The "Conceptual Framework" as a Threshold Concept for Investigating Processes in Leadership Research

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Abstract: A process perspective in research has been largely neglected, including in studies of leadership. This neglect is partly because of the dominant quantitative variance approaches to research that have been adopted in many disciplines. However, it is also because of the difficulties that researchers encounter in conceptualising and investigating their research from a process perspective. This process of conceptualisation is particularly challenging for post-graduate students. Threshold concepts are critical to student learning, providing gateways to understanding particular fields or disciplines. This paper adopts this idea of threshold concepts and relevant teaching practices to illustrate its use in post-graduate students' teaching and learning activities to develop a conceptual framework that can investigate a process. Several key topics are addressed: How conceptual frameworks are introduced and taught; Differentiating quantitative variance conceptual frameworks from qualitative process conceptual frameworks; and Explaining and illustrating how to conduct process theory in qualitative research using the case study method, grounded theory method, and critical incident technique.

Keywords: threshold concepts, conceptual framework, leadership process, teaching research design

1. Introduction

In the teaching and learning literature, threshold concepts are considered to be critical to student learning (Wright & Hibbert 2015). They serve as gateways to understanding, can be transformative, providing critical insights into the field or discipline, and shape how students "'think' in a particular discipline, or how they perceive, apprehend, or experience particular phenomena …" (Meyer & Land 2003, p. 424). Furthermore, according to Meyer and Land (2003), threshold concepts have the following characteristics: They are transformative, irreversible (i.e. unlikely to be forgotten), integrative, bounded (i.e. demarcate disciplinary areas and are therefore not holistic), and troublesome (i.e. counterintuitive, alien or incoherent). As a result of these characteristics, threshold concepts are critical for educators to address through their teaching and learning activities, but simultaneously, they are hard for students to grasp.

When teaching students how to design a research study, a "conceptual framework" is one of the threshold concepts encountered (e.g. Alpi & Hoggan 2016). Researchers may portray the relationship between several concepts related to their phenomenon of interest as a conceptual framework (Grant & Osanloo 2014; Jabareen 2009), and these can be investigated quantitatively or qualitatively (Miles, Huberman, & Saldaña 2014; Pearse 2019). The conceptual framework scopes and shapes the research by explicitly displaying the central concepts of a research study and their relationships, and so becomes an important reference point for supervision and an instrument to scaffold learning (Berman & Smyth 2015).

"Process" is a second threshold concept that is focused upon in this paper. Process theories represent a distinct category or type of theory concerned with "process" and are differentiated from "variance" and "systems" as two alternative categories of theories (Burton-Jones, McLean, & Monod 2015).

There are relatively few publications that illustrate the teaching and learning practices associated with threshold concepts in general, let alone "conceptual frameworks" and "process", in particular. Educators that have addressed the challenges of teaching threshold concepts, have adopted a variety of techniques. These include providing readings and holding discussions or workshops (Kiley 2009), adopting active learning techniques such as role plays and presentations (Nicola-Richmond, Pépin, Larkin, & Taylor 2018), conducting tutorials and creating communities of practice (Leshem 2007), contrasting the everyday frameworks of students with scientific frameworks (Davies 2019), and enabling peer to peer collaboration (Bhola & Parchoma 2016) to facilitate learning. The aim of this paper is to illustrate how post-graduate students are taught to conceive and apply a conceptual framework to process theories. Several key topics are addressed in lectures and provide a structure for this paper, namely:

- Explaining and illustrating conceptual frameworks.
- Differentiating quantitative *variance* conceptual frameworks from qualitative *process* conceptual frameworks.

- Explaining and illustrating how to conduct process theory in qualitative research.

The paper specifically illustrates the research design of leadership studies, thereby complementing the work of other authors such as Fischer, Dietz, and Antonakis (2017), whose focus is on the leadership phenomenon itself. Given the focus on research design, researchers should transfer the ideas presented here to phenomena other than leadership.

To simplify this illustration of teaching and learning, like Niederman and March (2018), a pragmatic approach is adopted in examining process, and is agnostic on matters related to ontology and epistemology. As Niederman and March (2018) point out, this stands in contrast to the philosophical approaches to process as advocated by Whitehead and Demir and Lychnell (2015).

2. Teaching conceptual frameworks

According to Burton-Jones, McLean and Monod (2015), building a theory consists of two main components, namely concepts and relationships. These are also the basic building blocks for designing conceptual frameworks. Tom Wujec has developed a "Draw Toast" workshop (see https://www.drawtoast.com/) to apply systems thinking and address wicked problems. Here, the basic building blocks of a systems design are nodes and connectors, which closely resemble the concepts and relationships of Burton-Jones, et al. (2015). This activity is adapted to a classroom exercise of "Draw how to make a cup of coffee". Students each draw their process diagrams and then compare them with the drawings of others. This comparison leads to further classroom discussion, emphasising the process of design.

Thereafter, examples are provided of conceptual frameworks used in management research, with a distinction made between untested conceptual frameworks and tested conceptual models. Finally, students are asked to draw a diagram illustrating their own conceptual framework, showing the main concepts of their research and the relationships between them. In degree programs such as the MBA, the research is of limited scope. Therefore, students are encouraged to identify a conceptual framework from the literature and adapt it to derive a simplified conceptual framework representing their research, with have far fewer concepts and relationships. Cooperative learning (Slavin 1995) then takes place with students presenting the conceptual frameworks to their peers, explaining what they have drawn, and making modifications in the light of feedback received and their further reviewing of the literature.

3. Quantitative conceptual frameworks versus qualitative process frameworks

In quantitative leadership studies, an input-output model is dominant, with a questionnaire typically being the preferred data collection method (Bryman 2004). While quantitative researchers may frequently refer to leadership processes, according to the categories of Burton-Jones, et al. (2015), this research is classified as variance research and not process research. Explaining this distinction to students is an important step in explaining process theories and how their conceptual frameworks differ.

From a quantitative perspective, leadership theories explain the causal relationship between inputs and outputs (Fischer, Dietz, & Antonakis 2017). Therefore, the most basic quantitative relationship is illustrated by an independent and a dependent variable. It is assumed that a change in the independent variable level is responsible for a change in the level of the dependent variable. More complex quantitative conceptual frameworks build on this fundamental relationship, creating a configuration of various types of variables. A summary of the main types of variables is included in Table 1. These types of variables are illustrated in class through a lecture and supplemented with reading material.

Table 1: Illustrating the configuration of quantitative variables

Variable or Model Type	Explanation	Statistical tests	Examples
Situational variables	Situational variables incorporate physical and social surroundings, temporal and task dimensions, and various antecedent states that affect a variable of interest (Belk 1975).	Correlation analysis or ANOVA (James, Demaree, & Hater 1980).	Contingency theories of leadership in the 1970s and 1980s (House & Aditya 1997). Context in psychological leadership research (Liden & Antonakis 2009).

Variable or Model Type	Explanation	Statistical tests	Examples
Moderating variables	Moderation occurs when another variable is introduced that modifies the relationship between an independent or dependent variable by either strengthening, weakening, negating, or otherwise altering the relationship (Allen 2017).	Moderated multiple regression (Jose 2013).	A meta-analysis of the Multifactor Leadership Questionnaire noted that significant moderators of the relationship between leadership style and effectiveness included the level of the leader (high or low) and organizational setting (public or private (Lowe, Kroeck, & Sivasubramaniam 1996).
Mediating variables	A mediating variable is understood as part of a causal chain that is built, whereby the mediator explains to a greater or lesser extent the relationship between the independent and dependent variable (Baron & Kenny 1986). A mediator is, therefore, a causal mechanism in the chain of variables.	Stepwise (Baron & Kenny 1986) or by an analysis of the coefficients of estimated regression equations (MacKinnon & Dwyer 1993).	Gottfredson and Aguinis (2017) established that leader-member exchange was a mediating mechanism between leadership behaviour and its effect on follower performance. Lu, Lau and Yiu (2012) investigated multiple mediators in their study of transformational leadership.
Nomological networks	"A lawful pattern of interrelationships that exists between hypothetical constructs and observable attributes …" (Colman 2009).	Structural equation modelling.	Numerous nomological network models for leadership exist, including ethical leadership (Brown, Treviño, & Harrison 2005), servant leadership (Eva et al. 2019), authentic leadership (Gardner, Cogliser, Davis, & Dickens 2011) and the implicit followership theories of leaders (Sy 2010).
Multilevel models	Provide a more integrated explanation of leadership phenomena across various levels (e.g. at a micro and macro level; or individual-, team- and organisational-levels).	Multilevel structure equation modelling.	Maynard, Gilson and Mathieu (2012) provide a multilevel review of psychological empowerment at the individual, team, and organisational levels. Zhang, Lee and Wong (2016) investigated servant leadership measures at both the individual and organization levels.

Source: Author's construction

As explained and illustrated above, according to Burton-Jones, McLean and Monod (2015), the quantitative processes referred to above would be classified under a variance perspective. That is, a variance perspective assumes that the nature or properties of concepts (or entities) do not change, but only their value. On the other hand, a process perspective assumes that the concepts of interest are changed by a series of events or over time, so the sequencing of these events in time is critical (Burton-Jones, McLean, & Monod 2015). That is, a series of conditions need to occur in a particular sequence for them to have the potential to cause a change (Markus & Robey 1988). Since the nature of the concepts themselves change over time and not only their value, with the unfolding of a series of events, it is not feasible to construct valid and reliable measures of these unstable concepts. Therefore, they can only be investigated using qualitative research approaches.

4. Explaining and illustrating process theory as a qualitative process

To illustrate to students the distinction between quantitative variance models and qualitative processes, several process models that show qualitatively different stages are explained in a lecture, including:

- The experience of change as a loss (Bridges, Bridges, & Lencioni 2016; Prochaska, Prochaska, & Levesque 2001). This process has been built upon the grieving process of Kübler-Ross (1973), which is characterised by distinct phases of denial, anger, bargaining, depression and acceptance. Not surprisingly, therefore, what is viewed as appropriate leadership behaviour in each phase of change differs (see, for example, Kotter 1996).

- The classic forming, storming, norming and performing stages in the development of a team (Tuckman 1965) also require different types of behaviour from the leader at the different stages to facilitate team development (Rickards & Moger 2000).

As a further example of the distinctly dynamic nature of concepts from a process perspective, the Horila and Siitonen (2020) paper is given as a reading. It shows that relational leadership was not stable, nor did it develop linearly. Once students grasp the distinctive nature of process theories versus quantitative variance theories, they can develop conceptual frameworks that illustrate these processes. After that, their attention turns to designing the qualitative research strategy.

5. Approaches to developing qualitative leadership theories

In class, students are introduced to various qualitative research methods and techniques, with examples being provided of their use in leadership research. While several research methods can be used, this paper only discusses three possibilities, namely the use of the case study method, grounded theory method, and critical incident technique in theory building.

5.1 The case study method

Case study research is predominantly concerned about finding explanations to questions of "How?" and "Why?" (Yin 2014). These process-based explanations typically illustrate a series of unfolding steps or stages over time, with some also explaining the process or identifying its underlying causal mechanisms. The primary function of these mechanisms is not to predict but to explain "how?" (Davis & Marquis 2005). As Davis and Marquis (2005, p. 336) elaborate, "If a regression tells us about a relation between two variables - for instance, if you wind a watch it will keep running - mechanisms pry the back off the watch and *show how*." A range of mechanisms can be identified, including situational, action formation, transformational, environmental, cognitive, and relational mechanisms (Davis & Marquis 2005). For example, Beyer and Browning (1999) explained how charisma was routinised through administrative structural arrangements, succession planning and strategic and cultural initiatives. These various types of mechanisms can be analysed using, among other methods, a case study approach.

Five analytic techniques of case studies have been proposed by Yin (2014), which can all be used in process-based research:

- Pattern matching may be employed to match the process observed in the data to a theoretical process derived from the literature or presented as a conceptual framework.
- Explanation building attempts to identify the causal links that explain "how" or "why" something occurred as it did.
- Time-series analysis seeks to map out changes over time by compiling a chronology of events and their causes.
- The logic model explains why a sequence of events unfolded as it did by referring to an existing theory that provides a causal explanation and determining if it applies to the case at hand. This causal explanation can be analysed at an individual, organisational or programme level. As such, it is a type of pattern matching.
- Cross-case synthesis is used to analyse multiple cases, such as investigating leaders' learning processes in international organisational settings (Bingham, Eisenhardt, & Davis 2007). It can also be helpful in analysing processes across levels, if the cases are nested, such as O'Kane's (2006) study on leading a turnaround.

5.2 The grounded theory method

Mechanisms explain the occurrence of a process. Therefore, in contrast to events based stepwise processes which answer the question "how?", mechanisms are distinct in addressing "why?" questions. One popular qualitative research method that aims to explicate mechanisms is grounded theory. That is, grounded theory intends to generate a theory or explanation for a basic social process (Goulding 2002). For example, in the grounded theory study of Kan and Parry (2004), "identifying paradox" emerged as a basic social process in their investigation of leadership overcoming resistance to change in a New Zealand hospital.

Processes can consist of a series of events and/or activities, where events refer to something that happens to leaders, while activities are initiated by leaders who demonstrate agency (Niederman & March 2018). In

grounded theory studies, which seek to explicate basic social processes, this agency is reflected in the paradigm model as action/interaction strategies (Strauss & Corbin 1990). In their grounded theory study, Haque, Liu, and Titi Amayah (2017) showed how leaders who were patient during decision-making were better able to cultivate a collaborative culture, encourage growth, and attain organisational goals and objectives.

5.3 The critical incident technique

Originally designed as a quantitative observation-based technique by Flanagan (1954), the critical incident technique was subsequently adapted as a qualitative technique for gathering and analysing interview data (Chell 2004). The critical incident technique has also been used to provide structure to the collection of data, with an alternative method of data analysis being applied, such as content analysis (Ellinger & Cseh 2007), grounded theory (Hamlin & Whitford 2020), or thematic analysis (Ruiz, Hamlin, & Esparza Martinez 2014). The qualitative version of the critical incident technique provides one approach to exploring the unfolding of events and behaviours related to the occurrence of the critical incident.

For example, Bott and Tourish (2016) investigated the leadership dynamics in 18 diverse non-profit organisations. While the technique has tended to focus on significant events (Bott & Tourish 2016), a growing number of studies have used it to investigate the effects of routine activities in shaping behaviour (Ellinger & Cseh 2007; Ruiz, Hamlin, & Esparza Martinez 2014). For example, Parzefall and Coyle-Shapiro (2011) studied how employees made sense of a breach in the psychological contract and reported how employees went about attributing responsibility for the breach (typically to their immediate manager) and finding an explanation for its occurrence.

6. Implications for process-oriented research

Several implications emerge from this brief overview of teaching and learning activities to introduce students to the threshold concepts of conceptual frameworks and processes. A distinction is evident between quantitative and qualitative understandings of, and approaches to, the idea of process in theory building and testing. This distinction needs to be made explicit to students to successfully navigate the reviewing of the literature. For example, the research methods utilised in the literature need to be identified and included in reviews, and the nature and (in)stability of the concepts being investigated, clearly understood.

By extension, when identifying the gaps in the literature, researchers may find it necessary to view quantitative and qualitative studies as two separate bodies of literature. This may aid in problematisation or gap-spotting (Sandberg & Alvesson 2011), as a smaller body of literature is directly relevant. Alternatively, adopting a different research approach to that prevalent in the literature can also create an opportunity to make an original contribution to the existing body of knowledge.

7. Conclusion

This paper has aimed to illustrate how post-graduate students are taught to conceive and apply a conceptual framework to process theories, using various examples of leadership research studies. In describing these teaching and learning practices, given the space limitations of this paper, a pragmatic approach was adopted. As a result, this paper did not to explore the philosophical underpinnings of process research. For a more detailed discussion of the ontology and epistemology of the topic of process, readers are referred to the work of Demir and Lychnell (2015). Furthermore, it has not been possible to include mixed-method research designs that focus on the leadership process, even though there are examples of such studies (see Karsten & Hendriks 2017; Lyndon, Pandey, & Navare 2020; Serban & Roberts 2016).

Hopefully, in teaching how quantitative and qualitative research has approached the investigation of leadership behaviour, this paper has achieved a greater appreciation of conceptual frameworks as a gateway, or “portal” (Meyer & Land 2003) to understanding process in leadership behaviour research and will lead to more research in this neglected area.

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