

# Management Learning

<http://mlq.sagepub.com/>

---

## **Threshold concepts and modalities for teaching leadership practice**

Jeffrey Yip and Joseph A Raelin

*Management Learning* 2012 43: 333 originally published online 14 November 2011

DOI: 10.1177/1350507611422476

The online version of this article can be found at:

<http://mlq.sagepub.com/content/43/3/333>

---

Published by:



<http://www.sagepublications.com>

**Additional services and information for *Management Learning* can be found at:**

**Email Alerts:** <http://mlq.sagepub.com/cgi/alerts>

**Subscriptions:** <http://mlq.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

**Citations:** <http://mlq.sagepub.com/content/43/3/333.refs.html>

>> [Version of Record](#) - Jun 20, 2012

[OnlineFirst Version of Record](#) - Nov 14, 2011

[What is This?](#)



# Threshold concepts and modalities for teaching leadership practice

Management Learning

43(3) 333–354

© The Author(s) 2011

Reprints and permission:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/1350507611422476

mlq.sagepub.com



**Jeffrey Yip**

Boston University, USA

**Joseph A Raelin**

Northeastern University, USA

## Abstract

Can the teaching of leadership transform practice? What concepts and modalities are best suited to do so? This article builds on Meyer and Land's (2003) theory of threshold concepts to examine how students learn and experience leadership as a complex and multi-faceted practice. Threshold concepts are conceptual gateways, opening up new and previously inaccessible ways of thinking about a field. In an ethnographic account using participant observation, analysis of student papers, and in-depth interviews, the authors identified two threshold concepts that had a transformational impact on students: (1) situational leadership and (2) shared leadership. In addition, they found three modalities that supported the learning of threshold concepts: (1) variation, (2) enactment, and (3) reflection. The article concludes by citing the broader implications for the research and teaching of leadership practice.

## Keywords

Action learning, leadership, leadership development, learning, practice, reflection, teaching, threshold concepts, threshold modalities

## Introduction

An important goal of leadership research is to understand how people develop in their understanding and practice of leadership (Casey and Goldman, 2010; Conger, 1998; Ford and Harding, 2007; Kempster and Stewart, 2010). While advances have been made in leadership and leadership development research, we need to focus as much on leadership education, and, in particular, on the transfer of leadership concepts from the classroom to the workplace (Cunliffe, 2009). How can the teaching of leadership transform practice? What concepts and modalities are best suited to do so?

---

### Corresponding author:

Jeffrey Yip, Boston University School of Management, 595 Commonwealth Avenue, Boston, MA 02215, USA

Email: jeffyip@bu.edu

Concepts are a means by which learners engage with the world, and we know from the long-standing work of contemporary cognitive psychologists that conceptual change shapes practice (Gardner, 2004; Lord and Levy, 1994; Pinker, 2007). So it stands to reason that conceptual learning and change should impact the practice of leadership. Meyer and Land in a series of papers (see, e.g., 2003, 2005, 2006, 2008) suggest that within each discipline or profession, there are threshold concepts which, when understood, transform and integrate ways of thinking and practice around a certain body of knowledge. More specifically, they define threshold concepts as concepts with the following properties: they are *transformative* (occasioning a shift in perception and practice), *integrative* (surfacing patterns and connections), *irreversible* (unlikely to be forgotten or unlearned), and potentially *troublesome* (counter-intuitive and unsettling).<sup>1</sup>

Threshold concepts have been examined in such diverse domains as economics (Davies and Mangan, 2007), chemistry (Park and Light, 2009), biology (Taylor, 2006), computer science (Zander et al., 2008), and accounting (Lucas and Mladenovic, 2006). Observing the growing inquiry and interest in threshold concepts, Perkins (2005: 13) notes:

The idea of threshold concepts carries an important pedagogical message: where we can find likely threshold concepts, we would do well to organize learning around them. But there is a cost, in fact an opportunity cost but one generally worth paying. Threshold concepts are likely to be troublesome. Their reorganising power brings with it an unfamiliarity that sometimes proves acute and off-putting. You can't rebalance the boat without rocking it.

Perkins (2005) is thus suggesting that threshold concepts constitute 'troublesome knowledge', which requires learners to wrestle with complexity. Similarly, Brown et al. (1989) note that an encounter with confusion and uncertainty is a sign of true learning, while Mezirow (1990) describes a 'disorienting dilemma' needed for transformational outcomes. Threshold concepts are troublesome because encounters with such concepts are typically accompanied by a period of difficulty, requiring a reconstitutive change in thinking and practice. Moreover, this process of conceptual change can result in transformed practice, with demonstrable improvements in critical reasoning and problem solving (Chi and Roscoe, 2002; Kiley and Wisker, 2009; Lewis and Dehler, 2000).

Through a combination of participant observation, analysis of student papers, and in-depth interviews, we examine the applicability of Meyer and Land's (2003) framework of threshold concepts for leadership development. We first describe the use of threshold concepts in higher education and describe our study's methodology. Then, grounding our analysis in the perspectives of students, we identify two leadership concepts—situational and shared leadership—that qualify as threshold concepts, based on the attributes identified by Meyer and Land (2003). Our findings reveal that threshold concepts do not work in isolation; instead, learners engage with threshold concepts through a combination of three select, socially situated learning processes, which we describe as threshold modalities: (1) variation, (2) enactment, and (3) reflection. Based on our observation of these modalities in action, we describe how threshold modalities are *socially situated* learning processes that facilitate a *reconstitutive* change in practice. In our discussion, we further suggest how the specific pedagogical applications of action learning provided the necessary real-world experience and public reflection on that experience that helped students overcome the liminality of troublesome knowledge. As we conclude, we reflect on our potential contribution to leadership development research, suggesting that it lies in the nexus between action learning, threshold concepts, modalities, and change in leadership practice.

## Threshold concepts in higher education

Concepts provide a means through which we make sense of the world. They also help us sort phenomena by examining commonalities, differences, and interconnections (Nersessian, 2008). Some examples of concepts that have come to constitute our leadership repertoire include leader traits (Judge et al., 2009; Stogdill, 1948), leadership style (Blake and Mouton 1964), situational leadership (Fiedler, 1967; Hersey and Blanchard, 1988), leader-member exchange (Graen and Uhl-Bien, 1995), authentic leadership (Avolio et al., 2004; Yammarino et al., 2008), charismatic leadership (Conger and Kanungo, 1987), transformational leadership (Bass, 1985; Bass and Avolio, 1994), and shared leadership (Pearce et al., 2007; Shondrick et al., 2010), among others. With a broad repertoire of concepts at our disposal, as leadership educators, is there a criterion that can guide the use and selection of appropriate concepts for teaching?

Threshold concepts, as defined by Meyer and Land (2003), are conceptual gateways that can open up previously inaccessible way of thinking about the field. Such concepts are characterized by four properties defined in the introduction. They are: (1) transformative, (2) integrative, (3) irreversible, and (4) troublesome. A threshold concept is more than a core concept within a discipline. A threshold concept, once grasped, can lead to a qualitatively different view of the subject matter and of oneself as a learner (Kiley and Wisker, 2009). This process can be understood through Piaget's (1951) concepts of assimilation and accommodation. Assimilation occurs when new experiences are perceived in terms of existing mental structures. In contrast, accommodation occurs when internal mental structures are changed to provide consistency with perceived external reality. While the learning of new concepts involves assimilation, not all concepts result in accommodation. Threshold concepts result in the latter. As Davies and Mangan (2007: 712) point out:

A [threshold] concept that integrates prior understanding is necessarily transformative because it changes a learner's perception of existing understanding. If a concept integrates a spectrum of prior understanding, it is more likely to be irreversible because it holds together a learner's thinking about many different phenomena. To abandon such a threshold concept would be massively disruptive to an individual's whole way of thinking.

As conceptual gateways, threshold concepts can be viewed as a step progression to more complex understanding of a subject or discipline (Luoma, 2006). Land et al. (2005) suggest that they are 'jewels in the curriculum', which can be deployed to facilitate important conceptual development and change:

A focus on these jewels allows for 'richer and more complex insights into aspects of the subjects students are studying;' it plays a diagnostic role 'in alerting tutors to areas of the curriculum where students are likely to encounter troublesome knowledge and experience conceptual difficulty' (Land et al., 2005: 57).

Concepts have been identified as having threshold properties in business and economics (besides a host of other fields in the arts and sciences) in such domains as depreciation in accounting (Lucas and Mladenovic, 2006) and opportunity costs in economics (Meyer and Land, 2003). We propose to extend their application to leadership development, a field without much reference to their value. One reason for this is that since the dominant pedagogical modality in leadership development is through classroom instruction or training, it may be ambitious to expect threshold concepts to unfold without any attachment to practice. The conventional classroom epistemology requires pulling managers out of their workplaces so that they can attend classes that purport to teach leadership competencies. The managers, as students, learn the competency lists but may not find them

applicable to the real problems back in the home environment (Bolden and Gosling, 2006; Salaman and Butler, 1990).

Given Meyer and Land's concern (2006) that threshold concepts be contextualized if they are to be transformative, leadership development as an educational enterprise might focus less on teaching about leadership and more on learning how to learn from practice (Mintzberg, 2004; Raelin, 2007). If competencies are to be considered, minimally they should be meta-competencies, those fluid processes that represent an understanding of action *from within* a person's lived experience, what Shotter (2006) calls 'witness-thinking' that can help managers understand how to learn from their day-to-day encounters with others in the workplace. We believe our research of a unique approach to teaching leadership practice based on action learning may provide an avenue for effectively introducing threshold concepts in leadership development and practice.

## Theory development through abduction and induction

The research presented in this article emerged from a conversation between the first author, a doctoral student in organizational behavior, and the second author, an organizational learning scholar and an experienced teacher of leadership. The doctoral student was developing a program of research on leadership development and was particularly interested in examining the social cognitive processes by which leadership is learned and experienced. As part of his program of research, he sought out the second author, a professor whom he knew through professional association to be an effective teacher of leadership. The resulting dialogue stimulated the teacher's sense of inquiry regarding his own pedagogical practices, and so he invited the student to participate in his evening MBA leadership class as a participant observer, that being to immerse himself in the learning environment as a student while taking on a dual researcher role to inquire into how the learning unfolded for other students within that setting.

Although the study's methodology evolved through ongoing conversation between the authors, they initially decided that the method would be grounded by an inquiry from the perspective of the learner and that theory development would proceed through the iterative process of abduction and induction. The methodology was, thus, qualitative and constituted classic ethnographic participant observation by the first author, in the sense that there was no attempt to test any hypotheses in advance but rather to explore the nature of the social phenomena, working primarily with raw qualitative data (Goetz and LeCompte, 1984; Hammersley and Atkinson, 1983). The site for the study would be the MBA class, taught by the teacher, the second author, with 13 students who were currently employed and who had varying degrees of experience in management. The small class size allowed the authors an opportunity to approach each respondent as an individual case, with in-depth access to their lived experience through a combination of observation, interviews, and analysis of reflection papers. The voices of the respondents are represented through quotes in this article, cited with a pseudo-name but with the actual designation of their formal work role.

Aligned with the theory development intent of the study, the authors were not seeking to generalize in a classic empirical sense but rather to seek 'generative' understanding through an in-depth focus on individual cases nested within a bounded pedagogical framework (Kempster and Parry, 2011). The site of an evening MBA program, with students who were in managerial roles in the day and in the classroom in the evening, provided for the explicit examination of the transfer of learning from conceptual understanding to practice. The course covered a range of theories and concepts within the leadership domain, with the expressed aim of helping students develop a personal model of leadership. It also employed a variety of active and action learning pedagogical modalities including in-class exercises, journaling, self-assessments, action learning projects, learning

teams, and group reflection. It builds on the developmental action learning framework as outlined by Raelin and Raelin (2006):

1. **Diverse perspectives:** students examine different perspectives of leadership, covering major theories within the leadership field.
2. **Peer learning:** students adopt new perspectives and apply them through experimentation both in class and in their own organization, with feedback and coaching from their course-based peer learning team.
3. **Integration of theory and practice:** students design and implement an action learning project within their workplace, making use of the knowledge and new practices acquired.

The learning team and project were deemed by the researchers to be the most pivotal to the action learning framework introduced in the course. Their usage is described briefly as follows:

**Learning team:** Each student became part of a seven-person learning team that met over the course of the full semester. The objectives of the learning team were to work with one another on in-class activities that demonstrate course concepts, to provide students with a safe environment to test their assumptions and try out new leadership behaviors, and to discuss the assigned readings in relation to their action project and to their everyday practice. The instructor provided suggestions each week for agenda topics and group processes serving to gradually advance the development of the team. However, team members were encouraged to develop their own agenda and engage in self-directed team management so that no given member would have to become the sole 'team leader'.

**Action project:** The project served as a means for experimenting with and demonstrating the students' leadership in a real-live setting outside of class. It was characterized as being important to their personal and professional growth and of value to the organization (or organizational unit) in which they were involved. Since most of the students were working full time, most undertook a project in their own organization, but due to social and political circumstances, some organized projects in a campus office, community agency, or on-campus club. The projects were also designed to be experimental in two ways: (1) they tended to involve doing something that had never been done before, and/or, (2) there was no known solution to the problem or there were at least different opinions regarding how the problem was to be solved. Finally, this being a leadership course and since leadership involves working with others, students were advised to collaborate with others to accomplish the project.

Similar to an insider-outsider model of data collection (Louis and Bartunek, 1992), the first author immersed himself within the setting by participating fully as a student in the course and by serving as a regular member of one of the two learning teams. As in Kvale's (1996: 1) approach, he wandered along 'to understand the world from the subjects' point of view, to unfold the meaning of peoples' experiences, to uncover their lived world prior to scientific explanations'. At the half-way point in the course, this author obtained permission from the students to review and analyze their project proposals and journal reports. All students consented. He followed this review with seven selective interviews to inquire more fully about their written reflections at that point in the course. At the conclusion of the course, he reviewed, again with full permission, all students' final project reports and followed them up in approximately one month's time with another round of interviews, in this case, with five of the students.

The first author's role of participant observer was made known to the class from the beginning, and this provided him a dual perspective, as a fellow student experiencing the learning process, and as a researcher inquiring into the lived experience of his fellow students. Initially, he noticed some mild apprehension from a few of the students, as they were mindful of his observer status. However, as the course progressed, the author developed a natural rapport with his fellow students, and they opened up further to shared their experiences in a way that would not have been possible with detached observation or interviews. Comparable to the tradition of action research, the author purposely engaged the students in the inquiry, including an examination of the assumptions underlying their actions and decisions taken in circumstances that really mattered to them (Eden and Huxham, 1996; McNiff and Whitehead, 2002).

When the time came to collect qualitative data, the students, now feeling a sense of trust in the first author, unanimously agreed to provide him with access to their project documents and journal reports. Besides the feeling of trust, the reason for this agreement was three fold: (1) all students were assured that any disclosures would be held in strict confidence; (2) they were also assured that any disclosure of information would have no impact whatsoever on their course evaluation by the instructor; and (3) they expressed not only willingness but curiosity about participating in a study involving the transition of classroom leadership education into practice.

The study's theory-building process proceeded in two ways. First, the second author, the instructor for the course, made himself available to the first author after each class during which time he attempted to articulate his epistemological and pedagogical assumptions for the class. In this sense, the first author was engaging the instructor in what logician Charles Peirce (1992) referred to as 'abduction', a cognitive process for developing logical explanations prior to any explicit closure. Although the instructor had thought through his plan for the course and had developed a syllabus, he explained that his methodology had never been evaluated and, as a result, his expectations for the course had never been fully explained. Consequently, during the abductive process, the instructor and first author engaged in an exploratory dialogue without any regard for the ultimate aims of the research. In abduction, the intentions and initial explanations of an actor become the basis for logical inferences after the fact (Eikeland, 2009). The process is akin to what Locke (2001: 46) refers to as 'bracketing', in which the authors' post-class dialogue would serve to bring out extant assumptions and fresh insights about the pedagogical processes being employed for each class session.

Second, following abduction, a process of induction occurred using a 'grounded theory-building' approach (Corbin and Strauss, 2008). Accordingly, both authors collaborated in deriving a set of concepts and related theory from the data collected. This approach builds on Schein's (1984: 4) observation that access to taken-for-granted assumptions requires 'the efforts of both an insider who makes the unconscious assumptions and an outsider who helps to uncover the assumptions by asking the right kinds of questions'. This iterative process of sense making involved a recursive comparison between first-order data from the first author as observer and second-order interpretation from both authors. At the core of the approach is a discovery and validation process involving the development of provisional codes and through discussion from provisional to substantive codes (Locke, 2001).

In contrast to quantitative approaches to qualitative data (i.e. the counting of statements and codes), the authors' approach focuses on data analysis as an interpretive act (Weber, 1970). The identification of qualitative themes and code categories is accomplished through an iterative process of data-theory interplay, guided by the theoretical insights generated by the data, and the validation of these insights through immersion in the lived experience of subjects. More specifically, in the identification of provisional codes, the first author closely reviewed all aspects of the data

related to the study's focus on threshold concepts, initially informed by Meyer and Land's (2003) framework, in order to detect substantive themes and codes. The process entailed compiling a series of intertextual memos in which the first author, after his initial review of the data, produced a series of notes involving data-to-data comparison and data-to-theory categorizations. Provisional codes that did not repeat were rejected in favor of those that persisted and captured the collective meaning of sets of respondents. In due course, after all the memos were collected, two threshold concepts and three threshold modalities were identified.

The naming and cultivation of the threshold concepts and modalities were further informed by an iterative discussion between the two authors, continuing the abductive and inductive process. Having taken the concepts of situational and shared leadership for granted, the first author was surprised by the extent to which students experienced and described the concepts of situational and shared leadership as troublesome and foundational to their learning experience. As a seasoned instructor of leadership, the second author was likewise intrigued by the frequent reference to these two leadership models, selected among at least a dozen others presented in the course. The collaborative and process-oriented methodology undertaken in this study thus invited the authors to question their own assumptions and to generate new insights that may not have arisen through detached observation using pre-established codes.

Working as a team, the authors brought their joint experiences and insights to bear in confirming the final set of codes, distinguishing threshold concepts from modalities, and naming the three different modalities that emerged as new categories from the study. Combining this analysis of student narratives with a consequent dialectical exchange between observer and instructor, the authors thereupon sought to establish a framework for theory development on the role of threshold concepts and modalities in leadership development.

## Threshold concepts in the study

In order to understand the impact of threshold concepts, we need to examine not only how they are received within the classroom but also how they transform a learner's practice. As the developmental psychologist Urie Bronfenbrenner (1979: 35) argues, 'it is necessary to establish that a change produced in the person's conceptions and/or activities carries over to other settings and other times'. The research thus emphasized the recognition of concepts and modalities that had a lasting impact on how students learned and experienced leadership. Further, the analysis found that students' conceptions of leadership shifted through a juxtaposition of threshold concepts and modalities. The two salient threshold concepts discovered were (1) situational leadership and (2) shared leadership. The three modalities consisted of (1) variation, (2) enactment, and (3) reflection.

### *Situational leadership*

The concept of situational leadership was described by the students as having a transformative and irreversible impact on their practice. Most students entered the course with the 'great person' model of leadership as an espoused model. Through a combination of readings about situational leadership, class discussions, self-assessments, and experiential exercises, students noted in their reflection papers and in the interviews that they found themselves paying more attention to the situational context of leadership and experimenting with situationally appropriate practices through their action learning projects.

The concept of situational leadership makes the contextual aspects of leadership more visible and discussable. Those who participate in leadership are influenced by cultural, historical, and political conditions that shape their responses and relationships. Leadership can be said to arise



**Table 1.** Comments supporting situational leadership as a threshold concept

<b>Transformative</b> Reconfigures understanding with an effect on practice	In the past I've acted in a certain way that I wasn't very happy about and I've taken the time to step back and remember that there are different ways that I can approach a situation. I've also tried to understand what different people think or see in a situation. I'm working in a group with this guy who is not as motivated. I'm trying to talk to this guy and figure out what I can do to get him more motivated. In the past, I would just do things myself. But I resisted. I resisted the urge and tried to find a way to give him ownership over parts of the project. It worked out really well. That's been a big thing for me, to try out different things at each unique situation. (Alexander, account executive)
<b>Integrative</b> Leads to new patterns in the field of interest	I have adapted the lessons from our class to develop a model for a 'good' leader in a business setting. This individual mixes when needed strong analytical and quantitative skills with well-developed personal, interpersonal and group skills. One merges one's competitive desires and need for control with a nurturing attitude and flexibility that promotes creative thinking and problem solving. (Ted, financial executive)
<b>Irreversible</b> Offsets a retreat to simpler notions once new patterns are discerned	The study of leaders as situational managers gave me the realization that trait theory comprises just a small portion of what can make an effective leader. Effectively observing people and situations makes up a large part of successful situational management. (Brett, underwriting manager)
<b>Troublesome</b> Involves unfamiliar and counter-intuitive knowledge	During the course of this class, I have learned about many styles and perspectives of leadership that I believed I displayed or showed some qualities of. However, the more I learned the more I realized that I wasn't actually the kind of leader or manager that I considered myself to be. Each time I chose which kind of leader I thought I was (or would be in a particular situation); it turned out to be completely different. (Lisa, IT project manager)

from actors responding and then making sense of these interactions (Ford, 2006; Knights and Willmott, 1992). Especially in North American cultures, however, people tend to enact leadership by defaulting to the individualistic trait approach to leadership. By learning about leadership as a situational practice, students began to see boundary conditions to their existing models. This was an irreversible shift. They perceived the value of alternative non-personalistic approaches. As a threshold concept, situational leadership appears to have evoked a progression toward a more contextualized mode of managing.

A limitation of the situational leadership concept is that students might unfortunately assume that there is one appropriate response for any given situation. Further, critiques of the model in the literature have questioned the dimensionality of the proposed situational variables (see, e.g., Graeff, 1983). In complex changing situations, rather than a mere shifting of particular behaviors, it is often a matter of engaging in a range of corresponding interrelated dialectical behaviors with others who are also engaged.

Table 1 presents examples of student perspectives about the situational model relating them to the four dimensions of the threshold concept.

As the student narratives reveal, the concept of situational leadership challenges students to consider how leadership requires them, in Alexander's words, 'to try out different things at each unique situation'. By engaging with the concept, students describe moving from static models of practice towards a more adaptive and situationally contingent approach. The process, as described by students like Brett, is a realization that a trait-focused approach to leadership is but only one

approach. This added layer of complexity is irreversible as students can no longer return to more static models without considering the situational point of view—one that is also epistemologically ‘troublesome’, as described by Lisa:

the more I learned the more I realized that I wasn’t actually the kind of leader or manager I considered myself to be.

Lisa’s observation reflects how a student’s engagement with situational leadership can be troublesome in that it embodies knowledge that could disrupt familiar knowledge structures and thereby move learners into a phase of liminality. Liminality, in turn, allows students to cross the threshold from familiarity to a discernment of new patterns and practices. Some of these practices are transformative because they may lead to practicing leadership differently, as Alexander describes:

I’ve taken the time to step back and remember that there are different ways that I can approach a situation and to understand what different people think or see in a situation.

### *Shared leadership*

The story of leadership has for the most part been focused on the individual and his/her singular attributes. In contrast, the concept of shared leadership is premised on the notion that everyone is capable of leadership and that there are multiple ways of participating without requiring heroic agency. While there are various definitions of shared leadership within the literature, it can be broadly understood as a collective process that gets enacted through mutual influence among social actors at all levels of a group or organization (Day et al., 2004; Pearce and Conger, 2003; Spillane et al., 2004). As Raelin (2006: 156) notes:

Anyone may arise to serve the group’s leadership needs. The entity is not solely dependent on one individual to mobilize action or make decisions on behalf of others. I include in this assertion the role of the position leader.

Students were introduced to the concept of shared leadership through a variety of theories and practices in collective engagement such as meaning making, self-directed teams, facilitation, and dialogue. Interviews with the students revealed that shared leadership was a compelling practice but one that ran counter to the more familiar heroic models customary in their workplaces. As one student described it:

I always thought that a leader was someone who had to be in a position of authority, that was something I had, a hero concept—someone who was going to take charge and lead everybody. So the section on self-directed teams made me think twice about what a leader was.

Crossing the threshold of understanding from individual to shared leadership can be a transformative, irreversible, and integrative process, but as the narratives reveal, it is also troublesome and often counter-intuitive to the dominant individual-centered practice of leadership. This can be explained by the developmental challenges in moving from an independent to interdependent conceptualization of leadership (Kegan, 1994; McCauley et al., 2006). The resistance towards such a shift lies in the objectification of leadership as an individual task as opposed to a collective endeavor. In a culture in which leaders are expected to have all the answers, the concept of shared

**Table 2.** Comments supporting shared leadership as a threshold concept

<b>Transformative</b> Reconfigures understanding with an effect on practical action	I think for a long time that my model of leadership was trying to convince people to want to do what I want them to do and if I can't do it, I will push. I think it (the class) was very helpful because it helped me understand other people more. It let me understand that I don't have to do everything. I can be an effective leader without pulling everybody through the front or pushing from behind; there are other ways of doing things. There are other ways of achieving the goals that I had without having to take on more of that persona. (Alexander, account executive)
<b>Integrative</b> Leads to new patterns in the field of interest	This concept has begun to augment and enhance my previous view that leadership can and should be shared by members of an organization. Formerly, I focused on sharing leadership through coaching and development. Establishing rapport and trust would enable me to more naturally pass on skills and knowledge for both performance and developmental reasons. (Maria, services manager)
<b>Irreversible</b> Offsets a retreat to simpler notions once new patterns are discerned	As a result of this course, my trait-based leadership model has been altered, changed, or reinforced to varying extents. In particular, the leadership segments focusing on the leaders as a team facilitator, coach, and reflector/dialoguer have made substantial impacts on my thoughts and behaviors regarding leadership. My goal to develop shared and concurrent leadership was not reinforced by my behaviors; my personal actions were limiting the amount of leadership displayed by any one individual at a time. I am starting to enable my group to begin asserting more leadership (both individually and concurrently), while I work to enhance my group's development and efficacy. (Kate, human resource manager)
<b>Troublesome</b> Involves unfamiliar and counter-intuitive knowledge	Although my intent is to share leadership and power, my team typically looks to me as a figure that delegates or grants power to my team in particular circumstances. Too much of my time was wasted working within a system instead of on it to enhance my team's efficacy. My goals to develop shared and concurrent leadership were not reinforced by my behaviors; my personal actions were limiting the amount of leadership displayed by any one individual at a time. (Maria, services manager)

leadership contradicts the safety of relying on sovereign leaders. Table 2 presents examples of student perspectives as they relate to the four dimensions of this threshold concept.

The narratives demonstrate how the concept of shared leadership can be particularly troublesome for leaders in organizational and societal cultures where individual models of leadership hold fast. As Maria noted, the ascription of hierarchical leadership to her made it particularly troublesome to enact shared leadership. Alexander was able to reconfigure his practice through the benefit of the collaborative environment of the classroom. The reconfiguration of practice towards the concept of shared leadership is both integrative and irreversible, as is evident in the examples provided by Maria and Kate. As Maria explained, an engagement with the concept of shared leadership does not negate other leadership models but serves to 'augment and enhance my previous view'. As Kate described, this results in an irreversible shift, in which she has come to terms with her previous actions as limiting the amount of shared leadership in her group.

## Threshold modalities in the study

Threshold concepts do not operate in a vacuum. As Brown and Duguid (1991) note, learning cannot be studied in abstraction from the specific conditions in which it occurs. After identifying the two threshold concepts of situational and shared leadership, the authors went back to the data to probe for pedagogical practices and modalities that supported the students' engagement with these

**Table 3.** Classroom practices associated with threshold modalities

Threshold modalities	Practices
Variation	Engaging different conceptual models Learning through observation Providing psychological safety
Enactment	Experiential exercises, such as role playing Action learning projects Learning team dialogue
Reflection	Journaling Self-assessment Peer feedback

concepts. They thereupon identified three salient modalities characterizing these practices: *variation*, *enactment*, and *reflection*. These threshold modalities represent distinct learning processes that are (1) *socially situated*, in that they involve learning through a community of practice (Lave and Wenger, 1991) rather than in isolation, and (2) *reconstitutive*, in that they disrupt familiar thought-action patterns and require a revision in practice. While these modalities have been discussed individually in other studies, the data suggest that the learning of threshold concepts requires mobilization through these interrelated ‘threshold’ modalities. The findings further suggest that threshold concepts open up possibilities for a transformation in leadership practice, but the move from conceptual engagement to transformation can be better understood through the means of threshold modalities.

As is revealed in Table 3, the threshold modalities can be actualized through a variety of classroom practices. In turn, these practices have differential impacts. In the following sections, the three modalities are described in greater detail, including their impacts. As in the prior coverage, student quotes from their journals and from interviews are used to demonstrate the practice at hand.

### Variation

The modality of variation involves learning about a phenomenon from different perspectives. In the case of a threshold concept, such as situational leadership, students described how their learning was enriched through engagement with different representations of the concept, by observing different models in action, and by experimenting within the safety of their learning teams.

In the course, students were challenged to entertain different models of leadership and to consider their interrelationships. Bowden and Marton’s (1998) theory of learning suggests that learning is the development of capabilities for seeing or experiencing situations or phenomena in particular ways. Learners must be able to discern certain features of an object, and this discernment comes from experiencing variation. Through experiencing a variety of conceptual perspectives and representations, students are better able to question personal and cultural assumptions about the practice of leadership (Cunliffe, 2009). Comments from the students about experiencing the diversity of conceptual treatment include:

Throughout this whole semester this class has introduced several unique perspectives on leadership that I had not examined in previous classes. The more I learn about the different theories, the more I realize that

in order to become a better leader, I really need to create other leaders and give them the guidance to ideally lead themselves. I intend to use encouragement and guided participation to move my team from 'mine' to that of the group. (Benjamin, player-coach)

It was really helpful for me to take the different models that I learned about and use them for positive resolve. The class really forced me to follow through on them. (Kate, human resource manager)

Sharing knowledge, power and leadership is vitally important to the long-term prospects of an organization. In contrast, Goleman's article does not seem to purport a shared or concurrent leadership model. Despite our discussion of an authoritative style's flexibility to reach the ends through varying means, the leader is being placed 'out in front', reflecting a traditional Western view of leadership. (Maria, services manager)

The discussion that we had really changed my mind about what it means to be charismatic, like it's not always a positive thing. (Robert, risk manager)

It is one thing to appreciate diversity in conceptual development; it is another to observe how others, especially one's peers, actually engage with the concepts in action under unique and varying circumstances. Based on social learning theory (Bandura, 1977), learning is thought to be acquired from a reciprocal interaction between the person, his or her behavior, and the environment. Prior to experimenting with new practices, people use modeling or vicarious experience through the observation and subsequent imitation of others. This social learning process was very much in play in the class, as can be discerned from the following comments:

I think opening people to different styles is great. The class was an environment where people who are very different could learn from each other. (Alexander, account executive)

I had assumed that my style was completely wrong, but knowing now that many different conflict resolution styles can change depending on the situation, that was interesting. I found that others who were willing to work through conflict or a tough situation could handle the situation better than I did. (Kate, human resource manager)

To break reinforcing cycles of unproductive beliefs and behaviors, as we have seen, students need exposure to a variety of perspectives that will challenge their current ways of thinking. It is important to note that with the dissonance introduced through variation, there are aspects of the learning environment that should remain invariant, to support students through their learning. The dimension of psychological safety, described by Edmondson (1999) as a condition for interpersonal risk taking, is critical in this regard. The following are examples of comments by students about the importance of psychological safety in supporting their learning through variation:

I think what worked really well was that he (the instructor) would allow you to expound on what you think and let you go down that path and be able to lead you back and make you rethink about other aspects instead of just force-feeding you to think about how it should be. (Robert, risk manager)

There was the one exercise where I had to speak to three employees and try to change and direct them in a new way and to tell them we are trying a new process. I'm a very conflict-averse person and so the learning team was a very safe environment for me to try that out. (Kate, human resource manager)

The modality of variation requires students to be conscious of their existing frames and to be open to seeing the upside of multiple perspectives. In this way, students are prepared

to accommodate concepts that they might otherwise view as troublesome. Through the use of variation in teaching threshold concepts, educators can help students recognize the limitation of isolated perceptions. The variation modality may not resolve all learning concerns, but it can open up a student's receptivity towards cognitive differentiation. At the outset, variation may serve to produce an openness to new ways of knowing, in which case, the variation may be at the level of what Meyer and Land (2008) refer to as 'preliminal' or tacit because of the inability to frame the experience in words (Polanyi, 1966; Reason, 1999). As students begin to develop new conceptual understanding and articulation that concurrently inform their practice, variation become 'postliminal', leading to new patterns of thought and action.

### *Enactment*

The modality of enactment is operationalized through a diversity of learning practices that require students to explore new ways of leading. This can be achieved through experiential exercises, such as role plays, action learning projects, and learning team dialogue. In essence, enactment is a process that involves both role taking and role making (Lynch, 2007). It is a critical dialectical bridge between the learning of threshold concepts as an espoused theory to that of a theory-in-use (Argyris and Schön, 1978). The use of role play in a classroom setting is one example:

I really liked how the class was split up; that we had lecture time in the beginning then we had project time or role-playing scenarios in the second half. There was the one where I had to convince some workers to try a new task, but I failed to collaborate with them. (Kate, human resource manager)

During one of our role-playing exercises, I played the part of one of the workers on an assembly line. Donna who played the supervisor was very encouraging and was coaching us in this situation to commit to a change to improve work processes, even if it was only temporary. Overall I feel that she handled the situation well and gave many good reasons why this change should occur. I was a little concerned that in the same situation, I would not handle it as well. I hope that if I do ever encounter a similar situation, I would listen to my employees, show some concern for them, and be more supportive than I've been in the past. (Lisa, IT project manager)

Within the classroom setting, role playing can be a powerful tool to engage students in the enactment of threshold concepts. It cannot compensate, however, for enactment within the workplace, which can be achieved through the use of action learning projects. The advantages of working on 'real' problems is that students are forced to find real, workable answers, not easy, hypothetical ones; leadership and teamwork skills are developed along with the more technical skills; the organizational sponsor benefits immediately from the participant's contribution to the project; and the lessons learned from the experience tend to stay with students longer than if they had learned them from a book or lecture (Raelin, 2008). Consider these comments:

I learned that forming a group and creating solutions to existing problems is not always enough. I did not foresee the major problems that have occurred in the approval and initiation phase of my project. I assumed that if the group came up with useful solutions, others would simply adopt our proposals. It has become obvious in our recent hold-ups that this is not always the case. (Brett, underwriting manager)

I am glad that I have begun the class project because it has forced me to implement a change within my workplace. According to the model of situational leadership, Brandon was at a moderate level of readiness and I should approach this with a 'selling' style of leadership. Working with him helped me to realize that

my reading of the situation was not correct. It also brought to my attention that it was Brandon's uncertainty in his role that brought on his inability to change. I will need to adjust my leadership style accordingly. (Tim, chief marketing officer)

Enactment can be both an individual and collective practice. Learning teams play a critical role in supporting how students learn through enactment. As Weick (1996:45) notes: 'the concept of enactment suggests that individuals are agents of their own development, but not simply because they are active, controlling, and independent. People also organize cooperatively in order to learn'. In the learning team, members help each other make sense of their action learning project experiences in light of relevant theory. Students become skilled in the art of questioning in order to challenge the assumptions underlying planned interventions in each other's projects. Subsequent actions taken tend to be clearer, better informed, and more defensible as a result of the dialogue (Marquardt, 1999; Pedler, 2008; Yorks et al., 1999).

I feel that if you try to do these things learning alone, you might not get the perspective you can get from being in a learning team. Speaking for myself, I think it's very important because it gives you a perspective on the activities. We were very lucky because we had a very good learning team and everybody was very comfortable and open with each other. Everybody was open enough to tell people what they were thinking in a respectful way and people were able to handle criticism in a positive manner. (Alexander, account executive)

I have become more self-aware about my personal style of leadership as well as what role I can bring to a team. It has been interesting to compare how I perceive myself as a leader with how my learning team, who has only known me for only a couple months, perceives me as leader through our group exercises and feedback. (Donna, senior cost analyst)

Threshold concepts can be challenging to enact in practice. By definition, threshold concepts are likely to be troublesome and can move students towards a liminal state where familiar beliefs and practices are questioned. By enacting their understanding of a threshold concept, such as situational or shared leadership, students are actively creating their own practice in response to situations with varying parameters. They will, of course, approach and overcome liminality at varying degrees of adaptiveness, but the countervailing forces of risk combined with safety within the action learning environment can complement the inculcation of threshold concepts.

## Reflection

The third modality that came through clearly from the student papers and interviews is that of reflection. According to Schwartzman (2007), exposure to threshold concepts can initiate in students either a reflective or defensive response. Rather than resort to a 'bunker mentality', especially *critical* reflection can be used to take us into new meanings or what Mezirow (1981) referred to as transformative learning. Learning of this nature can help us review and alter any misconstrued meanings arising out of uncritical half-truths found in conventional wisdom or in power relationships. To facilitate this learning, it is important to encourage reflection as an active practice through the use of such methodologies as journaling, self-assessment, and peer feedback. Consider journaling as the first example:

To help facilitate my self-reflection process, I have begun writing down personal goals and placing them in visible locations. By seeing them on paper, it forces me to read them and think about how I stand in relation to them. (Robert, risk manager)

The reflection paper made me realize that [my leadership style] was something that I needed to work on, by journaling about it and reflecting on the situations where I think maybe I could've used a different style. The reflection paper definitely helped in terms of looking back and thinking about where I could've done better or handled something maybe better. (Kate, human resource manager)

As the student narratives reveal, reflection is not a mechanical process but rather involves a search for meaning through personal and collective experiences. Another method used in the course was the use of self-assessments:

After completing the score sheet, I realized that I am not adaptable to multiple leadership styles. I scored not too far below the teens, which is considered adaptable, but I learned that I skew heavily to the coaching and supporting style and rarely chose the directing or delegating options. (Kate, human resource manager)

The section on 'Self-Awareness First' was very compelling. For instance, asking myself questions such as: 'Am I willing to share control with others?' 'Am I willing to accept honest feedback on any experiments I wish to undertake in my leadership?' 'Can I show my own vulnerability and even admit to others that I may not have all the answers?' These questions never entered my mind as ones that would be related to the study of leadership. I typically thought of leaders as having all of the answers. (Tim, chief marketing officer)

Reflecting is not passive. It is both a cognitive and behavioral process that can involve groups of people, not just an individual in isolated thought (Raelin, 2001). It can occur concurrently with practice rather than before or after experience. Through reflective practices, students make sense of what they have learned, why they learned, and how their learning took place. This is critical in the accommodation of threshold concepts and can be facilitated through the use of peer feedback:

In one of our exercises, I demonstrated how I would do performance feedback (because I had recently conducted a performance appraisal on one of my assistants). From the observations of my teammates, they concluded that I did a reasonable job as a rater because I listened, seemed empathic, and built a positive climate for the employee. However, I did not check for mutual understanding of the issues and did not suggest a follow-up meeting or follow-up at all with anything I had discussed with the employee. Since my discrepancies have been brought to my attention, I feel that in the future these are things that I will ensure are incorporated into any performance appraisals that I handle. (Lisa, IT project manager)

Another benefit of the class has been its discussion of the situational leadership model. After discussing it with my team members, I noted that I was often 'selling' or 'joining' and need to do a better job of 'delegating'. (Robert, risk manager)

A teaching approach that promotes active inquiry and reflection can help students engage in threshold concepts at a deeper level, within themselves and with their peers. In its emancipatory or critical form, reflection can reach a final step of questioning the very presuppositions attending to our problems. Furthermore, when interpreted as a collective critical process, it becomes 'heedful' action, such that people act attentively, conscientiously, and critically (Ryle, 1949; Weick and Roberts, 1993). This means that any reflection takes into consideration data beyond our personal, interpersonal, and organizational taken-for-granted assumptions (Raelin, 2001).

## Discussion

Our findings suggest that leadership practices can be taught and developed through a juxtaposition of threshold concepts and modalities. The concept of situational leadership has the



potential to transform the practice of leadership towards one that is sensitive to context and person-environment interactions. It also increases an awareness of the provisional nature of leadership and an appreciation of its behavioral variety. The concept of shared leadership moves learners away from an ego-centered model of leadership towards a participatory model where leadership is mutually available and accessible to all members.

The modalities of variation, enactment, and reflection are critical to engage students with threshold concepts. Variation opens up the range of meanings and perspectives that the concepts have to offer. Enactment allows students to experiment with the concepts in practice. Reflection provides the sense-making space needed for students to cross the threshold from surface to deep understanding. The evocation of threshold concepts through the three modalities in an environment of psychological safety can create the conditions for students to absorb troublesome knowledge and accommodate new practices. We propose that threshold concepts by themselves are but a catalyst for learning. Threshold modalities function to move learners from engagement at a conceptual level to transformation in practice. It is also our view that the absence of any one of these modalities might hinder the transformative outcomes that Meyer and Land (2006) describe. This proposition, however, requires further examination since we have also qualified the threshold modalities as situated and thus unique to the context in which they were identified.

Finally, we believe that the action learning approach used in this course may have been vital for releasing the modalities required for incorporating threshold concepts into practice. In an earlier work on threshold concepts in the classroom, Hibbert (2009) reported that classroom dynamics may not be sufficient to allow for 'reflexivity' to become manifest.<sup>2</sup> Action learning, in contrast, places students in actual practice settings in which pre-representational knowledge implicit in action becomes as valuable as rational theories (Bourdieu, 1977; Schatzki, 1997). The academic theories introduced in the classroom become interlaced with the raw 'practicality' of engaged social practices. The students' action learning projects are embodied and purposely contextualized rather than approached as objectifications (Zundel and Kokkalis, 2010). Consequently, students are at least exposed to the plausibility of viewing leadership as a collective and relational construction (Hosking, 2011). This may occur when there is an expectation for contingent and collective action in a group that, in turn, may disturb the familiar identity of leadership as a sovereign individual who controls the organization (Crevani et al., 2007; DeRue and Ashford, 2010).

As was suggested in our commentary about the threshold concepts of situational and shared leadership, each concept can be troublesome both to our cognitive and social order. Situational leadership theory can challenge the nature (rather than nurture) postulate that leaders are born and that either 'you have it or you don't'. Shared leadership upends traditional views that rely on the attributes of individuals or the dyadic relationship between leaders and followers. As students progressively move into a zone of development in their experimentation with threshold concepts, they entertain alternative perspectives, among which is the practice view (Corradi et al., 2010; Geiger, 2009; Raelin, 2007; Schatzki et al., 2001). Within the world of practice, concepts are rarely viewed as capturing a priori what is going on in the world (Chia and Holt, 2008). Rather, they are seen more as open-ended clues than as fixed representations, and are inclined toward generative rather than generalizable theory construction (Kempster and Parry, 2011) and toward provocative rather than finalized theory, thus making a tentative contribution to practice as it unfolds (Ramsey, 2011). Using a comparable logic, Meyer and Land (2005) point to the liminality of thresholds, the space in which one becomes altered from one state into another without possibility of return to the pre-liminal state. The recursiveness of action learning helps students overcome the feeling of being 'stuck', not by exposing them to the solutions offered by classroom theories as much as by having them construct new knowledge through real-world reflective practice (Lather, 1998).

In this study, we have seen, for example, that shared leadership became troublesome because of its depreciation of the impact of followership. According to Grint (2010), followership has been tied to leadership because of the willingness of leaders to displace the existential anxiety of those who consider themselves to be followers. Once students reject the identity of a leader as the one who provides safety to followers or as a follower who requires protection from leaders, they abandon a reliance on a taken-for-granted ideological norm within many modern cultures. Instead they become open to a leadership practice perspective in which students see leadership as less about what one person thinks or does and more about what people may accomplish together. Leadership can be seen as emerging through coping in day-to-day experience (Chia and Holt, 2006).

We are just beginning to understand the implications that arise through threshold concepts and modalities. The two concepts that we have identified in this article require further testing to generalize their influence beyond our current sample. We also recognize that our sample limits us to the range of concepts that students were exposed to in a particular leadership course. In other fields such as economics, chemistry, biology, and computer science, threshold concepts have constituted the basis for multi-staged research and intervention (see Land et al., 2008; Meyer et al., 2009). To advance as a field of inquiry, the study of leadership too can be served by asking what constitutes threshold concepts for teaching and learning. Our research is but an early foray into this objective and our intent is to set a stage for further research (and critique) about the role and relevance of leadership concepts for practice.

Meyer and Land's (2003) theory of threshold concepts provides a pragmatic frame of inquiry by which we hope to spark further research and discussion as it relates to the teaching of leadership practice. Further questions for pedagogical research on threshold concepts and modalities, besides their realization, include: How might we assess the learning of threshold concepts? How might leadership education and management development be organized around threshold concepts? What modalities are most propitious to develop particular concepts?

How learners engage with threshold concepts is another promising avenue for research in management learning and development. For example, Rowbottom (2007) argues that thresholds vary significantly by individuals. Further research could examine the influence of dispositional variables such as openness to experience, tolerance for ambiguity, and learning styles on how students vary in their response to threshold concepts. From a practice perspective, our focus on action learning needs to be replicated and other pedagogies of practice attempted so that we can learn the modalities in which teaching would be guided by how learners *engage* with core threshold concepts rather than retain them in memory.

## Conclusion

The psychologist Dietrich Dörner (1996) found that those in leadership capacities who fall short in responding to complex situations are those who rely on predictable solutions and fail to adjust their response based on the scenarios presented to them. On the contrary, those who tend to be effective are the ones who are open to opposing perspectives and who are willing to revise their thinking and alter their course. Similarly, in the teaching of leadership, we need to prepare learners for unknown situations in the future, situations which are often very much unlike the situations they have already experienced. Doing so requires the teaching of a leadership that moves beyond one-step solutions toward engagement in troublesome knowledge, concepts, and modalities. We have shown how the adoption of situational and shared leadership as threshold concepts can transform students' conceptualizations about leadership resulting in variety and depth in their leadership practice.

We argue that an inquiry into threshold concepts can be a catalyst for leadership scholars and educators to diversify their scholarship and create a bridge between research and teaching. It can also serve to advance a consolidation and deeper understanding of leadership concepts as well as associated methods, in particular action learning, that can cross the gulf between theory and practice. Our study further suggests that it is not sufficient to just identify threshold concepts and their constituent components, but rather to inquire into the modalities which facilitate the crossing into these thresholds. The essence of this inquiry is to understand how the interaction of threshold concepts and modalities can facilitate a transformation in leadership practice.

Finally, our study has revealed that threshold concepts can release students from fixed views, such as the assumption that leadership is located only within the individual. Using threshold concepts such as situational and shared leadership, students are confronted with notions of leadership without simplistic solutions. This moves them into a zone of development where they have to adapt and experiment with new practices. When conceptions of leadership are transformed from fixed and static models, students may begin to realize the wealth of opportunities they have at their disposal to solve workplace problems not only by varying their own leadership but by soliciting the leadership of others.

## Notes

1. A fifth characteristic focuses on a given concept's disciplinarity or boundedness and was thought to be less relevant to our discussion of leadership practices; thus, it was not included in our discussion.
2. The term, reflexivity, is used here as an expression of emancipatory reflection, in which reflection becomes genuinely recursive such that people's thinking is changed. Referred to as 'double-loop' learning by Argyris and Schön (1978), reflexivity goes beyond a passive or unconscious questioning of current structures within the individual to an active challenge to governing values, in the same way that threshold concepts produce troublesome knowledge that transform our own construction of reality (Archer, 2007; Hardy et al., 2001).

## References

- Archer MS (2007) *Making our Way through the World*. Cambridge: Cambridge University Press.
- Argyris C and Schön DA (1978) *Organizational Learning. A Theory of Action Perspective*. Reading, MA: Addison-Wesley.
- Avolio BJ, Gardner WL, Walumbwa FO, Luthans F and May DR (2004) Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *Leadership Quarterly* 15(6): 801–823.
- Bandura A (1977) *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bass BM (1985) *Leadership and Performance beyond Expectations*. New York: Free Press.
- Bass BM and Avolio BJ (1994) *Improving Organizational Effectiveness through Transformational Leadership*. Thousand Oaks, CA: Sage.
- Blake RR and Mouton JS (1964) *The Managerial Grid*. Houston, TX: Gulf.
- Bolden R and Gosling J (2006) Leadership competencies: Time to change the tune? *Leadership* 2(2): 147–163.
- Bourdieu P (1977) *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bowden J and Marton F (1998) *The University of Learning*. London: Kogan Page.
- Bronfenbrenner U (1979) *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.
- Brown JS and Duguid P (1991) Organizational learning and communities-of-practice: Towards a unified view of working, learning, and innovation. *Organization Science* 2: 40–57.
- Brown J, Collins A and Duguid P (1989) Situated cognition and the culture of learning. *Educational Researcher* 18(1): 32–42.

- Casey AJ and Goldman EF (2010) Enhancing the ability to think strategically: A learning model. *Management Learning* 41(2): 167–185.
- Chi MTH and Roscoe RD (2002) The processes and challenges of conceptual change. In: Limon M, Mason L (eds) *Reconsidering Conceptual Change: Issues in Theory and Practice*. Dordrecht, The Netherlands: Kluwer Academic, 3–27.
- Chia R and Holt R (2006) Strategy as practical coping: A Heideggerian perspective. *Organization Studies* 27(5): 635–655.
- Chia R and Holt R (2008) The nature of knowledge in business schools. *Academy of Management Learning & Education* 7: 471–486.
- Conger JA (1998) Qualitative research as the cornerstone methodology for understanding leadership. *Leadership Quarterly* 9(1): 107–121.
- Conger JA and Kanungo RN (1987) Toward a behavioral theory of charismatic leadership in organizational settings. *Academy of Management Review* 12(4): 637–647.
- Corbin J and Strauss A (2008) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. 3rd edn. Los Angeles, CA: Sage.
- Corradi G, Gherardi S and Verzelloni L (2010) Through the practice lens: Where is the bandwagon of practice-based studies heading? *Management Learning* 41(3): 265–283.
- Crevani L, Lindgren M and Packendorff J (2007) Shared leadership: A postheroic perspective on leadership as a collective construction. *International Journal of Leadership Studies* 3(1): 40–67.
- Cunliffe AL (2009) The philosopher leader: On relationalism, ethics and reflexivity—a critical perspective to teaching leadership. *Management Learning* 40(1): 87–101.
- Davies P and Mangan J (2007) Threshold concepts and the integration of understanding in economics. *Studies in Higher Education* 32(6): 711–726.
- Day DV, Gronn P and Salas E (2004) Leadership capacity in teams. *Leadership Quarterly* 15(6): 857–880.
- DeRue DS and Ashford SJ (2010) Who will lead and who will follow? A social process of leadership identity construction in organizations. *Academy of Management Review* 35(4): 627–647.
- Dorner D (1996) *The Logic of Failure: Why Things Go Wrong and What We Can Do to Make them Right*. New York: Holt.
- Eden C and Huxham C (1996) Action research for the study of organizations. In: Clegg SR, Hardy C, Nord WR (eds) *Handbook of Organization Studies*. London: Sage, 526–542.
- Edmondson A (1999) Psychological safety and learning behavior in work teams. *Administrative Science Quarterly* 44(2): 350–383.
- Eikeland O (2009) Habitus-validity in organizational theory and research: Social research and work life transformed. In: Brøgger B, Eikeland O (eds) *Turning to Practice with Action Research*. Bern, Switzerland: Peter Lang, 33–66.
- Fiedler FE (1967) *A Theory of Leadership Effectiveness*. New York: McGraw-Hill.
- Ford J and Harding N (2007) Move over management: We are all leaders now. *Management Learning* 38(5): 475–493.
- Ford P (2006) Discourses of leadership: Gender, identity, and contradiction in a UK public sector organization. *Leadership* 2(1): 77–99.
- Gardner H (2004) *Changing Minds*. Boston, MA: Harvard Business School Press.
- Geiger D (2009) Revisiting the concept of practice: Toward an argumentative understanding of practicing. *Management Learning* 40(2): 129–144.
- Goetz JP and LeCompte MD (1984) *Ethnography and Qualitative Design in Educational Research*. 2nd edn. Orlando, FL: Academic Press.
- Graeff CL (1983) The situational leadership theory: A critical review. *Academy of Management Review* 8(2): 285–291.
- Graen GB and Uhl-Bien M (1995) Relationship-based approach to leadership: Development of leader member exchange (LMX) theory of leadership over 25 years, applying a multilevel multidomain perspective. *Leadership Quarterly* 6(2): 219–247.
- Grint K (2010) The sacred in leadership: Separation, sacrifice and silence. *Organization Studies* 31(1): 89–107.

- Hammersley M and Atkinson P (1983) *Ethnography: Principles in Practice*. London: Tavistock.
- Hardy C, Phillips N and Clegg S (2001) Reflexivity in organization and management theory: A study of the production of the research 'subject'. *Human Relations* 54(5): 531–560.
- Hersey P and Blanchard K (1988) *Management of Organizational Behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Hibbert P (2009) Reflexivity as a threshold concept: Troublesome understanding. In: Solomon GT (ed.) *Best Paper Proceedings of the Sixty-Ninth Annual Meeting of the Academy of Management*, Chicago, 7–11 August, 1–6.
- Hosking DM (2011) Telling tales of relations: Appreciating relational constructionism. *Organization Studies* 32(1): 47–65.
- Judge TA, Piccolo RF and Kosalka T (2009) The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm. *Leadership Quarterly* 20(6): 855–875.
- Kegan R (1994) *In Over our Heads: The Mental Demands of Modern Life*. Cambridge, MA: Harvard University Press.
- Kempster S and Parry KW (2011) Grounded theory and leadership research: A critical realist perspective. *Leadership Quarterly* 22(1): 106–120.
- Kempster S and Stewart J (2010) Becoming a leader: A co-produced autoethnographic exploration of situated learning of leadership practice. *Management Learning* 41(2): 205–219.
- Kiley M and Wisker G (2009) Threshold concepts in research education and evidence of threshold crossing. *Higher Education Research and Development* 28(4): 431–441.
- Knights D and Willmott H (1992) Conceptualizing leadership processes: A study of senior managers in a financial services company. *Journal of Management Studies* 29(6): 761–782.
- Kvale S (1996) *Interviews: An Introduction to Qualitative Research Interviewing*. London; New Delhi: Sage.
- Land R, Meyer JHF and Smith J (eds) (2008) *Threshold Concepts within the Disciplines*. Rotterdam: Sense.
- Land R, Cousin G, Meyer JHF and Davies P (2005) Threshold concepts and troublesome knowledge (3): Implications for course design and evaluation. In: Rust C (ed.) *Improving Student Learning: Diversity and Inclusivity*. Oxford: Oxford Brookes University, 53–64.
- Lather P (1998) Critical pedagogy and its complicities: A praxis of stuck places. *Educational Theory* 48(4): 487–498.
- Lave J and Wenger E (1991) *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.
- Lewis MW and Dehler GE (2000) Learning through paradox: A pedagogical strategy for exploring contradictions and complexity. *Journal of Management Education* 24(6): 708–725.
- Locke K (2001) *Grounded Theory in Management Research*. Thousand Oaks, CA: Sage.
- Lord RG and Levy PE (1994) Moving from cognition to action: A control theory perspective. *Applied Psychology: An International Review* 43(3): 335–367.
- Louis MR and Bartunek JM (1992) Insider/outsider research teams: Collaboration across diverse perspectives. *Journal of Management Inquiry* 1(2): 101–110.
- Lucas U and Mladenovic R (2006) Developing new world views: threshold concepts in introductory accounting. In: Meyer JHF, Land R (eds) *Overcoming Barriers to Student Understanding: Threshold Concepts and Troublesome Knowledge*. New York: Routledge, 148–159.
- Luoma M (2006) A play of four arenas. *Management Learning* 37(1): 101–123.
- Lynch KD (2007) Modeling role enactment: Linking role theory and social cognition. *Journal for the Theory of Social Behaviour* 37(4): 379–399.
- McCauley CD, Drath WH, Palus CJ, O'Connor PM and Baker BA (2006) The use of constructive-developmental theory to advance the understanding of leadership. *Leadership Quarterly* 17(6): 634–653.
- McNiff J and Whitehead J (2002) *Action Research: Principles and Practice*. London: Routledge.
- Marquardt, MJ (1999) *Action Learning in Action*. Palo Alto, CA: Davies-Black.
- Meyer JHF and Land R (2003) Threshold concepts and troublesome knowledge (1): Linkages to ways of thinking and practising. In: Rust C (ed.) *Improving Student Learning: Theory and Practice: Ten Years On*. Oxford: Oxford Centre for Staff and Learning Development, Oxford Brookes University, 412–424.

- Meyer JHF and Land R (2005) Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. *Higher Education* 49(3): 373–388.
- Meyer JHF and Land R (2006) Threshold concepts and troublesome knowledge: Issues of liminality. In: Meyer JHF, Land R (eds) *Overcoming Barriers to Student Understanding: Threshold Concepts and Troublesome Knowledge*. New York: Routledge, 19–32.
- Meyer JHF and Land R (2008) Threshold concepts and troublesome knowledge (5): Dynamics of assessment. Paper presented at the *2nd International Conference on Threshold Concepts, Threshold Concepts: From Theory to Practice*, Kingston, Ontario, Canada, 25–27 June.
- Meyer JHF, Ward SC and Latreille P (2009) Threshold concepts and metalearning capacity. *International Review of Economics Education* 8(1): 132–154.
- Mezirow J (1981) A critical theory of adult learning and education. *Adult Education Quarterly* 32(1): 3–24.
- Mezirow J (1990) *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning*. San Francisco, CA: Jossey-Bass.
- Mintzberg H (2004) *Managers not MBAs*. San Francisco, CA: Berrett-Koehler.
- Nersessian NJ (2008) *Creating Scientific Concepts*. Cambridge, MA: MIT Press.
- Park EJ and Light G (2009) Identifying atomic structure as a threshold concept: Student mental models and troublesomeness. *International Journal of Science Education* 31(2): 233–245.
- Pearce CL and Conger JA (2003) *Shared Leadership: Reframing the Hows and Whys of Leadership*. Thousand Oaks, CA: Sage.
- Pearce CL, Conger JA and Locke EA (2007) Shared leadership theory. *Leadership Quarterly* 18(3): 281–288.
- Pedler M (2008) *Action Learning for Managers*. Aldershot: Gower.
- Peirce CS (1992) Deduction, induction, and hypothesis. In: Houser N, Kloesel C (eds) *The Essential Peirce: Selected Philosophical Writings, Vol 1. (1863–1893)*. Bloomington, IN: Indiana University Press, 189–199.
- Perkins D (2005) *Beyond Understanding: Threshold Concepts within the Disciplines*. Rotterdam and Taipei: Sense.
- Piaget J (1951) *The Psychology of Intelligence*. London: Routledge and Kegan Paul.
- Pinker S (2007) *The Stuff of Thought: Language as a Window into Human Nature*. New York: Viking.
- Polanyi M (1966) *The Tacit Dimension*. Garden City, NY: Doubleday.
- Raelin JA (2007) *Learning to Engage: A Guide to Leaderful Practice*. Hoboken, NJ: John Wiley & Sons.
- Raelin JA (2001) Public reflection as the basis for learning. *Management Learning* 32(1): 11–30.
- Raelin JA (2006) Does action learning promote collaborative leadership? *Academy of Management Learning and Education* 5: 152–168.
- Raelin JA (2008) *Work-Based Learning: Bridging Knowledge and Action in the Workplace*. San Francisco, CA: Jossey-Bass.
- Raelin JA and Raelin JD (2006) Developmental action learning: Toward collaborative change. *Action Learning: Research and Practice* 3(1): 45–67.
- Ramsey C (2011) Provocative theory and a scholarship of practice. *Management Learning* 42(forthcoming). DOI: 10.1177/1350507610394410.
- Reason P (1999) Integrating action and reflection through co-operative inquiry. *Management Learning* 30(2): 207–225.
- Rowbottom DP (2007) Demystifying threshold concepts. *Journal of Philosophy of Education* 41(2): 263–270.
- Ryle G (1949) *The Concept of Mind*. Chicago, IL: University of Chicago Press.
- Salaman G and Butler J (1990) Why managers won't learn. *Management Learning* 21(3): 183–191.
- Schatzki TR (1997) Practices and actions: A Wittgensteinian critique of Bourdieu and Giddens. *Philosophy of the Social Sciences* 27(3): 283–308.
- Schatzki TR, Knorr Cetina K and von Savigny E (eds) (2001) *The Practice Turn in Contemporary Theory*. New York: Routledge.
- Schein E (1984) *Organizational Culture and Leadership*. 2nd edn. San Francisco, CA: Jossey-Bass.
- Schwartzman L (2007) Student defensiveness as a threshold to reflective learning in software design. *Informatics in Education* 6(1): 197–214.

- Shondrick SJ, Dinh JE and Lord RG (2010) Developments in implicit leadership theory and cognitive science: Applications to improving measurement and understanding alternatives to hierarchical leadership. *Leadership Quarterly* 21(6): 959–978.
- Shotter J (2006) Understanding process from within: An argument for ‘witness’-thinking. *Organization Studies* 27(4): 585–604.
- Spillane JP, Halverson R and Diamond JB (2004) Towards a theory of leadership practice: a distributed perspective. *Journal of Curriculum Studies* 36(1): 3–34.
- Stogdill RM (1948) Personal factors associated with leadership: A survey of the literature. *Journal of Psychology* 25: 35–71.
- Taylor C (2006) Threshold concepts in biology: Do they fit the definition? In: Meyer JHF, Land R (eds) *Overcoming Barriers to Student Understanding: Threshold Concepts and Troublesome Knowledge*. New York: Routledge, 87–99.
- Weber M (1970) *From Max Weber: Essays in Sociology*, Gerth H, Mills CW (eds). London: Routledge.
- Weick KE (1996) Enactment and the boundaryless career: Organizing as we work. In: Arthur M, Rousseau DM (eds) *Boundaryless Careers*. Oxford: Oxford University Press, 40–57.
- Weick KE and Roberts KH (1993) Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly* 38(September): 357–381.
- Yammarino FJ, Dionne SD, Schriesheim CA and Dansereau F (2008) Authentic leadership and positive organizational behavior: A meso, multi-level perspective. *Leadership Quarterly* 19(6): 693–707.
- Yorks L, O’Neil J and Marsick VJ (eds) (1999) *Advances in Developing Human Resources: Action learning: Successful Strategies for Individual, Team and Organizational Development*. San Francisco, CA: Berrett Koehler.
- Zander C, Boustedt J, Eckerdal A, McCartney R, Moström JE, Ratcliffe M and Sanders K (2008) Threshold concepts in computer science: A multi-national empirical investigation. In: Land R, Meyer JHF, Smith J (eds) *Threshold Concepts Within the Disciplines*. Rotterdam: Sense, 105–118.
- Zundel M and Kokkalis P (2010) Theorizing as engaged practice. *Organization Studies* 31(9–10): 1209–1227.