the extensive published literature on threshold concepts, we find many cases in which its practical application has been utilised in a reductionist way, ignoring or omitting said variation, and treating the threshold concepts as if they had a predetermined process, being the same, or very similar, for all students. In a recent review of literature related to threshold crossing measurement, Nicola-Richmond et al. (2017) found that there are many studies that address the measurement and evaluation of threshold crossing as a matter of acquisition, in a very binary way. In their review, we can find a list of some works that focus on crossing the threshold rather than looking for a postliminal variation (e.g., Cope and Staehr, 2008; Gogan, 2013; Lloyd and Frith, 2013). In this sense, some researchers or scholars only recognise, consider, and accept as valid a particular conception or meaning of a given threshold concept. As we will argue later, issues of knowledge privilege, power and hierarchy are strongly related.

Another related concern is the immanence of threshold concepts that underpins their identification process. Morgan (2015) warns us of the danger of thinking of threshold concepts as something immanently identifiable across disciplines, independent of human meaning-making, rather than negotiated entities. This concern was expressed by Meyer and Land (2003:10), who said that "threshold concepts might be interpreted as a part of a *totalising* or colonising view of curriculum […] and exert a *normalising* function in the Foucauldian sense", but it has not been further explored (Rickkets, 2010). The implied universality of threshold concepts research is dangerous, because it presupposes the existence of only one correct or legitimate way of thinking and practising within disciplines and minimises the idea that "threshold concepts are always epistemologically informed, which is why they are theorised as provisional, contestable, and culturally situated" (Cousin, 2008:263). Moreover, it reinforces the binary approach to threshold crossing measurement and can discourage knowledge creation by not acknowledging unexpected transformations.

In this sense, we aim to revisit the notion of *postliminal variation* (Meyer et al., 2008), paying attention to the issues of unexpected transformations and their legitimisation. In making these arguments, we want to highlight the danger of ignoring the variation in threshold concept mastery and emphasise the potential usefulness of unexpected transformations as part of a knowledge creation process. In so doing we also raise the question of our awareness of what ways of thinking, practising and being we are privileging in our identification and reinforcement of disciplinary threshold concepts and transformations. As a consequence of these discussions, we hope to remind the reader of the original assumption that threshold concepts are always epistemologically informed and are not universal or static entities, but rather they are provisional, contestable, and situated (Cousin, 2008).

The role of variation in the Threshold Concept Framework

The issue of *variation* in the different phases of the TCF is a recurrent topic in the existent literature (Meyer and Land, 2005, Land et al., 2005; Meyer and Land, 2006; Meyer et al., Davies 2008; Land and Meyer, 2010; Pang and Meyer, 2010; Timmermans, 2010; Mohammed et al., 2014; Nicola-Richmond et al., 2018). In general terms, we find inter-individual variations in all stages of the framework (Meyer et al., 2008): subliminal variation, preliminal variation, liminal variation and post-liminal variation. All are closely related to each other; the variation in one stage inevitably influences the variation in other stages of threshold mastery.

Preliminal variation is the most explored and accepted dimension of variation in the TCF. It has been used to explain why some learners approach and successfully engage with threshold concepts and others do not (Meyer and Land 2005). Preliminal variation can be defined as the "variation in how the portal initially 'comes into view', that is, how it is initially perceived or apprehended, and with what mindset it may therefore be approached or withdrawn from" (Meyer et al., 2008:68). It is rooted in the socio-constructivist notion that knowledge is actively constructed by the learner based on their prior knowledge and experience and bounded by the situation. As an example, it may be useful to see how preliminal variation occurs in the frequently cited case of opportunity cost in economics (Meyer and Land, 2003; Reimman and Jackson, 2006; Shanahan and Meyer, 2006; Davies and Mangan, 2007):

> A learner, for example, may be comfortable in terms of everyday experience with the basic ideas that choice involves sacrifice, and that the value placed on the sacrifice represents a way of comparing choices (in terms of what has been 'given up'). Such a learner may embrace the definition of opportunity cost (an identified threshold concept in economics) as simply a comfortable formalization of something already experienced that now has a precise and unambiguous meaning. But to a

> learner without a tacit understanding of choice and sacrifice the definition may be counterintuitive and alien. (Meyer et al., 2008:69)

There are multiple factors that influence preliminal variation, both cognitive and affective. On the cognitive side, we know that knowledge-construction is based on prior knowledge (Ausubel, 1963) and that differences in prior knowledge will necessitate different ways in which the threshold comes into view. In addition, we also know, from theories of conceptual change (Vosniadou, 2013; Amin and Levrini, 2018), that the existence of preconceptions, or even the lack of them, can change the way that learners encounter and engage with new concepts. In that sense, alien or counter-intuitive knowledge can be especially troublesome (Perkins, 2006). On the affective side, we know that a number of key factors influence both the way and extent to which learners will engage with new ideas and concepts, such as motivation, metacognitive capacity, resilience, emotional capital or psychological capital (Cousin, 2006; Efklides, 2006; Rattray, 2016; Timmermans and Meyer, 2020). We acknowledge that this is not a complete list of the factors that could influence preliminal variation, as there are other macro and micro factors involved, such as the institutional context (Kinchin, 2017) or the learning environment (Robbins and Aydede, 2008).

Liminal variation is the variation related to the liminal space; it has been less explored because inquiry relating to the liminal process presents a difficult task methodologically. Liminal variation can be defined as the "variation in how the portal, that is the liminal space itself, is entered, occupied, negotiated and made sense of, passed through or not" (Meyer et al., 2008:68). There is no universal path to travel through the liminal space, due to the range of preliminal variation, the fluidity of the liminal space, its recursive and oscillating nature, and its affective and emotional dimensions. Land and Meyer (2010)

argue that we should talk about *liminal dynamics* rather than liminal variation at this stage of the framework, so as not to reduce the emergent and dynamic nature of liminality.

A good example to illustrate the dynamic nature of liminality is the oscillation that learners usually experience within the liminal space, well explained in an interview with a student of computer science: "It was clear to me, it just seemed like while I was in the thick of it I would forget" (Thomas et al., 2010:244). Similarly a student of linguistics reflected on the liminal space noting the fleeting glimpses of the threshold that they initially had: "I understood the concept for about let's say 10 seconds, yes yes, I got that and then suddenly, no no, I didn't get that, you know, suddenly, like this." (Orsini-Jones, 2006, cited in Cousin, 2010:3).

Postliminal variation is related to the outcomes of transformation and could explain the different kinds of transformation that may arise from encounters with the same threshold concept. Postliminal variation has been defined as the "variation in the point and state of exit into a new conceptual space, and the epistemological and ontological terrain encountered from that point onwards" (Meyer et al., 2008:68). This last dimension of variation has been explored less, perhaps due to methodological issues and the way in which disciplinary knowledge is developed and privileged and a tendency in education to treat knowledge in a very binary way, particularly on the part of learners who are often pre-occupied with the identification of the *right* answer, interpretation or theoretical explanation (Shepperd, 1997; Delucchi and Korgen, 2002; Regan, 2012), which could lead them to respond with mimicry (Meyer and Land, 2003, 2005). In addition, it is potentially difficult to identify different transformations from those expected by teachers, especially those who have crossed the threshold long ago and accept as valid one (or maybe two) conceptions of the threshold concept. We argue that the irreversibility of

threshold concepts can limit the perception and identification of postliminal variation and other possible transformations, both in teaching and research contexts.

Transformation is not only a process of acquiring new knowledge, but it is also a process of reconfiguration of one's own subjectivity (Meyer and Land, 2005). Learners experience a change in their way of perceiving, understanding and feeling about the world. This process of change is informed by the learner's initial subjectivity, meaning frameworks, beliefs and ways of reasoning. For that reason, in the same way that learners enter the liminal space from a slightly different place and travel through it using different paths, the outcomes of the transformation process are also influenced by that previous preliminal variation. Therefore, even in cases where the transformation is practically identical, we are aware that it is very difficult to find an identical transformation.

In the large body of work published on Threshold Concepts there are clear examples of post-liminal variation, where we can observe that learners experience different kinds of transformations when mastering the same threshold concept. For example, Kabo and Baillie (2009) identified seven different conceptions of 'social justice' that were held by engineering students following engagement with social justice as a threshold concept (as well as non-understanding and partial understanding, as a result of not mastering the threshold and being stuck in the liminal space, which cannot be considered a kind of transformation): (1) Social justice as charity; (2) Social justice as duty and responsibility; (3) Social justice as telling people what to do or 'trustee care'; (4) Social justice as taking action for change; (5) Social justice as being responsible; (6) Social justice as a participatory undertaking; (7) Social justice as a lens for deconstruction and critical analysis. To illustrate the post-liminal variation observed by Kabo and Baillie (2009) it may be useful to consider two different answers given by students in their study. The first considers social justice as charity and, therefore, focuses on the act of giving:

> What's social justice? I'd probably say charity. Like giving money and just, I don't know, helping out the poor person, walking by throw them two bucks, that's social justice. (Kabo and Baillie, 2009:310)

The second considers social justice as a participatory undertaking and, therefore, focuses on the need for collaboration:

> You realize that social justice can't come from one and it has to, it's a dynamic process where you have to communicate with people. […] collaborating with different people and their ideas to synthesize all these ideas and to make sure that you know whatever practice you are doing everyone benefits. (Kabo and Baillie, 2009:311)

These two conceptions arise from the encounter with the same threshold concept in the same discipline, but result in wide postliminal variation, because of different transformatory experiences. The key point is that both conceptions (in fact, all seven conceptions) of this threshold concept are acceptable transformations and occur when the learner crosses the threshold, but just in a different way. As we will argue later, no one is better than another, there is no single true way to master a threshold concept; but their recognition and validation is a matter of perspective based on the legitimate knowledge that prevails in a particular disciplinary context or community of practice (Lave and Wenger, 1991; Wenger, 1998).

Degree of postliminal variation

Each person experiences the transformation process in a personal way and, therefore, elaborates a particular conception of the threshold concept. However, most conceptions maintain a central element, which is generally shared by all the members of the same community of practice, or discipline, and allows them to establish and maintain shared meanings and think and practise collectively through them – which forms part of the

shared repertoire of a community of practice (Wenger, 1998). On the other hand, there are dimensions of the concept, less central, that are more likely to be experienced in a varied way, and that necessitate that individual learners understand a threshold concept in a personal and particular manner.

We argue that there are certain threshold concepts that are more or less bounded depending on the epistemic nature of their discipline; so, in some cases, potentially the range of possible transformations are broader than in others.

Engagement with threshold concepts is both a cognitive and affective process (Cousin, 2006; Rattray, 2016), as they cause both epistemological and ontological transformations. In this sense, all threshold concepts have a cognitive and affective element, but perhaps to varying degrees. We argue that the degree of affect associated with the threshold may influence the extent of the post liminal variation that is possible and the range of ontological transformations that might arise. Considering this, if the threshold concepts of a discipline are highly affective, they will have a postliminal variation potentially greater than those that are arguably more cognitive in nature. Also, threshold concepts that are deeply rooted in sociocultural, political or ideological beliefs or are highly subjective present a broader range of possible transformations. This is in part due to the fact that beliefs have both a cognitive and an affective nature. In the same line, we argue that the degree of postliminal variation is strongly related to the knowledge structure of disciplines. Following Bernstein's notion of hierarchical and horizontal knowledge structures (Bernstein, 1999), we argue that threshold concepts belonging to disciplines with a hierarchical structure (such as mathematics or chemistry) present less postliminal variation, due to the integrative nature of knowledge creation over the cumulative nature of horizontal disciplines (such as sociology or anthropology). However, we acknowledge that this distinction, while useful, can also be reductionist or problematic; but it is a good

place to start exploring the differences between disciplines, although it certainly requires a deeper study and a more detailed and complex classification.

The conceptions that learners develop following threshold transformation in disciplines such as physics or mathematics may have a smaller range of possible postliminal variation. That is, the conceptions developed after threshold mastery maintain a more stable and shared central meaning, while the non-central dimensions present a low range of variation. On the other hand, the conceptions that learners develop following threshold mastery and associated transformations in other disciplines such as cultural studies or law, have a wider variety of postliminal variation. That is, the conceptions developed in these cases maintain a less stable and shared central meaning, while the non-central dimensions present a greater range of variation.

If we return to our earlier example of social justice in engineering (Kabo and Baillie, 2009), we can argue that the seven different conceptions of social justice reported by these authors have a central component relating to the sense of social justice, but differ in the way it is applied in practice; these differences are related to the non-central dimensions of the concept. So, the central component is the need to fairly distribute wealth, opportunities and privileges within a society, and the non-central dimensions are related to how it is materialized in practice (as charity, as duty and responsibility, as taking action for change, etc.). In this sense, all post-liminal variations of social justice shared the same central concern, the equitable distribution of resources among society.

A second example comes from cultural studies where *otherness*, which is particularly related to "issues of difference, representation and identity", has been identified as a threshold concept (Cousin, 2006:134). *Otherness* has a strong affective nature in its meaning, and it is also deeply rooted in politics and sociocultural beliefs. It has been characterised as a very troublesome concept because the learner needs to reformulate their

own subjectivity or rethink their own biography and experiences. That is why when learners are exposed to this threshold concept, they adopt multiple positions (Cousin, 2006). Some of the typical positions are: (1) The spectator or voyeur learner, who looks at it from a distance, without getting involved; (2) The auto-defender learner, who is resistant and presents a hostile opposition to the concept; (3) The victim-identified learner, who is ready and willing to be transformed but more through conversion than through critical engagement, which sometimes leads to an over-identification; and (4) The self-reflective learner, who reads reality and themselves with the new lenses, allowing a critical repositioning of their subjectivity. These different positions end up causing large variations in the transformation process (postliminal variation).

The lack of definition consensus or boundedness of some threshold concepts not only adds complexity to the transformation process, but also to the process of threshold concept identification: "Threshold concepts would seem to be more readily identified within disciplinary contexts where there is a relatively greater degree of consensus on what constitutes a body of knowledge" (Meyer and Land, 2003:9). We argue that consensus on the disciplinary body of knowledge is related to the amount of postliminal variation associated with the disciplinary threshold concepts; the greater the postliminal variation within a discipline, the less consensus there is on what constitutes their body of knowledge. Therefore, in the same sense that the complexity of identifying the threshold concepts of certain disciplines is greater, due to their lack of consensus, we can also affirm that there are disciplines with a greater potential for postliminal variation than others. These disciplines or disciplinary subsets of threshold concepts tend to have a high affective nature. That is why, perhaps, certain authors have pointed out that the identification process of threshold concepts in social science is more complex than other branches of knowledge (Meyer and Land, 2003, 2006).

Unexpected transformations – knowledge creation and legitimisation

Some learners may experience different transformations that bring about unanticipated ways of viewing the discipline or understanding the threshold concept. These kinds of transformations potentially give rise to postliminal variation not only in the non-central dimensions, but also in the central meaning of the threshold concept, the one shared and accepted by the members of the community of practice in which the learner is operating or intends to enter.

These kinds of transformations may not be expected by teachers, who have already entered the community of practice and have accepted as valid a meaning of the threshold concept that differs to the one held by the learner. We argue that potentially, these 'unexpected transformations' are questioned as non-valid and discarded by teachers and the members of the community of practice because they are not aligned with their shared frame of meaning. They usually consider that there is only one (or maybe two) valid transformations. Issues of knowledge privilege, power and hierarchy are strongly related. In that sense, Ricketts (2010:48) reminds us that "disciplines appear to be demanding of an unquestioned acceptance of a contingent perspective as a precondition to success in the discipline". For example, in legal education, students must assume the legitimacy of a centralised legal authority and the view of law as a useful tool for social stability, to be successful academically, except in critical legal education (Ricketts, 2010).

If the learner does not develop a conception aligned with the one shared by the community of practice that they intend to join, they may have difficulties being accepted into it, or to pass the course. That is the reason why some learners end up developing hybrid conceptions of threshold concepts where the learner holds two conceptions simultaneously, the unexpected and the accepted or legitimised. In these cases, the learner is in an ambivalent position: "producing an *other* that does have the required *knowledge* and can now be seen as a legitimate member of the community (Bhabbha, 1994) but lacks

the self-conviction of being a member of the communitas (Turner, 1969)" (Mohammed et al., 2016). The case of military officer education is a good illustrative example, there are some military cadets who hold a hybrid disposition, they do not relinquish their opposition to the harsh treatment of military training, but suppress and occlude it, remaining loyal to the community; however, in the future as officers, this hybridity will led them to change the training methods and reinvent the military code of honour (Mohammed et al., 2016).

These alternative conceptions, with substantial differences in the central part of the threshold concept, allow disciplines to move forward, questioning some widely accepted postulates. Such alternative visions have the potential to cause a real change in disciplines, a paradigm shift (Kuhn, 1962); it is not only the learner who is transformed, but also the threshold concept itself. In other words, if the transformations were always the same, knowledge (and the disciplines themselves) would not evolve. This type of learning is not about knowledge acquisition or social participation, but rather implies a trialogical approach based on knowledge creation (Paavola and Hakkarainen, 2005). The emphasis of this trialogical approach is not only on how individuals acquire or construct knowledge, or how newcomers become members of a community of practice through social participation (Lave and Wenger, 1991), but on how people collaboratively create new knowledge or change pre-existing knowledge. In fact, this approach focuses on the processes of epistemological evolution.

The case of general relativity in Physics serves as an example of how an unexpected transformation can lead to a knowledge creation process:

> General relativity is a key threshold concept in Physics. Einstein, in this instance, was not traversing a threshold already in existence, he was creating the threshold, and perhaps to a certain extent creating his own liminality. It is feasible that this form of liminality may be quite common to the process of conducting fundamental

> research, which creates new thresholds rather than extending or elaborating the domains (boundedness) of existing ones. (Meyer and Land, 2006:25)

The creation of new threshold concepts or conceptions of them, on some occasions, can end up forming new schools of thought inside disciplines that question certain accepted and legitimised knowledge and practices. This is what Kuhn (1962) called a *paradigm shift*. Transition from individual transformation to community transformation (or disciplinary transformation) is not easy. To transform the ways of thinking and practising of the community itself, without causing a real split, it is generally necessary that the alternative vision be sustained by one or more well-established members of the community and not by neophytes, who do not have enough control over the shared meaning of the community (Wenger, 1998:244): "Participants may have varying degrees of control over the meanings produced by a community and, therefore, different capacities to use and modify them". An interesting case of an unexpected transformation that led to the creation of a new threshold concept or paradigm shift is when British Cultural Studies split from English Literature due to the idea that all texts could be susceptible to serious semiotic analysis (Turner, 1990); under this new view, teen magazines or advertisements can be the subject of semiotic analysis, as well as Shakespearean plays.

At this point, we should ask ourselves to what extent, when we consider that a learner is getting stuck, but in reality they are experiencing an unexpected transformation, we are stifling their own personal transformation process and limiting new expressions and currents of thought that potentially could allow for an evolution of the disciplinary knowledge. On the contrary, the opposing question takes shape: to what extent should we allow or accept as valid certain conceptions about a threshold concept? Especially, when these conceptions violate ethical principles or are significantly contradictory to most of the postulates accepted by the community. Therefore, when a learner reaches an

unexpected conception of the threshold concept, particularly one that is highly problematic in some sense —issues of safety in medicine for example—, should we as teachers push them to construct a meaning more in accordance with the accepted one? It is also worth pointing out that we are not arguing that any understanding or representation of a threshold concept is acceptable but rather that we might need to open ourselves up to the possibility of greater postliminal variation than we do at present.

Conclusions

The transformative nature of threshold concepts, which have been characterised as non-negotiable, requires further inquiry to understand it better, since it is a key feature of the liminal space. The notion of postliminal variation appeared in the seminal papers, defined as the "variation in the point and state of exit into a new conceptual space, and the epistemological and ontological terrain encountered from that point onwards" (Meyer et al., 2008:68). It has not been fully developed or explored, unlike preliminal variation, but we find it interesting and useful to challenge the tacit idea that there is only one exit point from the liminal space. It also invites us to consider that different types of transformation can arise from encounters with the same threshold concept. However, in the extensive published literature on threshold concepts, we find many cases in which its practical application has been utilised in a reductionist way, ignoring or omitting said variation, and treating the threshold concepts as if they had a predetermined process, being the same, or very similar, for all students.

We argue that there is a need for more research exploring postliminal variation and the range of transformations that might be possible across disciplines. A primary concern is that, in some cases, we are not even able to identify all the transformations that can arise from a threshold concept, because some of them are unexpected. In this sense, we tend to overclassify these unexpected transformations as stuckness and not as true

transformations. Cultivating a more sensitive attitude towards alternative conceptions of threshold concepts can help us as teachers and researchers to identify them, but it is also necessary to develop specific methodological forms of inquiry to explore postliminal variation in depth (and its relationship with the dynamics of liminality).

We have argued that unexpected transformations are potentially important, especially those that present variations in the central meaning of the threshold concept, because they can produce an evolution of the disciplinary body of knowledge. This opens a new challenge related to when we should allow or accept as valid certain unexpected transformations and when we must confront them. Indeed, the issue of legitimisation in threshold concepts needs further thought, partly due to its strong relationship to critical thinking (and with critical pedagogy in general): 'The challenge for educators, is to decide whether education should be openly self-critical even of its own discipline or simply impose closed intellectual and value systems upon its students" (Ricketts, 2010:59). In this sense, we must avoid using the TCF in a way that limits the critical thinking and creativity of learners.

Finally, our focus on postliminal variation leads us to a strengthening of the original assumption that threshold concepts are always epistemologically informed and are not universal or static entities, but rather they are provisional, contestable, and situated (Cousin, 2008). Postliminal variation only makes sense if threshold concepts are not universal or static entities. We claim that threshold concepts evolve over time and have a situated dimension that makes their meaning vary according to the context, not only personal but also sociocultural. This situated and dynamic approach to threshold concepts is what justifies the existence of varied and unexpected transformations. In short, we argue that the threshold concepts of today are unlikely to be the threshold concepts of tomorrow. In addition, different conceptions of a threshold concept can coexist at the

same time in different communities of practice within the same discipline because of their situated nature, e.g. the concept of *recovery* has a different meaning for mental health nurses as compared to other nurses or health care professionals (Watson, 2019). In this sense, we need to reflect and delve into the situated nature of threshold concepts, which provides us with a new perspective to consider the framework, but also opens up new questions that will need further exploration.

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