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Dealing with the opposition of rigor and relevance from Dewey's pragmatist perspective

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Abstract

Central to the controversy regarding the practical utility of academic research is the academic–practitioner gap, which is characterized by the opposition between ‘rigor’ and ‘relevance’. We contribute to this discussion by proposing Dewey’s pragmatism as a perspective that helps resolve the rigor–relevance divide. If the rigor–relevance dichotomy is to be eliminated, there are philosophical, theoretical, and empirical challenges that need to be overcome. We demonstrate that Dewey’s pragmatism helps deal with these challenges. His ontological and epistemological stance about the world, theory, knowledge, and the relationship between knowledge and action addresses the philosophical challenges. His notion of usefulness embraces both rigor and relevance. It can serve as a new criterion for desirable academic research, thereby addressing the theoretical challenges. Dewey’s writing about experimentalism deals with the empirical challenges.

Key words: rigor, relevance, Dewey, pragmatism, experimentalism

INTRODUCTION

The controversy regarding the practical utility of academic research has been the subject of a number of articles, books, and special issues in academic journals (i.e., *Administrative Science Quarterly*, Vol. 27, No. 4; *Academy of Management Journal*, Vol. 44, No. 2; *Journal of Management Inquiry*, Vol. 6, No. 1; *British Journal of Management*, Vol. 12, Special Issue; *MIS Quarterly*, Vol. 23, No. 1; *Organization Studies*, Vol. 31, No. 9-10; Lawler et al, 1985; Murphy & Saal, 1990; Larwood & Gattiker, 1999) and the focus of three recent presidential speeches at the Annual Meetings of the Academy of Management (Mowday, 1997; Hitt, 1998; Huff, 2000).

Central to the controversy is the academic–practitioner gap, which is characterized by the opposition of ‘relevance’ and ‘rigor’ (Aram & Salipante, 2003). Despite the claim that academic knowledge often arises from the study of real-life management problems and issues, knowledge generation and testing by academics and management practice have canonically been seen as separate endeavors (Jarzabkowski, Mohrman, & Scherer, 2010). Academics are concerned with methodological rigor, which is achieved by relying on standard data collection and analysis methods (Gulati, 2007). The ultimate purpose is to develop universal laws and principles describing the nature of things. Relevance is the practitioners’ primary interest. Management research becomes relevant for them when it is context specific, providing concrete recommendations for actions (Palmer, Dick, & Freiburger, 2009).

The debate about the relevance–rigor dualism is characterized by diverse perspectives (Jarzabkowski et al., 2010). Some voices posit that academic and practical communities are separated by incommensurable knowledge and knowledge generation principles. Relevance should not be a goal of academics (e.g. Keiser & Leiner, 2009). Some others acknowledge the profound separation, but not the incommensurability. They argue for organizational studies to be made more relevant to practice through greater connections between academic researchers and organizational practitioners (e.g. Bartunek, 2007).

We advocate the point of view that academic research can include both rigor and relevance. They are not opposites but facets of unified, desirable management knowledge. There are challenges on various levels of analysis if the rigor–relevance dichotomy is to be eliminated. Jarzabowski and her co-authors outlined the key challenges: philosophical challenges, theoretical challenges, and empirical challenges (2010). The opposition between rigor and relevance is due to the ontological and epistemological differences between the two perspectives. We need an appropriate definition of knowledge, theory and their relationship with action to overcome these philosophical challenges. Theoretical challenges relate to the way we think about desirable management theories and knowledge. Finally, empirical challenges pose problems about how empirical investigation and analysis can actually be conducted.

We demonstrate that these challenges can be overcome by relying on John Dewey’s pragmatism. His ontological and epistemological stance on the world, theory, knowledge, and the relationship between knowledge and action helps address the philosophical challenges. The notion of usefulness developed by Dewey embraces both rigor and relevance. Usefulness can serve as a unifying

criterion for desirable academic research, thereby addressing the theoretical challenges. Dewey's writing on experimental methodology deals with the empirical challenges.

THE RIGOR-RELEVANCE DEBATE

Many scholars have raised concerns about the separation between the academic interest in high quality research and the concrete issues of practitioners within their complex environment (Daft & Lewin, 1990; Zundel & Kokkalis, 2010). They have called for greater recognition of the practical problems of practitioners and the generation of more relevant and actionable knowledge by academic research (e.g. Hambrick, 1994; Mohrman, 2001). On the one hand, some believe relevance should not be a goal for academics because academic and practical communities cannot learn from one another. For example, Keiser and Leiner (2009), relying on system theory, argued that because of the differences between management science and practice, it is impossible to assess the relevance of research output within the system of science. On the other hand, others acknowledge the postulated gap between rigor and relevance but deny their incommensurability. To increase the relevance of management studies, they propose making significant changes, such as moving to Mode 2 of knowledge production (Starkey & Madan, 2001), adopting a full-cycle approach to research in organizational behavior doctoral programs (Polzer, Gulati, Khurana, & Tushman 2009), engaging with other academic disciplines (Kilduff & Kelemen, 2001), broadening the scope of journals to include papers that do not directly contribute to theory but are nonetheless of great potential consequence (Hambrick, 2007), promoting academic-practitioner research collaboration (Amabile et. al., 2001; Rynes, Bartunek, & Daft, 2001), and relying on rewards for relevance and mechanism for inreach (Aldag, 1997). Scholars also advocate the creation of data bases to make academic knowledge easily available to practitioners, or the presentation of academic knowledge in language and formats that are more easily accessible to practitioners who are not familiar with research methodology and terminology (Jarzabkowski et al., 2010). Shapiro (2007) suggests that academic results are untranslatable to practice because of the lack of overlap between the questions that academics ask and the ones that practitioners face. Therefore, research may become more appealing to practitioners by focusing on their actual problems and providing them with adequate ready-to-hand solutions (Weick, 2003).

We support a third perspective, which advocates research with an inclusive approach as regards both rigor and relevance. Scholars who adopt this perspective maintain that the co-existence of rigor and relevance is important (Aldag, 1997; Gulati, 2007; Mowday, 1997) and already at work (Miles, 1997), arguing for both the adaptation and adaptability of management knowledge (Weick, 2001), and seeing academic theories as unsound if they have little to offer to practice (Baldrige, Floyd, & Markóczy, 2004). What management scholars have to contribute is high-quality and rigorous research on questions of consequence and importance (Mowday, 1997).

The challenges identified by Jarzabkowski et al. (2010) have not been addressed in the existing studies of this third perspective. Recommendations

to embrace both dimensions include using a third model of research based on partnerships (Hatchuel, 2001), conducting collaborative research and co-creation processes (Denis & Lomas, 2003; Shani, Adler, Mohrman, Pasmore, & Stymne, 2008) such as action research (Reason & Bradbury, 2001) and design research (Van Aken, 2005; Romme, 2003), expanding to mode 3 of knowledge production (Hodgkinson, Herriot, & Anderson 2001; Huff & Huff, 2001), and including multi-disciplinary perspectives in conducting research and examining phenomena at multiple levels of analysis, through time and in situ (Lawler et al., 1985). Suggestions have been made for management education such as reorienting the business school agenda toward 'righteous management,' which is based on the pluralistic promotion of self-interest and altruism rather than a focus on self-interest alone (Birnik & Billsberry, 2008), relying on executive education in general, and action learning in particular, which are fertile contexts for business schools to bridge the relevance-rigor gap (Tushman, O'reilly, Fenollosa, Kleinbaum, & Mcgrath, 2007). Adopting a practice-based perspective (Gherardi, 2009) is recommended to shift the emphasis from separating 'theory' and 'practice' towards an appreciation of the overlaps between academic and organizational practices (Zundel & Kokkalis, 2010).

DEWEY'S PRAGMATISM: OVERCOMING PHILOSOPHICAL CHALLENGES

Practitioners and academics do not share the same values, models, and theories when making sense of their environment (Starbuck, 1982; Shrivastava & Mitroff, 1984; Van de Ven & Johnson, 2006). While both rigor and relevance are equally valid and valuable, they possess opposite epistemological and ontological statuses which hold back the academic attempt to generate and transfer academic theory to organizational practice (Zundel & Kokkalis, 2010). Therefore, to deal with the dualism of rigor and relevance, there are philosophical challenges which involve two issues: 1) how the concepts of knowledge and theory should be defined and 2) the systematic linkage between knowledge and action, i.e. whether theory precedes practice or whether practice is methodologically anterior (Jarzabkowski et al., 2010). Our discussion is summarized in the table below.

Table 1. Comparison of rigor perspective, relevance perspective and pragmatism

	World	Theory	Knowledge	Linkage between knowledge and action	Desirable management knowledge
Rigor perspective	Stable and independent of the individual	Universal understanding and general principles	Representing the way the world actually is	Knowledge precedes action	Rigorous: precise and exact knowledge that can be applied across settings
Relevance perspective	Contingent and ever-changing	Attempt to theorize is misguided	Personal, local and context-dependent	Action precedes knowledge	Relevant: offers solutions to immediate practical concerns
Pragmatism	Is 'there' and has meaning only in its relation to an individual	Another account of how things in the world relate to each other	Outcome of inquiry Warranted assertion Having both particularizing and generalizing function	Intertwined	Useful: - Normative (does this help advance our projects?) - Epistemological (is this knowledge credible, well-founded, and reliable?)

Ontological and epistemological assumptions of the rigor perspective

As Aram and Salipant (2003) pointed out, the rigor perspective assumes a stability and continuity in the world. The world is stable, objective and 'out there', awaiting impartial exploration and discovery (Gioia & Pitre, 1990). Its general principles can thus be discovered and abstractly represented or objectified.

The goal of theory building is to construct a theory of the stable and universal relationship between parts of the system under study. A theory of a phenomenon is the explanation of that phenomenon, which has to state a relationship between at least two variables and what that relationship is (Zundel & Kokkalis, 2010). Theories must be valid across diverse situations (Scherer, 2003).

Knowledge is free from the influences of any subjective assumptions that may distort reality (Taylor, 2006). It is assumed to take an explicit form, adhering to an 'objectivity' that enables organizational researchers to represent the way the world actually is not from a place within it, but from nowhere in particular (Ghoshal, 2005).

The conventional wisdom of this perspective is that knowledge is distinguishable from and precedes action (Jarzabkowski et al., 2010). Theory methodologically precedes its application in specific circumstances in the organization (Donaldson, 1996). It is assumed to be translatable into actions that help solve practical problems and advance organizational practice (Tranfield & Starkey, 1998). For example, managers can rely on theories to explain organizational phenomena, predict behavior and control organizations.

Therefore, the tradition of academic research is to discover regularities, causal statements and even law-like rules in the firm's functioning and behavior through statistical associations between important variables (Scherer, 2003). The criterion for desirable management knowledge is rigor, which scholars claim to obtain by investigation replete with standard data collection methods and quantitative measures with multivariate statistical techniques (Gulati,

2007; Palmer et. al., 2009).

Ontological and epistemological assumptions of the relevance perspective

From the relevance perspective, the world is contingent and one can assume neither stability nor continuity (Aram & Salipante, 2003). The world is a lifeworld (Husserl, 1970). It is the world as it is 'lived by the person' (Valle, King, & Halling, 1989).

As the world is contingent upon the individuals' construction of meanings, there is the problem of how theory can be justified at all (Scherer & Steinmann, 1999; Spender & Scherer, 2007). With the perspective's ontological assumption that change is endemic, interest in objectifying behaviour or in pursuing generalized behavioural regularities is disavowed; efforts to theorize are misguided and fruitless (Aram & Salipante, 2003). Instead of attempting to generalize, scholars should pay attention to context-oriented epistemological principles, such as quality (wholeness, or taking all relevant factors into account in comprehending an event) and texture (understanding the unique configuration of details and relationships that comprise the situation) (Tsoukas, 1994).

The relevance perspective argues that the inquirer and the phenomenon under inquiry cannot be separated in the knowledge process. We cannot know an independent, objective world that stands apart from our experience of that world (Avenir, 2010). Knowledge, thus, is highly personal, local and context dependent. One undermines knowledge in the effort to abstract it from its context. Only through interacting with the environment do we become able to obtain knowledge about social and natural phenomena (Jarzabkowski et al., 2010).

As the construction of knowledge is rooted in practice, action methodologically precedes knowledge and the development of theory is a systematic extension of practice (Scherer & Steinmann, 1999). Life is seen by Wilhelm Dilthey (1926) in Jarzabkowski et al. (2010) as the beginning of and reference point for the development of knowledge and theory. We cannot go to an external point outside the social world to obtain understanding about life and create knowledge.

As organizational practitioners encounter their environment in a practical and ready-to-hand fashion, relevant theories are more desirable (Aram & Salipante, 2003). Relevance indicates the ability of management knowledge to offer solutions to immediate practical concerns as well as to inform and develop organizational practice by offering new ways of seeing, and creating alternative perspectives for practitioners (Zundel & Kokkalis, 2010).

The so-called rigor–relevance gap appears unbridgeable according to their different epistemological and ontological assumptions. Although the assumptions underlying rigor have certain inadequacy, those of relevance do not effectively overcome them. According to Wicks and Freeman (1998), rather than moving beyond such assumptions, the relevance perspective simply reverses them: one aims to find theory and describe the world, the other worries about making theory and prescribing the world. The emphasis shifts from finding the right theories to developing a variety of different theories. While admitting that each theory is contextual and subjective, we get trapped in the problem of how many or what kinds of theories are used. Relativism becomes

a fundamental problem.

Pragmatism

John Dewey (1859 – 1952) was renowned for being one of the most controversial philosophers of his generation. He wrote extensively on many different subjects including philosophy, psychology, political science, education, aesthetics and the arts. Along with Peirce and James, Dewey has been credited as one of the most prominent classic pragmatist thinkers and pioneers. His pragmatist approach is distinguishable by an inherent nature that Dewey often referred to as 'instrumentalism' or 'experimentalism'. Pragmatism was a convenient label to refer to a group of diverse thinkers, including Peirce, James, and Dewey (Bernstein, 2010).

The Cartesian dualism makes the rigor and relevance divide unbridgeable. Both perspectives believe in the separation of the individual and the environment, knowing and action, empirical and theoretical knowledge, and the like. By contrast, a unifying theme in the work of all the classical pragmatists and their successors is the development of a philosophical orientation that replaces this dualistic scheme (Bernstein, 2010). Peirce was the first to seek to work out an alternative understanding of human beings and their place in the cosmos. One can see this in Peirce's aphoristic saying that 'knowledge is habit' (Kilpinen, 2009). James challenged the subject-object distinction or consciousness-content distinction in his 1904 essay 'Does 'consciousness' exist?' Dewey's main point was to make clear that such dualism is not the inevitable or necessary point of departure for all philosophy (Biesta & Burbules, 2003). He said: 'What have been completely divided in philosophical discourse into man and world, inner and outer, self and not-self, subject and object, individual and social, private and public, etc., are in actuality parties in life-transactions' (Dewey and Bentley, 1949[1989]). The pragmatist thinkers sought to bring about a turn of the tide with their rejection of such sharp dichotomy (Bernstein, 2010).

While the rigor perspective sees the world as stable and independent of the individual and the relevance one describes it as contingent and lived by the individual, Dewey's conceptualization of the world embraces both viewpoints. He argued for 'the world that is there' but it is 'there' with such meaning only in its relation to an individual. Reality reveals itself to us as a result of our activities, of our 'doings' (Dewey, 1934[1987]). This conceptualization is based on the pragmatist view that an individual is within nature, not outside of nature and linked to it through his/her experience. Dewey said: 'nature's place in man is no less significant than man's place in nature. Man in nature is man subjected; nature in man, recognized and used, is intelligence and art' (Dewey, 1917[2000], p. 437).

Dewey's view of the world can be seen in his concept of experience. Understanding Dewey's notion of experience is the key to understanding his philosophy as a whole (Elkjaer, 2004). He developed this notion throughout his long life (Dewey, 1917 [2000], 1925 [1981], 1934 [1987], 1938 [1988]). This notion of Dewey should not be mixed up with an everyday understanding of the notion, i.e. as an inner, personal reservoir of earlier experiences (Miettinen, 2000). Influenced by Hegel, Dewey's concept of experience implies the transactional relationship between the individual and the environment (Bernstein, 2010). Dewey (1917[2000]) described every experience as having an active side, which changes to some degree the objective conditions under

which experiences are had, and a reaction to the changes produced in the environment experienced by the individual, who suffers the consequences of his/her own behavior. This close connection between doing and suffering or undergoing manifests itself as features and relations within an ongoing, unanalyzed unity (p. 437).

Dewey questioned the opposition between the denial of theory and universal theory, or between empirical and higher rational knowing (Dewey, 1916[1980]). Being strongly influenced by James, who also sought for a *via media* between the misguided epistemological atomism of the empiricists and the 'block universe' monism of the idealists (James, 1977 in Bernstein, 2010), Dewey (1938[1991]) neither denied the attempt to theorize nor believed in generating universal understandings. He rather argued that we can theorize, but saying that theory offers us a factual way of looking at the world is a wrong conclusion. For him, it is simply another account of how things within the world relate to each other. While discussing theory, Dewey (1925[1981]: 100) said: 'the exacting conditions imposed by nature, that have to be observed in order that work be carried through to success, are the source of all noting and recording of nature's doings. They supply the discipline that chastens exuberant fancy into respect for the operation of events, and that effects subjection of thought to a pertinent order of space and time'.

Many criticized this pragmatic pluralism as just a fancy name for relativism, but it is not. According to Bernstein (2010), pragmatic pluralism accepts multiple interpretations, but it demands us to be specific about the kind of interpretation we are talking about. The author pointed out two common pragmatic questions: 'what is the oneness known-as?' and 'what practical difference will it make?' These questions indicate that pragmatic pluralism requires us to reach out to the points of contact where we can critically engage with each other. Relativism speaks of incommensurable frameworks and paradigms. By contrast, pragmatic pluralism calls for a critical engagement with other points of view and with other visions (James, 1975 [1990]).

Dewey's view of knowledge embraces rigor and relevance. To understand his argument, it is necessary to introduce his notion of situation and inquiry. Situation is discussed at length in Dewey's work in 1938 [1991]. Situation denotes the entire character of all conditions under which and within which an individual lives at a given time, including shared routines of behavior such as traditions and norms. It is important to mention indeterminate situation. Miettinen (2000) has nicely represented this notion as a state of uncertainty emerges because habits do not work, routine actions are upset, and the individual is confused.

Inquiry was the topic of his well-known work of 1938 [1991]. Dewey defined inquiry as the controlled or directed transformation of an indeterminate situation into a determinate one. Inquiry involves thinking, a choice of actions, and the actual transformation of a situation (Biesta & Burbules, 2003). Inquiry has two kinds of result: the immediate outcome is that the situation becomes reconstructed in such a way that the initial problem becomes resolved; the indirect outcome is the production of a meaning that can be used as a resource in forthcoming problem situations (Miettinen, 2000). There is not an absolute end to inquiry, because every settlement of a situation institutes new conditions, which, in turn, occasion new problems and the cycle begins again (Dewey, 1938 [1991]).

For Dewey, on the one hand, knowledge is not a mirror of reality and the role of science is not to make knowledge as true as possible so it represents reality in an accurate way (Fenstermacher & Sanger, 1998). Dewey acknowledged the context-dependent and personal nature of knowledge to the extent that he defined knowledge as being the outcome of inquiry, located in the transaction between us and the environment (Dewey, 1938[1991]). Knowledge, by this account, is always contextual, because it is always related to the specific inquiry in which it was achieved. For these reasons, Dewey preferred to use the expression warranted assertion to denote the conceptual outcome of inquiry, rather than knowledge (Biesta & Burbules, 2003). On the other hand, there is also generalized knowledge, such as the kind of knowledge that explains why turning a handle causes the door to open (Polkinghorne, 2000). It is the convergent and cumulative effect of continued inquiry that defines knowledge in its general sense.

Unlike the rigor and relevance perspectives, Dewey's discussion of knowledge and action, did not focus on the question of whether one precedes another. He rather saw them as intertwined, as can be seen in his concept of inquiry. Although reflection plays an important part in inquiry, it is only when we put the suggested solution into action that its value can be established. Dewey's claim is that it is the combination of reflection and action that leads to knowledge (Dewey, 1939[1988]). Specifically, Dewey claimed that our knowing takes place inside the process of action, not outside it or before it.

Dewey argued against the distinction between relevant and rigorous theories (Dewey, 1916[1980]). He used the criterion of usefulness, which embraces both rigor and relevance criteria, in defining desirable management knowledge. Usefulness would be characterized by a focus on the practical relevance of research as well as a desire to search for novel and innovative approaches that may help serve human purposes; it reminds people that they can and should see different interpretations as having more or less value (Wicks & Freeman, 1998). Dewey's notion of usefulness will be presented in detail in the following section.

THE CRITERION OF USEFULNESS: OVERCOMING THEORETICAL CHALLENGES

When discussing the theoretical challenges, Jarzabkowski et al. (2010) believed that it is incorrect to see theories as the 'right' way to view the world, and that theories need to be better distilled and disseminated to increase relevance. In fact, we need better theories. The authors called for more attention to be paid to the use of theories in reality, arguing that theory and practice do not have a dichotomous relationship, but are rather intertwined.

Pragmatism provides a criterion for management knowledge that responds perfectly to this call: usefulness. Some scholars have equated relevance with usefulness (e.g. Mohrman, Gibson, & Mohrman, 2001). In fact, these two terms are not the same as defined by pragmatism. Pragmatists are concerned with whether or not knowledge is useful – useful in the sense of empowering

people (Fenstermacher & Sanger, 1998) and helping people to better cope with the world or to create better organizations (Wicks & Freeman, 1998). The pragmatic criterion of usefulness is not a synonym for utilitarianism. Rather, it contains a broad injunction that is adaptable to a wide range of value-systems that may differ substantially from utilitarianism (Wicks & Freeman, 1998). For Dewey, a first-rate test for usefulness is: does management knowledge provide conclusions which shed light on our experience and difficulties in life and enable us to deal with them more fruitfully? (Dewey, 1917[2000]: 463)

William James had discussed the notion of usefulness in his description about truth in terms of usefulness and acceptance (1907[2010]). James wrote: 'the possession of truth, so far from being here an end in itself, is only a preliminary means towards other vital satisfactions.' At one point in his works, James stated: '...the ultimate test for us of what a truth means is the conduct it dictates or inspires.' He thought that useful beliefs were true and useless beliefs were false, with truth being characterized instrumentally as what works. The pragmatist principle is that the content of a knowledge claim is to be understood in terms of what follows if it is true; its meaning is determined by its consequences, by the inferences permitted by an application of it (Macbeth, in Misak, 2007).

In Dewey's opinion, usefulness incorporates relevance as well as rigor dimensions. It is composed of two aspects: normative (does this help advance our projects?) and epistemological (is this knowledge credible, well-founded, reliable?) (Wicks and Freeman, 1998).

First, the chief value of theory for Dewey is that it can be a useful organizing device to help solve real world problems. A pragmatist researcher is interested in knowing what differences a given knowledge will have in practice. The practicality of knowledge is an important criterion to differentiate between meaningful and not meaningful knowledge (Dewey, 1931[1984]). Dewey argues that it is not the possibility of knowledge, but its point – the uses we make of it – that must occupy our judgments about nature (Dewey, 1897[1972]). From this it ensues that theories should be judged by their usefulness in solving problems. This coincides with the point of view that relevance means adapted and adaptable recommendations for action (e.g. Palmer et. al, 2009; Weick, 2001).

Dewey (1916[1980]) criticized the rigor–relevance debate for regarding knowledge as something complete in itself irrespective of its ability to deal with what is yet to be. He argued for a shift from 'knowing as an aesthetic enjoyment of the properties of nature as a world of divine art, to knowing as a means of secular control – this is, a method of purposefully introducing changes which will alter the direction of the course of events' (Dewey, 1924[1984]): 81). Dewey (1916[1980]) emphasized that the reference of knowledge is future or prospective, although its content is based on what has happened and what is taken as finished. He used the term applicability, which means applicability to what is still going on, what is still unsettled, in the moving scene in which we are implicated, to highlight this point. Knowledge is the means of understanding what is still going on and what is to be done. 'When knowledge is cut off from use in giving meaning to what is blind and bluffing, it drops out of consciousness entirely or else becomes an object of aesthetic contemplation' (Dewey, 1916[1980]: 191). 'We cannot entertain the conception of a world in which knowledge of its past would not be helpful in forecasting and giving meaning to its future' (Dewey, 1916[1980]: 398).

Useful theories put forward the theoretical recommendations that are capable of enactment. Dewey put the point clearly and eloquently: 'When a theory of knowledge forgets that its value rests in solving the problem out of which it has arisen, viz., that of securing a method of action; when it forgets that it has to work out the conditions under which the individual may freely direct himself without loss of the historic value of civilization - when it forgets these things, it begins to cumber the ground' (Dewey & Bentley, 1949[1989], 20-21). Thus, theories have as a primary goal not the refinement of concepts, but successful activity. The attempt to understand the world and nature should be carried out in such a way that we might learn how to function in it as effectively as possible (Gouinlock, 1990).

Second, for Dewey, rigor does not involve the quest for universal law and principles. Using pragmatic logic, one would not expect a unifying theory. William James has been well known for his saying that 'truth is what works' (Hacking, in Misak, 2007). Dewey joined the scholars advocating rigor in management studies to the extent that he believed knowledge must be credible and reliable. This does not mean one has to systematically collect empirical data and use multivariate statistical techniques in analysis. Dewey (1938 [1991]) believed that to ensure the reliability and credibility of knowledge, 'a philosophical theory of knowledge must not only maintain a reasonable degree of internal dialectical consistency but must square itself with some phases and conditions of the methods by which the beliefs that are entertained about the world have been reached.'

Such a method must abandon the traditional separation of knowledge and action and 'install action as the heart of knowledge' (Dewey, 1924[1984]). It rejects the traditional conception of the relationship between action and knowledge, in which one is inherently superior or inferior to the other. Actions without knowledge are simply blind striving, as knowledge provides insights into the conditions and sequences that are required to achieve results. It argues for a constant and effective interaction between them. Action, when directed by knowledge, is method and a means, not an end.

Moreover, the opposition between traditional empiricism and rationalism must be eliminated (Dewey, 1938 [1991]). What Dewey meant by empiricism is indeed similar to the relevance perspective that insists upon the necessity of practical materials in knowledge, while rationalism is related to the rigor perspective that pays attention mainly to universal regularities. For him, the distinction and relation between observed data and directive universal laws represent a functional division of labor within inquiry to meet the logical requirements of warranted assertion. A union of the two is required for any knowledge of nature.

It follows that every main philosophical theory of knowledge must borrow its leading principles from some phase of the logical pattern of inquiry (Dewey, 1938 [1991]). The pattern of inquiry, in and by which knowledge is instituted, provides the conditions that knowledge must satisfy. Dewey distinguished between common sense and scientific inquiries. In common sense inquiries, knowledge continuously arises in the daily life of everyone. In scientific inquiries, we do not wait for the occurrence of an indeterminate situation to inquire into the relationships between our actions and their consequences; we conduct deliberately systematic research. Scientific inquiry follows the same pattern

as common sense inquiry. It also starts from things we see, handle, use, enjoy and suffer from in the environment experienced in our everyday life. But instead of accepting this world as providing the objects of knowledge, scientific inquiry treats it as offering the materials of problems. This is the process of conducting research, which involves creating an indeterminate situation, or seeking one out, for the sake of advancing knowledge (Biesta & Burbules, 2003).

From this conceptualization of desirable management knowledge, the question of how knowledge should be generated is then raised. The answer lies in Dewey's writing about experimentalism, which will be discussed in the following section.

PRAGMATIC EXPERIMENTALISM: OVERCOMING EMPIRICAL CHALLENGES

The empirical challenges in bridging the rigor–relevance gap involve the generation and use of academic knowledge in organizations. Jarzabkowski et al. (2010) explained that theories are generated through the scholarly pursuit of academics who seek to understand organizational phenomena. Analysis of the generation and use of academic knowledge about organizations is complicated by the fact that it is a reflexive as well as a scientific process: academics are also practitioners carrying out an investigation to study organizational practitioners. Thus, one empirical challenge involves the conceptualization of the relationship between the knowledge that is generated within two different practices.

Moreover, Jarzabkowski et al. (2010) also pointed out that bridging the gap between rigor and relevance represents another challenge - that of developing some inherently combinatorial process of advancing academic knowledge and applying it to advance practical knowledge. We need to develop scholarly knowledge of organizations by iterative cycles that include the generation and elaboration of theory and its empirical testing in organizations. The authors argued that it is only by combining theoretical knowledge with the knowledge of practice in a unified whole that theories become relevant to organizational practice and are capable of informing action taken to address practical issues. These empirical challenges can be addressed by Dewey's experimental methodology for research activity based on his notion of inquiry and experience. Experimentalism embraces both the rigor and relevance sides insofar as their perspectives about how knowledge should be generated are concerned. It denies the separation of theoretical and practical knowledge, seeing them as two facets of the same undertaking; it seeks the creation of generalized knowledge and testing in actual context; it fuses practices arising from empirical situations with those arising from academic pursuit.

The experimental doing for the sake of knowing is found in the ordinary procedure of inquiry (Dewey, 1938 [1991]). In inquiry, when we are trying to make out the nature of a confused and unfamiliar object, our point of departure is a hypothesis about what might be the case. We then perform various acts to determine the validity of our hypothesis: turning it over, bringing it into a better light, shaking it, and so on. These acts make changes, which will reveal some previously unperceived qualities and properties of the objects.

Ordinary experience can produce from within itself questions and criteria of judgment that constitute legitimate knowledge production. Dewey (1938 [1991])

stated that the first step of experimental research is to localize the problems that are caused by the practical exigencies of life. We develop an experimental strategy in order to investigate the situation, thereby identifying the problem and hypotheses of its solution. What researchers do is execute certain operations of experimentation – which are operations of doing and making – that ‘modify antecedently given existential conditions so that the results of the transformation are facts which are relevant in solution of a given problem’ (Dewey, 1938 [1991]: 498). Dewey stressed that research is not only a matter of clarifying the problem, but also of observing and finding solutions. Put in a simple form, one should develop hypotheses on the problem and its solution, execute the solution by changing the conditions, see what happens, reflect on the results, draw conclusions, continue the cycle if the problem remains, and retain an open attitude towards unforeseen ideas (Biesta & Burbules, 2003). Generalizations are of two forms: there are those which institute ‘a relation of including and included kinds’, and there are those which institute if-then hypotheses and theories (Dewey, 1938 [1991]). Importantly, methods and products must be traced back to their origin in primary experience: researchers need to state when and where and why their actions took place, thus enabling others to repeat them and test their worth. The needs and problems out of which they arise and which they have to satisfy also need to be acknowledged (Dewey, 1917[2000]). Finally, the conclusions must be brought back to the things of ordinary experience, in all their coarseness and crudity, for verification (Dewey, 1917[2000]).

For Dewey, experimental methodology is not a formalized model, but the lived experimental activity of the researcher (Dewey, 1925[1981]). This experimental activity arises from what the researcher does, not what he asserts as his findings. It requires a researcher to decide what to engage in and how to carry out, e.g. the issues of what observations to undertake, what experiments to carry out, and what lines of reasoning and mathematical calculations to pursue. Moreover, researchers cannot settle these questions once and for all. They continually have to judge what it is best to do next in order to ensure their conclusions are well-grounded when they are reached. Dewey (1938 [1991]) described the conduct of scientific inquiry, whether physical or mathematical, as a mode of practice. The working scientist is a practitioner who is constantly engaged in making practical judgments: decisions as to what to do and what means to employ doing it.

An important element in Dewey's experimental methodology is democracy. In Dewey's ideal, experimental inquiry and democratic behavior become fused (Gouinlock, 1990). This means a willingness to question, investigate, and learn, a determination to search for clarity in discourse and evidence in argument, and a readiness to hear and respect the views of others, to consider alternatives thoroughly and impartially, and to communicate in a like manner in return. The blind following of custom, authority, and impulse is rejected.

In experimental methodology, theoretical knowledge and practical knowledge are not separated but two facets of the same endeavor (Dewey, 1938 [1991]). Knowledge of practice is used while determining a problem in such a way that its possible modes of solution are indicated. This necessarily involves the experimental transformation of objects in their actual conditions. Any suggested or indicated modes of solution must be formulated as a possibility in the form of

a hypothesis. However, the if-then hypothesis that results must be developed in relation to extant propositions of the same kind to direct future experimental observations yielding new data. It is here that theoretical knowledge is involved. It contributes to the formulation of hypothetical solution for the problem, so that the hypothesis will be operational to provide the new data that fill out and order those previously obtained. In Dewey's words, 'there is a continued to-and-from movement between the set of existential propositions about data and the non-existential propositions about related conceptions' (1938 [1991]: 427).

The characteristics of experimental methodology reflect the iterative cycle of theory generation and empirical testing. Experimental methodology states that hypotheses of solution for the problem must be tested in an empirical situation before making conclusions (Rosiek, 2003). According to Dewey (1938 [1991]), the validity of a proposition is determined by the consequences to which its functional use gives rise; the resulting conclusions on the proposition's validity then serve as a source of knowledge for future experiments. Theoretical knowledge is gradually generated as the cycle continues and the experiments' conclusions converge and cumulate. Dewey described the iterative cycle of theory generation and empirical testing using the terms induction, by which generalizations are arrived at, and deduction, by which existing generalizations are employed and tested. He said: 'any account of scientific method must be capable of offering a coherent doctrine of the nature of induction and deduction and of their relations to one another' (Dewey, 1938 [1991]). It is important to note that induction and deduction, in Dewey's philosophy, differ from what Aristotelian logic conceptualizes. For Dewey, there cannot be a sharp division between them. They need to be seen to be cooperative phases of the same ultimate operations. The inductive phase consists of the complex of experimental operations to generate data for proposed modes of solution. The hypothetical solutions must be feasible for the deductive phase to obtain new data and bring new insights to those previously obtained.

In pragmatic experimental methodology, there is no distinction between practices of scholarly pursuit and the practice of the organization. This can be seen clearly in Dewey's saying that: 'the social scientist should conduct experimental research not as laboratory experiments but as reactions, influences, changes – on the process and from within the process' (Dewey, 1938 [1991]:180, emphasis added). Knowledge is obtained through deliberate institution of a specified course of change in which the researcher is one inherent part (Dewey, 1924[1984]).

DISCUSSION

Action research and Mode 2 of knowledge production – a comparison with Dewey's pragmatic experimentalism

Action research and mode 2 of knowledge production have been considered as potential intellectual bridges across the rigor–relevance gap. However, we argue that pragmatic experimentalism offers a different mode of knowledge production.

Action research shares with pragmatism the desire for useful management knowledge, as its main object is solving organizational problems, 'to bring about a better future, i.e., with a problem solved' (Susman & Evered, 1978: 598). Mode 2 of knowledge production argues for a diversity of actors from

different disciplines collaborating in context-specific, problem-focused research (Gibbons et al., 1994; Tranfield & Starkey, 1998). Knowledge results from a convergence of specialized knowledge sources in the context of a defined problem. One can observe parallels between Mode 2 knowledge production and the principles of action research: both are primarily concerned with context-specific problem solving.

Although efforts have been made by proponents of action research to provide directions for generating theory, e.g. the appreciative inquiry of Cooperrider and Srivastava (1987) and the cogenerative learning of Elden and Levin (1991), the main problem with action research and Mode 2 of knowledge production is that they are trapped in the Cartesian dualism of practical and general knowledge. They appear to share the point of view that knowledge is highly contextualized; it transfers to new situations only through future actions of project participants; both assume that the world is changeable and unstable. Thus, Aram and Salipante (2003) correctly pointed out that action research and Mode 2 of knowledge production remain unclear about what general knowledge can result from efforts to generate theory. In the service of local problem solving, both are indifferent or at best skeptical about generalizing across situations to create theory. This can be seen in the conclusion of Susman and Evered (1978), who were only able to make a claim for the development of a set of action techniques, which they called 'practics', to provide know-how. Know-how would seem to fall short of a knowledge claim (Aram & Salipante, 2003). Pragmatist experimentalism differs from these two approaches in that it provides a perspective which is new not only in detail but also in kind (Dewey, 1941). Upon the basis of the view ascribed to experimentalism, we are able to avoid the contradiction between the view that there is no way of discovering the 'need for further correction' in accepted theories and the view that all accepted theories are, or may be, 'unsuitable' (Dewey, 1941). We focus on an entirely different question: 'how the world works' (Watson, 2011). The guiding principle is that truth is not about achieving a correct representation of reality, but is the expression of interest in the power to act in relation to an environment (Joas, 1993 in Watson, 2011).

Implications for researchers

According to Aram and Salipante (2003), in order to advance our ability to transcend apparent dichotomies between rigor and relevance, we need to formulate research questions and conduct knowledge generation processes in ways that connect the contextual and the theoretical worlds. Dewey's experimentalism provides us with guidelines to deal with this issue. The implications of our work are illustrated by pragmatic-based ethnography, which is characterized by Watson (2011) as doing 'good' ethnographic work.

In scientific inquiry, it is best if research starts with the 'institution of a problem' relevant to the interests of practitioners (Dewey, 1938 [1991]). Dewey argued that concentrating on a problem that does not grow out of an actual situation is merely an intellectual exercise, not science. Dewey once emphasized that 'philosophy recovers itself when it ceases to be a device for dealing with the problems of philosophers and becomes a method, cultivated by philosophers, for dealing with the problems of men' (Dewey, 1905[2000]: 454). Watson (2011), in discussing pragmatic ethnography, stated that pragmatism would require scholars to replace the question 'what is ethnography?' with the question 'how

might we most helpfully use the concept of ethnography to enable us to do more worthwhile research in the organization and management studies field?' In line with the democratic spirit of experimentalism, the framing of a problem should be done based on both academics' conceptual perspectives and practitioners' empirical ones. Accordingly, a key part of instituting a problem is identifying the intended audiences, to whom the framing of the problem, and hence its inquiry and constructed knowledge, is meaningful and relevant (Aram & Salipante, 2003).

It is not only a matter of clarifying the problem, but also of observing and finding solutions. Thus, in connection with observation, the problem must be determined so that possibilities for solutions can emerge (Dewey, 1938 [1991]). The experimental method of thinking signifies that 'thinking is of avail in just the degree in which the anticipation of future consequences is made on the basis of thorough observation of present conditions' (Dewey, 1916[1980]: 394).

The next step involves a move back and forth between theory and practice for generalization and testing. In the field, the researcher conducts experimental operations to obtain hypothetical modes of solution, which are compared with the relevant literature helping to conceptualize and solve the problem of interest. The researcher then goes back to the field to obtain further insights, which are used to redevelop an understanding of the problem in light of developed solutions and evaluate solutions present in the literature. As the cycle continues, further hypothetical solutions must be formulated based on new examinations of the literature and new empirical data. The researcher needs to move back and forth between hypothesis and data gathering several times to give shape to a final definition and a solution of the problem. An accumulation of theories and empirical data that are brought into relation with each other constitutes a research process that is both rigorous and relevant.

Based on pragmatism, Watson (2011) described participant observation in ethnography as a research practice in which the researcher joins the organization being studied, participates in and observes activities, asks questions, takes part in conversations, and reads relevant documents. Watson suggested conducting experimental operations by engaging with the people being studied. The researcher 'shares their life as far as possible, and converses with them in their own terms' (Watson, 2011: 206). For example, while conducting interview or doing observation in the field, one needs to contextualize anything said by asking the question: 'well, in this context, she would say that, wouldn't she?' Watson borrowed the notion of 'jet plane ethnography' from Bate (1997), in which fieldwork is compared to a series of flying visits to the research site rather than a single long-term stay, to suggest that the researcher needs to go beyond simple observation. This means getting closely involved with the people being studied in their situated context and actively interacting and sharing experiences with them.

Moreover, there are social theories well advanced in the social sciences on which to draw. 'Ethnographers need to read, listen, converse with others, ruminate about different but attractive concepts and theories, try them out, judge them in accordance to what is currently going on in our respective fields, and then attempt to put them to use in the context of the work they are doing' (van Maanen, 2011).

Watson (2011) also believed that organizational ethnography should be concerned with creating systematic generalizations about 'how the world

works', thereby contributing to management studies by being theoretically informed and informing. He used the term 'labelling theory' from Hammersley (1992) as an example of the theoretical generalizations that have emerged from ethnographies. He wrote that the truth claims of ethnography must have interwoven fieldwork accounts and theoretical generalizations if they want to stand up to close pragmatist scrutiny. The argument is supported by Van Maanen (2011), who emphasized that ethnography is expected to do more work of an abstract and analytic nature than it was in the past, while it may be true that the narrative pleasures of ethnography are great enough.

In experimentalism, the charge is to be epistemologically eclectic (Aram and Salipante, 2003). The researcher needs to unite various research perspectives by bringing together a variety of actors in the research process, engaging researchers from multiple disciplines, or iterating through research phases that utilize differing research approaches. In keeping with Dewey's goals, he must seek to bind together taken-for-granted dichotomies such as tacit and declarative, inductive and deductive, experience and theory, particular and universal, analytic and synthetic, and the like. Indeed, Dewey regarded democratic intelligence as the best method so far conceived for contending with our common and evolving tasks (Bernstein, 2010).

In experimentalism, no claims for universality can be made (Aram and Salipante, 2003). All conclusions of inquiries, or knowledge, are subject to continuous renewal. They serve as inputs for future inquiries to generate newer knowledge. Miettinen (2000) indicated that Dewey did not speak much about concepts in inquiry process; he often used the terms hypothesis, working hypothesis and guiding idea instead of concept to stress that concepts are always tentative and have the status of a hypothesis. 'The recorded scientific result is in effect a designation of a method to be followed and a prediction of what will be found when specified observations are set on foot' (Dewey, 1925[2000]: 36).

Finally, in experimental methodology, scholars need to consider validity as utilization (Aram & Salipante, 2003). For Dewey, the test of knowledge is its functionality and its instrumental use. Dewey criticized research that fails to 'return the refined products back to the context of actual experience, there to receive their check, inherit their full content of meaning, and give illumination and guidance in the immediate perplexities which originally occasioned reflection' (Dewey, 1925[2000]: 33). Moreover, such a move is to avoid the complete separation of subject and object (of what is experienced and from how it is experienced (Dewey, 1905[2000])). In this respect, a good ethnographer should write about the acquired understandings of a particular situation in such a way that any reader would be able to deal with settings like the one described and analysed (Watson, 2011). This requires what Watson (2011) called reflexive writing, which concerns itself with 'the situated nature of knowledge'.

CONCLUSION

In this article, we have proposed Dewey's theory of pragmatism as a perspective that helps resolve the rigor–relevance debate.

Suggestions for dealing with the rigor–relevance dualism vary. Some scholars see it as impossible to solve because academic and practical communities

are profoundly separate in terms of knowledge and knowledge generation. Some others deny the incommensurability of two communities' knowledge, arguing for a greater relevance of organizational studies to practice. The third line of thinking posits that academic research can have a focus on both rigor and relevance. They should not be seen as opposite but as unified facets of desirable management knowledge.

However, if the rigor–relevance dichotomy is to be eliminated, there are philosophical, theoretical, and empirical challenges that need to be overcome. Philosophical challenges require a search to transcend competing assumptions about the world, knowledge, theory and their relationship with action, which underlie the rigor and relevance dualism. Theoretical challenges involve the question of the way we define desirable management theories and knowledge. Finally, empirical challenges put forth the issue of appropriate empirical analysis of the generation and use of academic knowledge in organizational practice.

We have shown that Dewey's pragmatism helps deal with these challenges. His ontological and epistemological stance on the world, theory, knowledge, and the relationship between knowledge and action addresses the philosophical challenges. His notion of usefulness embraces both rigor and relevance. It can serve as a new term indicating desirable academic research, thereby addressing the theoretical challenges. Dewey's writing about experimental methodology deals with the empirical challenges. It can be argued that we contribute to the literature on the rigor–relevance gap by proposing a perspective that helps overcome the rigor–relevance divide.

In future research, we suggest that it is important to look at the issue of power in the development and application of knowledge and theories. Jarzabkowski et al. (2010) did mention this issue in their discussion of philosophical challenges to bridging the rigor–relevance divide, asking whether the addressees of academic insight and theoretical support should be powerful managers or powerless people. This issue has not been addressed in our paper. Although Kadlec (2007) insisted that Deweyan pragmatism can help us resist the power and domination that appear inevitable under conditions of plurality and difference, we believe that one missing point of Dewey's pragmatism is whether power and inequalities can be addressed (Elkjaer, 2009; Talisse, 2007). This can be seen in Dewey's definition of community as follows: 'wherever there is conjoint activity whose consequences are appreciated as good by all singular persons who take part in it, and where the realization of the good is such as to effect an energetic desire and effort to sustain it in being just because it is a good shared by all, there is in so far a community' (Dewey, 1927[1984]: 149). Although the apparent blindness to issues of power seems a natural accompaniment because pragmatism is 'problem-driven' (White, 2004), it is important to find ways to overcome this shortcoming to make Dewey's philosophy more 'useful' to the rigor and relevance debate.

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