Phronesis

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Travailler avec les émotions pour découvrir des hypothèses problématiques. Développer une théorie de la pratique

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Résumé de l'article

Les liens entre les aspects de la cognition et des émotions d'une part et entre l'esprit et le corps d'autre part ont été bien expliqués par les neurosciences. Les praticiens de la réflexion critique et des processus de l'apprentissage transformateurs dans le domaine de l'éducation des adultes ont bien saisi cette compréhension plus holistique de la nature humaine, d'une façon autant empirique qu'intuitive. Cependant, la théorie-clé dans ce domaine (la théorie de l'apprentissage transformateur de Mezirow), a fait l'objet de critiques quant à son intérêt pour les aspects rationnels et cognitifs de l'apprentissage. Mais peu de travaux ont étudié les dimensions émotionnelles et sociales de l'apprentissage transformateur.. De même, la conceptualisation des processus de réflexion semble relever davantagede la sophia que de la phronèsis. Cela conduit à considérer cette théorie d'un point de vue idéaliste. Cet article propose une réflexion théorique fondée sur l'analyse de la théorie de Mezirow et sur la compréhension des processus de conceptualisation de la réflexion en mobilisant les connaissances issues des neurosciences. La théorie présentée explique comment la cognition et les émotions sont étroitement liées dans les processus de réflexion. De plus, cette article propose une base conceptuelle et des outils à l'usage de praticiens souhaitant mobiliser la théorie de l'apprentissage transformateur.

Working with Edge Emotions as a means for Uncovering Problematic Assumptions: Developing a practically sound theory

Kaisu MÄLKKI* & Larry GREEN**

*University of Tampere, Finland
kaisu.malkki@uta.fi

**City University of Seattle, Canada
genero@telus.net

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Abstract : *The connection between cognition and emotion, and between mind and body, has been well documented by neuroscience. The adult education practitioners of critical reflection and transformative learning processes have understood this more holistic understanding of human nature both empirically and intuitively. However, the key theory of the field, Jack Mezirow's theory of transformative learning, has been given consistent criticism on its focus on rational and cognitive aspects of learning while understating its emotional and social aspects. Similarly, the conceptualization of the processes of reflection appears more appropriate to sophia than for phronesis. This, as is argued in the paper, leaves the theory rather idealistic while lacking understanding of the prerequisites for, and actualities of reflection. This paper presents a recent theoretical development that is both grounded in the analysis of Mezirow's theory as well as extending and elaborating the theorization of reflection, by utilizing the insights from neuroscience. The presented theory explicates how cognition and emotion are intertwined in the processes of reflection. Further, the theory offers conceptual basis for further research and practice regarding reflection and transformative learning, not only showing the ideals, but offering conceptual tools to work with the challenges of reflection as well.*

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Résumé : *Les liens entre les aspects de la cognition et des émotions d'une part et entre l'esprit et le corps d'autre part ont été bien expliqués par les neurosciences. Les praticiens de la réflexion critique et des processus de l'apprentissage transformateurs dans le domaine de l'éducation des adultes ont bien saisi cette compréhension plus holistique de la nature humaine, d'une façon autant empirique qu'intuitive. Cependant, la théorie-clé dans ce domaine (la théorie de l'apprentissage transformateur de Mezirow), a fait l'objet de critiques quant à son intérêt pour les aspects rationnels et cognitifs de l'apprentissage. Mais peu de travaux ont étudié les dimensions émotionnelles et sociales de l'apprentissage transformateur.. De même, la conceptualisation des processus de réflexion semble relever davantage de la sophia que de la phronèsis. Cela conduit à considérer cette théorie d'un point de vue idéaliste. Cet article propose une réflexion théorique fondée sur l'analyse de la théorie de Mezirow et sur la compréhension des processus de conceptualisation de la réflexion en mobilisant les connaissances issues des neurosciences. La théorie présentée explique comment la cognition et les émotions sont étroitement liées dans les processus de réflexion. De plus, cette article propose une base conceptuelle et des outils à l'usage de praticiens souhaitant mobiliser la théorie de l'apprentissage transformateur.*

Introduction

Jack Mezirow's theory of transformative learning has, for the past decades, been a key theory of adult learning regarding the functioning of critical reflection in the transformative process. However, the theory has been given consistent criticism on its focus on rational and cognitive aspects of learning while understating its emotional and social aspects. Similarly, the conceptualization of the processes of reflection appears more appropriate to sophia than for phronesis. This, as is argued in the paper, leaves the theory rather idealistic while lacking understanding of the prerequisites for, and actualities of reflection. This paper presents a recent theoretical development that is both grounded in the analysis of Mezirow's theory as well as extending and elaborating the theorization of reflection. It makes the claim that both cognition and emotion are intertwined in the processes of reflection. In neuroscience, the connection between emotion and cognition more generally, is well documented. In this study, these understandings are brought into dialogue with the analysis of Mezirow's theory, in order to theorize reflection in a manner that not only shows the ideals but offers conceptual tools to work with the challenges of reflection as well.

The presented conceptualization is based on an earlier research by the first author (Mälkki 2010; 2011; 2019) and has been developed further in collaboration with the second (Beard & Mälkki, 2013; Mälkki & Green, 2014; Mälkki & Green, 2016a, 2016b, 2016c). The bases for this conceptualization are a result of a critical analysis of both Mezirow's (e.g., 1981; 1991; 2000; 2009) transformative learning theory and Damasio's (e.g. 1999; 2010) neurobiological theory on consciousness and emotions. Additional support is provided by empirical analyses both within educational setting (Mälkki & Lindblom-Ylänne, 2012) and when undergoing a real-life crisis (Mälkki, 2012).

While the focus of this paper will be on developing the theory of reflection further from the bases of Mezirow's (e.g., 1981; 1991; 2000) conceptualization, its significance arises from the wider stance regarding reflection in the field of adult and higher education. Namely, while the notion of reflection has been widely used as an educational concept across wide variety of programs and courses on adult and higher education, the case for reflection is far from being closed. Rather, underneath the tempting and promising image of the concept, there exist various pedagogical, theoretical, methodological problems that need further exploration and explication.

Reflection is often seen as an educational tool that is assumed to bring in its wake rather profound results: transformation, empowerment, development of teaching expertise, leadership skills, higher order thinking skills, democratic learning communities, are often mentioned as benefits resulting from reflection (e.g. Bleakley, 1999; Boud & Walker, 1998; Brookfield 2006; Fisher, 2003; Kreber, 2005; McAlpine et al, 1999; Morgan, 2017; Schön, 1983). Such anticipated results are often used to justify promoting reflection in pedagogical practices. However, there are various critical voices that suggest that the whole idea of reflection is rather a pedagogical mantra devoid of content (Ecclestone, 1996; Procee, 2006). Furthermore, many claim that reflection actually produces only superficial pondering (e.g. Bleakley, 1999; Brookfield, 1994; Ecclestone, 1996; Kreber, 2004; Taylor, 2007). This criticism may indicate that the profound results of reflection exist only in theory. Taken the other way around, it may be seen that the theories and models that are used as basis for these applications, only focus on the ideals while lacking conceptualized understanding concerning the processes and challenges of reflection. This neglects the viewpoint noted by Illeris (2007), that the theories of learning should not only talk of the ideals but also why the intended learning does not occur (see also Malinen, 2000). That is, to be considered as practical wisdom (phronesis), evaluation of reflective practices should focus on results as well as intentions. From this perspective, the problems in the pedagogical sphere seem to be a result of the limited scope of the theories of reflection, in offering understanding of the actualities of reflection.

In fact, within the research on transformative learning there is empirical research suggesting that there are emotional and social aspects to it that complicate the cognitive aspects depicted in the both Mezirow's work and in other popular theories and models of reflection (see e.g. Taylor, 1997; 2000; 2007; 2008; Mälkki, 2011). While these studies in themselves show Mezirow's theory being limited in these regards, this discrepancy between the theory and empirical findings has not been utilized in

developing the theory further (Mälkki, 2011). In that sense it appears that the social and emotional aspects of reflection have, hitherto, existed only in practice, not in theory.

The issue of theoretical debate and elaborations being limited may not only be a problem for the theorization of reflection but may represent the state of educational research more generally (see Mälkki, 2011; Illeris, 2007; Peltonen, 2009). When the theoretical bases are left unexamined, it can result in the stagnation of knowledge via the process of reification that unquestionably accepts "conventional wisdom" or superficial interpretations of the theories, with regards to empirical research and practical applications (see e.g. Hoggan et al, 2017).

Theoretical inquiry has not been totally absent, however. There are scholars who have presented their own definitions of reflection as well as categorizations concerning the levels, contents or types of reflection (e.g., Kreber & Castleden, 2009; McAlpine & Weston, 2000; McAlpine et al., 1999; Moon, 2004). From a methodological perspective, they, however, often fail to situate their contributions to previous theorizations and philosophical bases. In consequence, the new definitions of reflection tend to aggregate as overlapping conceptualizations while not explicating how they relate to each other, nor how they contribute to earlier research (see also Bleakley, 1999; Mezirow, 2007). While these definitions reveal the varying ways in which reflection may manifest itself, they do not, as such, offer information why the results often don't match the expectations. When these difficulties are not acknowledged there is little attention paid to the process of application that might reveal how they may be surpassed.

From these starting points, our study originated from the analysis of Mezirow's conceptualization of reflection. His view offers one of the most sophisticated conceptualization on reflection, within a broader frame of adult learning theory. Furthermore, it has been tested empirically in a number of studies thus anchoring our conceptual analysis into an empirical ground. In the following we will briefly outline the developed theorization with regard to cognitive and emotional dimensions only. The social dimension of the theorization is not considered here but can be found in our other publications (Mälkki 2011; Mälkki & Green, 2014; Mälkki & Green, 2016a; 2016b; 2016c).

Theorizing the challenges of reflection

Our paper has a dual purpose that may appear paradoxical. On the one hand we wish to articulate the micro-processes of reflection that have been lacking in previous theorizing while on the other we wish those elaborations to display a coherency with what has already been developed by Mezirow. However, while it appeared that Mezirow had not explicitly considered this issue in his theory, it is not to say that his theory would not have an implicit orientation to reflection that might prove useful. In the following we will attempt to show what is implied but not stated in Mezirow's theory. Thus, we will attempt to carry forward or develop the theory in a way that would enable successful pedagogical practices.

The omissions of Mezirow's theory as the seeds for theory development

The analysis of Mezirow's theory started with an orienting question: why is reflection challenging, or difficult to actualize in practice? More specifically, the methods of rational reconstruction (Davia, 1998; Peltonen, 2009; Hannus & Simola, 2010; Rorty, 1984) and conceptual analysis (see Holma, 2009; 2010; Kakkuri-Knuuttila, 2007; Ruitenberg, 2010) were applied, in aiming to locate both the most fruitful elements of the theory as well as its limitations, with regard to that question. As a result of this analysis, essential perceptions were identified that were used as basis for further analysis and conceptual development. The first one concerns the relations between two central concepts of Mezirow's theory, namely, meaning perspective and reflection. In essence, these concepts appeared to be in contradiction with each other, as is argued in the following:

Mezirow's use of the concept of meaning perspective indicates that meaning perspectives, those socially formed meaning structures, basically offer us a coherent and continuous understanding of the present situation within the light of our previous understandings and experiences (e.g., Mezirow, 1991; 2000). This filtering role of meaning perspective provides us the continuity between past and present and future expectations. This is needed in order to form meaningful interpretations of the current situation, and to be able to make meaning of our experience in general (see e.g. Mezirow, 2000, p.3).

Meaning perspective thus provides us with the tools that we need to be able to make sense of our experience and form coherent understanding of what happens within us as well as our interactions with our situation. Thus, it is an embodiment of practical wisdom. In contrast, reflection appears as a process that is characterized by very oppositional ambitions (see Mälkki 2010;

2011). Namely, reflection aims at becoming aware and questioning those self-evident assumptions that we use in governing our thinking, feeling and actions (see e.g. Mezirow 1981; 1991; 2000; 2009). This forms a conceptual contradiction: while the automatic filtering provided by meaning perspective provides us the very tools to make sense of our experience, reflection aims to interrupt this very tendency. It aims to bring into view that which is taken for granted in this orienting function of meaning perspective. Thus, meaning perspective is not a mere passive compilation of assumptions awaiting to be reflected on, but it is a frame of reference with a fundamental function in providing us the method for understanding in the first place. In consequence, there are two sets of contradicting intentions taking place when meaning perspective and reflection are included within the same framework, creating problematic tensions for each (see Mälkki 2010; 2011). It indicates that already within Mezirow's theory there are – whether Mezirow intended it so or not – factors that imply that reflection is not necessarily easy to carry out.

Furthermore, Mezirow's theory has been often criticized for neglecting the emotional and social aspects of transformative learning and reflection (see e.g. Clark & Wilson, 1991; Illeris, 2004; Jokikokko, 2009; Mezirow, 2009; Taylor, 2000; 2007). However, the emotional dimension is implied in several instances. Most importantly from the viewpoint of challenges to reflection, it appeared that anxiety and threat of chaos appear in cases where meaning making has not (yet) been accomplished. This suggests that the role of emotions may be significant in terms of the challenges it poses for the process of reflection.

The emotional dimension

Since the indications of emotions were not considered more deliberately in Mezirow's theory, the nature of emotions, their origins, dynamics and characteristics remain unclear. Therefore Damasio's (e.g., 1999; 2010) theory concerning understanding of emotions and consciousness was taken under closer examination. Based on neurological research, Damasio offers basic understanding of the nature and functions of emotions. According to Damasio (1999), the basic function of emotions is to motivate and produce the reactions necessary for survival. That is, based on emotions we are automatically oriented to fight or flight, in case of danger, and to search for safety. More generally, we use our emotions as indicators concerning the suitability of the environment. If we feel uneasy in our surroundings, we become concerned of what is wrong. Thus, the emotion, with its negative or positive experiential tones, prepares us for requisite action and directs our cognitive functions accordingly (Damasio 1999; 2010).

Furthermore, Damasio (e.g., 1999; 2010) explains how emotions have a fundamental role also in terms of consciousness. Based on brain research he shows how cognition and emotion are inseparable. In fact, without emotions, we would be able to carry out only the most logical tasks, the kind of which seldom faced in everyday life. Further, in his studies, the brain injured individuals that no longer experienced emotion was unable to make decisions in their best interest. Thus, it seems that emotions signal what is of personal, existential significance for us. Furthermore, according to Damasio (1999) consciousness enhances our possibilities for survival, as well, due to being able to plan, consider, anticipate and review previous experience.

While Damasio discusses the role of both emotions and consciousness in survival, he does not, however, consider the kind of threats that the structures of consciousness, i.e. meaning perspectives, may face (Mälkki, 2010). This viewpoint would, precisely, be important for considering the challenges and prerequisites of reflection. As we argued above, reflection is not only a tool for "developing" the meaning perspectives, but, as well, a threat to those basic functions that meaning perspectives take care of.

Bringing cognition and emotion together to trace the actualities of reflection

Damasio, similarly to Mezirow appeared to offer some elements of understanding needed for grasping the dynamics of reflection. However, precisely concerning the question of the challenges and prerequisites of reflection, neither theorist adequately addresses them. The theories of Mezirow and Damasio represent different fields of inquiry as well as theoretical and methodological positions. However, the most important issue, within the frame of this study, is their potential in offering some relevant explication concerning the phenomenon in question, i.e. the challenges of reflection (Mälkki, 2011; see also Trigg, 2001). Their views on the structures of consciousness, or meaning perspectives, appear coherent thus supporting our further conceptualization. At the same time, their discrepant aspects require close attention (Mälkki 2010; 2011).

Analyzing the elements of both Damasio's and Mezirow's theory together, so as to reach understanding of the prerequisites and challenges to reflection, gave rise to the new concepts of edge-emotions and comfort zone (Mälkki, 2010; 2011). Namely, comfort zone, as we define it based on the first author's research, refers to the experience of comfort when nothing questions our meaning perspectives. It provides us with a sense of ontological security; "I'm OK and my world is safe." That is, when

we are able to make meaning to our experiences within the light of our previous understanding. Thus, the comfort zone may be seen as the experiential dimension of the meaning perspectives. In contrast, the edge-emotions refer to those unpleasant feelings, e.g. anxiety, depression, and shame, that we feel when our meaning perspectives become questioned and our dearly held assumptions and premises become challenged (Mälkki 2010; 2011).

Our emotions often operate as an alarm system albeit on two different levels. On the one hand, through their negative and positive tones, emotions alert us to potential existential threats—an ontological matter. Furthermore, the emotions not only offer us information but motivate us for reactions as well, so as to avoid danger (Damasio, 1999). On the other hand, the emotional aspects of a disorienting dilemma inform us of threat or lack thereof with regards to our meaning perspectives—an epistemological matter (Mälkki, 2010; Mälkki & Green, 2014). Respectively, the edge-emotions, that arise at the edges of our comfort zones when our meaning perspectives become questioned, orient us to avoid the threat to our meaning perspectives (Mälkki, 2010). These reactions, in this case of reflection, refer to avoiding dealing with the questioned assumptions, or aiming to reframe in a way that the problem can be explained away.

In this way, the same emotions that function in favour of survival, also appear to function in favour of keeping the meaning perspectives intact. On the positive side this supports maintaining the coherent and consistent understanding of ourselves and the world: it prevents us from ending up in a chaos where we are unable to make meaning of our experience. On the negative side it makes it more probable that when faced with a disorienting dilemma (a challenge to our assumptions) we would be tempted to rationalize that challenge in order to maintain our meaning perspective, and to remain within the comfort zone.

From this perspective, the disorienting dilemma, which is often seen as the trigger for transformative learning and reflection, is first and foremost an emotional matter. When this occurs, we end up out of our comfort zones, and experience edge-emotions. To turn these dilemmas into learning events, would, then, require us working with these edge-emotions.

In fact, rather naturally, as we experience those unpleasant edge-emotions, we often wish to get rid of that unpleasantness, as soon as possible. As they feel unpleasant to us, we may, in consequence, regard them as something bad or shameful. However, we can utilize these edge-emotions by modifying our disposition and attitude towards them. In fact, the possibility of our coming to an understanding is greatly enhanced when we adopt a positive disposition toward these edge emotions. In the end, it is underneath those edge-emotions, where we can find those problematic assumptions that that have been challenged by the disorienting dilemma (see Mälkki 2010; 2011; 2012a; 2012b; Mälkki & Green, 2014).

To work with the edge-emotions, then, requires us to be (at ease) with the urge to act that is generated by the fight or flight –response (Mälkki, 2019). That is, what makes reflection challenging to actualize is that it requires us to work with our survival instinct: our embodied reactions push us to protect our comfort zones, thus bringing us the urge to act – against the intent to reflect. Instead, to proceed to reflection would require us to mindfully be with the urge, rather than act according to it. Thus it is not about forcefully pushing against the unpleasant emotions, as if deliberately "going out of the comfort zone". It is also not about mindlessly flowing with it into avoid dealing with the unpleasant issues. Rather it is about being there to mindfully recognize that we have such urge, such an unpleasant emotion. In this way we may move beyond the emotional reaction and thus gain access to perceiving what assumptions were questioned in the first place, to give rise to such reactions (Mälkki, 2019).

Conclusion

In this paper we have discussed a theorization that is based on analyzing Mezirow's theory and on developing the theory further by explicating and elaborating on its implicit content. Doing this work allows us to understand and work with the actualities of reflection—that is, it promotes the development of practical wisdom or phronesis. In our view this work is an example of the way Mezirow's ground-breaking theory can stimulate further research despite, or even because of, its limitations. No theory can address all that there is to transformative learning or reflection, and thereby we can utilize the recognized weaknesses together with the stronger elements of the theory, in order to enhance understanding and theory of transformative learning, and of learning and reflection more broadly.

In our work we have attempted to situate the processes of reflection within a wider human perspective, including the emotional, embodied, and social dimensions: The conceptualization presented in this paper suggests that there is a commonality and connection between our basic survival mechanisms and the ways in which the meaning perspectives function; both the physical being (the animal body) and the psychological being want to survive. With regard to this, it is suggested that the challenges of reflection are fundamentally a matter of how emotions influence our sophisticated cognitive functions. While our need to

remain in our comfort zone invites us to avoid, deny or devalue our unpleasant emotions we can also use them as provocations to identify and reflect on the underlying assumptions that are being challenged. When we recoil from reflection because it brings uncertainty we miss the chance to become aware of the underlying premises and assumptions which are generating our experience and behaviour.

Regarding pedagogical practices, this conceptualization has practical implications while raising some cautionary notes as well. Namely, within the discussion on transformative learning, disorienting dilemma is often seen as the trigger for reflection (e.g. Mezirow, 1991; Taylor, 2007). That is, reflection is seen to be stimulated when our assumptions are challenged. Educators may take this to mean that in order to promote reflection, it is necessary to provoke the learners with some kind of disorienting dilemma that could trigger reflection and transformative learning. In our view, however, this kind of approach that focuses only on the epistemological aspect of reflection not only raises several ethical questions but also requires further focus on handling the actual challenges in the process of reflection. The "tales from the dark side" brought up by Brookfield (1992) are without a doubt as valid as ever. In addition, the conceptualization presented in this paper explicates theoretically the way cognition and emotion are inseparably intertwined in the process of reflection. For the educator, this offers a more thorough understanding of the demands being made of the students when the tempting ideals of reflection are pursued (see also Mälkki & Green, 2014).

As suggested in this paper, the core capacity for employing reflection productively is our disposition towards the edge emotions that have been activated. The way we have come to relate to these emotions is not only our individualistic, psychological tendency. Rather this tendency is reinforced by yet another socially shared assumption prevalent in western culture: to conceive of ourselves as rational subjects. The emotional sphere, on the other hand is currently seen as subordinate and, as such, to be kept under control. What we have suggested in this paper, however, problematizes this assumption. Instead, we suggest that the way towards reflection - and increased rationality in thinking - is opened up along with the acceptance of the way those sophisticated cognitive functions interact with our biologically based functions of emotions. Thus, instead of pathologizing human emotions, we suggest the emotions need to be valued, to be understood as a normal, essential part of human condition. In educational practices, this may be supported by presenting the theorization on the challenges of reflection to the students, while paying close attention to the class atmosphere and the role of the teacher (see Mälkki & Green, 2014).

Furthermore, the recent trend to foster reflection and other "therapeutic tools" in educational programs have been given serious criticism (see e.g., Ecclestone & Hayes, 2009). Indeed, practices of reflection are not free from the risk of the tool becoming the master rather than the servant. When this occurs, everything becomes a matter for reflection. Everything becomes a matter of doubt when the meaning perspective is undermined by wholesale reflection. Of course, this undermines the learner's sense of self efficacy. When all is in doubt then there is no place to take a stand, no ground from which to act (see Mälkki & Green, 2014). In addition, when reflection is taken up to excess, the learner becomes soaked up into his or her own private problems and may grow ignorant of the structural inequalities and societal problems. While keeping this in mind, we would like to emphasize the connection between social and individual already built into Mezirow's theory. Namely, Mezirow (e.g., 2009) considers meaning perspectives to be socially formed through culture and language. Consistent with this, Mezirow (1981) suggested that the deeper levels of reflection involve becoming aware of the social and cultural origins or our personally held assumptions. In this way, Mezirowian reflection respects the sociological position that insists on the need to recognize discourses, social structures and culturally held assumptions. This connection may as well be utilized in practices aiming to promote reflection while utilizing the knowledge of edge-emotions. That is, although the experience of edge-emotions is very personal, that does not mean that the trigger for reflection would necessarily be personal or private. In our view the edge-emotions indicate of a perceived threat to our meaning perspectives, i.e. a challenge to something we have taken for granted. This can refer to our assumptions, understandings and experiences with regard to private or public issues, psychological or societal. In the end, the social structures and cultural attitudes are not something only external to the learner but have their adhesion in his or her meaning perspectives, where they serve to keep up the coherence of the personal meaning structures, thus enabling the individual to make meaning and viable interpretations within the light of previous experiences.

Finally, we wish the presented theorization offers stimulation and conceptual tools to re-vitalize the discussion on reflection and transformative learning with regard to both theory and practice. Thus, it is not intended to close the case of reflection but to reopen it with new vigour. As Mezirow (1991; 2000) himself suggests, continuous critical assessment of premises and taken-for-granted assumptions is vital for any theory to stay in progress. Further work needs to be done that explicates the link between the theory and the practices associated with reflection. In the future we hope to show how the practices embody the theory and how the results produced by these practices modify and refine the theory. In the current paper we highlighted the embodied nature of transformational processes. That is, we addressed the affective and existential demands inherent in reflection while in other papers we have also focused on the social aspects of the challenge and support for transformation (see Mälkki & Green, 2014; 2016a; 2016b; 2016c). In future papers we turn to the situational dimension. That is, it was the person's situation or circum-

stances that produced the disorienting dilemma in the first place. In our upcoming papers we shift the emphasis away from reflection and toward the interaction between the subject and their circumstances. We do this through two foci. Firstly, we focus on the notion of "permeability to experience". We ask, "how open are our meaning perspectives to ongoing updating and revisions based on information delivered by experience?" Here we conceptualize "experience" as an accurate registering of our situation while meaning perspective offer the frameworks within which those experiences are interpreted. Transformation occurs when our meaning perspectives and cognitive categories are developed as a result of fresh experiential input. Secondly, we propose to counter the excessive focus on reflection by emphasizing the action perception system that characterize our interactions with our circumstances or situation. Action guided by perception rather than action guided by tacit, unexamined assumptions. We reason that, by doing so, we will reduce the need for seismic transformations that Mezirow's theory assumes. Most importantly, we hope that we have contributed to a nuanced understanding of the processes and challenges involved in the act of reflecting on one's assumptions. We expect that such a procedural understanding will help producing pedagogical practices that would support students in transformations.

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