

Criteria for Assessing Good Theory in Human Resource Development and Other Applied Disciplines from an Interpretive Perspective

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Utilizing Patterson's (1983) eight criteria for assessing theory in applied fields from a conventional (empirical-analytical) perspective, these criteria are evaluated and where applicable reconstructed from an interpretive (social constructivist) perspective of theory building research and assessment. Four additional criteria are proposed and described, namely, compellingness, saturation, prompt to action, and fittingness. The task of developing such criteria from different paradigms of inquiry while ensuring paradigmatic congruence holds particular challenges, some of which are discussed.

Key words: Theory-building criteria, Applied theory, Interpretive Inquiry

Building theory in applied disciplines like Human Resource Development (HRD) has received increased attention over the past decade and a half. It is widely recognized that HRD calls upon and integrates existing theories to create its unique disciplinary theory and that good theory is imperative to sound, informed practice and the continued development and maturity of a discipline (Akdere, 2005; Chalofsky, 1996; Chermack, 2002; Kuchinke, 2001; Lynham, 2000, 2002; Swanson, 1999, 2001; Storberg-Walker, 2006; Swanson & Holton, 1997, 2001, 2005; Torraco, 1997, 2002, 2005; Turnbull, 2002; Van de Ven, 1989; Van de Ven & Johnson, 2005; Woodall, 2006). To this end, *Human Resource Development Review*, a journal dedicated specifically to the task and challenge of learning about and promoting theory and theory building in HRD and related disciplines (Holton, 2002), was launched in 2002. An important part of this task necessitates the evaluation of such theory and thus criteria for this purpose. While there are well developed such criteria from a conventional perspective there are not from alternative paradigms of inquiry (Cohen, 1989; Dubin, 1976, 1978; Hearn, 1958; Reynolds, 1971). For HRD and indeed other applied disciplines to meet the varied and evolving nature of "...the methods that we might use to discover and create new knowledge" (Woodall, 2006, p. 301) we need to move our means of theory inquiry and evaluation along to include alternative paradigms. It is the intent of this article to help address this theory-building research need and begin to develop criteria for assessing good applied theory from multiple inquiry paradigms (Gioia & Pitre, 1989; Guba & Lincoln, 1981, 1989; Lincoln & Guba, 1985; Patterson, 1983; Woodall, 2006). The first in an upcoming series of three such articles, this one offers such criteria from an *interpretive* (social constructivist) perspective.

The Questions and Method

Given the conceptual and inductive nature of this work, *method* is less of an issue than specifying strong and heuristic questions. The first question considered was: *Would theory (in applied disciplines) constructed from an interpretive perspective look the same as theory adduced from a conventional perspective?* When we began to suspect that theories from the two different paradigms might be different to significantly different in some respects, it became clear that new criteria for theory-building from the interpretive perspective were necessitated. As new criteria were developed, it was apparent that criteria for assessing good theory in applied disciplines from an interpretive perspective also needed further development, as the criteria for assessing theory from the conventional paradigm were not adequate for this purpose. The final question we considered was: *Given the inadequacy of currently available criteria for assessing theory in applied disciplines from a conventional perspective, what would the criteria for assessing such theory be from an interpretive perspective?*

In order to address these questions, we began with the commonly-accepted conventional criteria offered by Patterson (1983; see also Lynham, 2000, 2002b; Lynham & Torraco, 2001; Swanson & Holton, 1997, 2001, 2005; Torraco, 1997, 2005; Torraco & Holton, 2001), and examined these criteria for *fit* with paradigmatic axioms for interpretive (constructivist, naturalistic) inquiry (Denzin & Lincoln, 1994, 2000, 2005; Guba & Lincoln, 1989; Lincoln & Guba, 1985, 1994). Doing so resulted in specification of particular instances where fit was accomplished, but also specification of instances where conventional criteria did not exhibit good fit with interpretivist inquiry theorizing. Where good matches were not found, we examined the axioms of interpretivist inquiry for elements that

might lead to better and more *fitting* criteria, and created new criteria. We then substituted those for their conventional equivalents (eight were substituted), and likewise added four new criteria for judging the adequacy and goodness of theory developed from an interpretive perspective. The criteria, both conventional and interpretive, are presented in Table 1 and Discussions offered in the Findings section of this article.

Frameworks for Guiding Theory Development

In choosing theoretical frameworks that might inform this work, we considered three conceptual literatures. The first was a Habermasian perspective, further developed in Lincoln and Guba (1994) contrasting the three major paradigms of inquiry—the conventional (analytical), the interpretive (constructivist) and the critical--extended into the contrasting features of analytical, interpretive and critical science approaches to theory building research (Lynham, Unpublished document, 2002b). The second was an examination of theory building in applied disciplines, where we reviewed and incorporated the work of Van de Ven (1989; and in Kenworthy-U'ren, 2005), Van de Ven and Johnson (2005), Argyris and Schön (1974, 1978), and Schön (1987). The third framework was the eight criteria for judging theory from a conventional perspective proposed by Patterson (1983) and commonly utilized to guide theory-building in applied disciplines such as HRD. Together, these frameworks constitute the literature used to inform the analyses and conceptual development of the proposed criteria.

Contrasting Paradigms of Theory

Contrasting paradigms of theory is a task which proceeds from asking what purpose theory might serve in different models of research. All inquiry is directed toward some form of explanation. Various models of research, however (conventional, constructivist/interpretivist, or critical) elicit different forms of explanation, with different purposes in mind. In conventional inquiry, for instance, the aims of inquiry are a) prediction, and therefore b) control. Thus theory which fails to incorporate predictive possibilities is considered incomplete from a conventional perspective (Van de Ven, 1989; 2005; Van de Ven & Johnson, 2004). While it may be termed a theory, it may rather be a set of aggregated, related hypotheses seeking a unifying predictive framework.

Theory from a constructivist/interpretivist perspective, however, is concerned neither with prediction nor with control, but rather with narrative explanation and with deep understanding (or *verstehen*) of social phenomena (Lincoln & Guba, 1994; Lynham, 2002b). With understanding comes the ability to achieve a vicarious experience, to approximate, socially and emotionally, the lived experience of respondent by researcher, and to move toward positive change if that is a desired end of the research. There is no expectation that theory will contain predictive power in interpretivist models, as prediction in human affairs is, in theory, unattainable (Lincoln & Guba, 1994). The unexpected, the imaginative, the creative, the unusual, the deviation, are all both unpredictable and at the same time, desirable characteristics of human life and activity. Thus, the purposes of inquiry as well as the purposes of theory building in the interpretive paradigm differ vastly from those (and consequently likewise the criteria for assessing adequate or good theory) in conventional research.

While theory building is a prescriptive, predictive model in conventional research, it is a descriptive activity in interpretivist research. The latter, to be judged adequate or good theory, must provide explanations which are framed in narrative terms and which provide deep and widely accessible understanding. In conventional inquiry, theory can be proposed in both *a priori* and *a posteriori* fashion; however, in interpretivist models of research, theory construction would likely only be undertaken *a posteriori*, or after experience (whether first hand or vicarious) of the phenomenon under investigation.

Theory in Applied Disciplines

Before we outline the nature of theory in applied disciplines, we need to describe what we take such theory and theory building to mean. *Theory* is described as “*a coherent description, explanation and representation of observed or experienced phenomena*” (Gioia & Pitre 1990, in Lynham 2000, p. 162), while *theory building is the ongoing process of producing, confirming/disconfirming, applying, and adapting and refining theory* (Lynham, 2002a). With these operational definitions in hand we can now explore theory in applied disciplines. Such explorations help to inform not only the nature of theory developed from an interpretive perspective of inquiry, but also what makes for *good* such theory (thus informing the development of criteria whereby to judge it).

Theories in applied disciplines (such as HRD) “...have immediate and direct application” (Dubin, 1976, p. 17; Argyris & Schön, 1976, 1978; Schön, 1987), and typically result in two forms of knowledge: *outcome knowledge* in the form of prediction or explanation, and *process knowledge* in the form of increased understanding of how something (the phenomenon) works in practice (Dubin, 1976; Lynham, 2000, 2002a). These theories can be described as *systems of thought* (Bohm, 1992)--coherent, consistent, and virtuous cycles of explanation and description, iterative in nature and never complete, and whose purpose it is to inform improved praxis. The task of theory-building in applied fields requires constant development, description, confirmation (or not), application, and

refinement of these systematic systems of knowledge (Lynham, 2002). This task is informed by knowledge and experience in two essential areas, namely: "...of the phenomenon itself" and "...of the theory-building research method being used" for the theory-building endeavor (Lynham, 2002, p. 230; also see adaptation by Torracco, 2005, p.371).

Theories in applied disciplines can therefore be expected to have multiple aims and ideals (further illustrated in the discussion below), some of which can seem contradictory but nevertheless need to be met by the theory. These theories must satisfactorily bridge seemingly disparate demands (e.g. of relevance and rigor, usefulness and validity) to provide adequately for the different kinds of knowledge and outcomes sought by their stakeholders (Dubin, 1976, 1978; Guba & Lincoln, 1989; Lynham, 2000; Woodall, 2006). To do so, they can be built from different perspectives of inquiry, but must meet the different quality criteria of sound knowledge for informed practice from each paradigmatic perspective.

Patterson's Eight Criteria for Judging Theory in Applied Fields

Patterson (1983), a behavioral psychologist, offered eight criteria for judging 'good' theory in applied disciplines. These criteria, representing a conventional (empirical-analytical) perspective of theory building assessment, are: importance, precision and clarity, parsimony and simplicity, comprehensiveness, operationality, empirical validation or verification, fruitfulness, and practicality (see Table 1 for description of each).

Others have offered or inferred qualities of good theory and theory development in applied disciplines in more generic formats than those highlighted by Patterson, the majority of which are from a conventional perspective (Lynham, Unpublished document, 2000b). For example, Van de Ven (1989) suggests that good theory must be both useful and valid, that it must go beyond establishing empirically observable patterns and thus be able to predict and explain, that its practicality must be judged by its ability to—advance knowledge in a scientific discipline or field, guide research towards crucial questions, and enlighten the profession—and, that, it should clarify and connect levels of reference, take time into account, and introduce new concepts that either correct flaws or complete current theories. Whetten (1989) posits that for a theoretical contribution to be value-added it must explicitly state: What?—specification of the variables that constitute the units of the theory, which should be both comprehensively and parsimoniously stated; How?—description of how the variables specified are related, in the form of causality, in a complete and parsimonious way; Why?—explanation of the inherent logic of the theory in such a way that it enables evaluation of the theory; and, Who, When, Where?—placing limitations on the boundary and thus range of the theory, thereby ensuring sensitivity to context, particularly if based on experience (as opposed to direct observation).

Bacharach (1989), in turn, highlights *falsifiability* (must be constructed in such a way that it can be scientifically refuted) and *utility* (must bridge theory and practice by having both predictive and explanative power) as two essential criteria for evaluating theory. He expands on these criteria including conceptual coherence and creativeness as indicative of systemic and dynamic openness, and flexibility and vagueness as crucial to the criterion of utility. He further highlights closure, precision, accuracy and exactness in the meaning of terms as characteristics essential to the criterion of falsifiability. Dubin (1976, 1978), a behavioral scientist, associates specific theory building criteria with each step of his hypothetico-deductive (conventional) theory building method. He thus names the following criteria as essential qualities of good theory: in unit specification—rigor and exactness, parsimony, completeness, logical consistency, and degree of conformity to the combination specifications of the units; in description of the laws of interaction—parsimony; in specification of the boundaries of the theory—homogeneity and generalizability; in identification of the system states of the theory—inclusiveness, distinctness, and persistence; and, in compilation of the propositions of the theory—consistency, accuracy, and parsimony (Lynham, 2000).

In a less conventional vein, Weick (1989) recommends decoupling the requirements of validation from usefulness of a theory and suggests that theory, or what he terms *informed imagination*, can be improved by adopting and adhering to certain principles namely: increased accuracy and detail of the problem statements addressed by the theory, increased number and independence among the conjectures generated from the theory, and more and enhanced diversity of the selection criteria used to test the theory.

Although all useful for assessing theory in applied disciplines and fields, it is Patterson's criteria that are most often drawn on in, for example, HRD and management to 'judge' theory. Among these judgments are whether the theories are 'good,' that is, of both quality and utility, or not. As a result, these eight criteria are used to inform the construction of a means for judging such theory from an interpretive (and thus constructivist) perspective. This contrasting construction follows.

Outcomes: Criteria for Assessing Good Theory from Two Contrasting Perspectives

The outcomes of our conceptual work include findings in two primary areas. The first, in response to our initial research question of whether theory in applied disciplines constructed from an interpretive perspective would look

the same as theory adduced from a conventional perspective, led to an assessment of the applicability (with a possible range of low-moderate-high) of Patterson’s eight criteria from an interpretive perspective and, where appropriate, their re-description. These outcomes are presented in Table 1. In response to our second research question, Given the inadequacy of currently available criteria for assessing theory in applied disciplines from a conventional perspective, what would the criteria for assessing such theory from an interpretive perspective be?, four new criteria were constructed. They are briefly presented following Table 1.

Assessment of Patterson Criteria

Table 1. *Assessment and Re-description of Criteria for Judging Theory in Applied Disciplines: Contrasting Perspectives*

Criteria for Judging Theory	Perspectives of Theory		
	Conventional	Interpretive	
	The Criteria Described	Assessed Applicability of the Criteria	The Criteria Re-described
Importance	“A theory should not be trivial but should be significant” and “...have some relevance to life or real behavior”... “ (Patterson, 1986, p. xx)	Applicability: High. No interpretivist theories are trivial (or unimportant) if they provide explanation and deep understanding of actual events, behaviors, or the meaning-making activities of stakeholders and respondents. Acceptance by professionals is only one form of importance; acceptance by stakeholders who co-constructed the theory is equally important.	A theory should provide explanation and deep understanding of actual events, behaviors, or the meaning-making activities of stakeholders and respondents; and should be accepted by professionals and stakeholders who co-constructed the theory.
Precision and Clarity	“A theory should be understandable, internally consistent and free from ambiguities” (Patterson, 1986, p. xx)	Applicability: Low. In interpretive inquiry clarity towards understanding (rather than prediction or control) are central aims of the inquiry. Thus, precision and clarity may not always be useful attributes of good constructivist theory. It may be more useful to have a rich or a thick theory that is widely applicable to many situations. Applicability is more important than precision. Interpretivist theorists therefore take some ambiguity to be a hallmark characteristic of human affairs, and expect that theories will demonstrate their connection to the messy world in which humans work and live.	A theory should be understandable, and should exhibit reasonable structural corroboration (that is, be internally and contextually consistent). However, some ambiguity will always exist (as ambiguity is taken to be a hallmark characteristic of human affairs), since theories are built, at least in part, on the sense-making, meaning-making and socially constructed activities of respondents and stakeholders.
Parsimony and Simplicity	“Parsimony...means that the theory contains a minimum of complexity and few assumptions” (Patterson, 1986, p. xx)	Applicability: Low. Parsimony is a mathematical and reductionist approach to theory, the latter which typically has to do with elements of situations found in nature, but rarely to do with the complexity of human affairs. Parsimony, from an interpretive perspective, is only sought when theories begin to lose transferability (Guba & Lincoln, 1989) and applicability. Sometimes parsimony is good, and sometimes it is not. What we are looking for is a narrative elegance, not mathematical elegance.	Interpretivist theory may be either simple or complex, depending on the matter or phenomenon which is being theorized. Such theory ought to be understandable beyond the scientific community (i.e., accessible in natural language), narratively elegant, and conceptually rich, provocative and evocative.
Comprehensiveness	“A theory should be complete...including all known data in the field” (Patterson, 1986, p. xxi)	Applicability: Low. Interpretive theory is necessarily limited to one’s areas of interest and that area may well be a context. Theories should be constructed, first and foremost, for the situation in which they are intended primarily to apply. A theory only begins to gain comprehensiveness when others see its utility and begin to transfer the learnings to other settings and contexts. Comprehensiveness is not a characteristic of theories, but rather a consequence of their perceived utility beyond the original context.	A theory should be as complete as is possible, given its intended range, that is, local, regional or grand theorizing.
Operationality	“A theory should be capable of being reduced to procedures for testing its propositions or predictions” (Patterson, 1986, p. xxi)	Applicability: None. Interpretive theories are never reduced to procedures; rather, they are elaborated by those who see their own lives reflected in its assumptions and narrations. Theoretical concepts should first be identified and described and then a method of identification chosen or developed (so inquirers are always working with descriptions). While none of the concepts in a theory need be operational, some of the concepts may be used to indicate relationships, junctures, axes, or lines of organization between and among other concepts.	A theory is operational if its concepts are richly described, it is capable of having its propositions tested by other researchers, and the stakeholders to whom it is intended to apply assent to its usefulness for their lives and contexts.

Table continues

Table 1 continued.

Criteria for Judging Theory	Perspectives of Theory		
	Conventional	Interpretive	
	The Criteria Described	Assessed Applicability of the Criteria	The Criteria Re-described
Empirical Validity or Verification	“Eventually...a theory must be supported by experience and experiments that confirm it...it must generate new knowledge” (Patterson, 1986, p. xxi)	Applicability: High. Theories, to possess validity, cannot be tested with contrived experiments, but can be tested against human experience. The primary characteristic of valid theorizing is the verification of respondents that the theory ‘rings true,’ or that it reflects some aspect of their experience, meaningmaking, or observation. That is, a theory must match some element of socially constructed life.	Theories must be supported by what anthropologists term “lived experience,” be verified by the respondents that it ‘rings true,’ or that it reflects some aspect of their experience, meaningmaking, or observation, and must match some element of socially constructed life. Furthermore, they should generate both new social scientific knowledge, and new respondent learning.
Fruitfulness	“The capacity of a theory to lead to predictions that can be tested, leading to the development of new knowledge...[to] provoke thinking and the development of new ideas” (Patterson, 1986, p. xxi)	Applicability: High. Fruitfulness concerns determining the capacity of the theory to lead to deep understanding, the degree to which this deep understanding can be translated into action, and identifying the degree to which it provokes the stimulation and development of new ideas, new theories, or new avenues of social action. As in conventional inquiry, a theory can be fruitful even if it is not capable of leading to specific predictions. It may provoke thinking and the development of new ideas or theories, sometimes because it leads to disbelief or resistance in others, sometimes because it erases false consciousness, and sometimes because it suggests new avenues of action.	Theories are fruitful to the extent that they illuminate some aspect of social life, and suggest new avenues of research and/or description and/or action.
Practicality	A theory “...should be useful to practitioners in organizing their thinking and practice by providing a conceptual framework for practice” (Patterson, 1986, p. xxi)	Applicability: High. There are two aspects to the criterion for the practicality of a good theory. The first is whether the theory provides deep and holistic understanding of practice. The second, seldom mentioned, is whether the theory is useful in organizing practitioner thinking and practice by providing a conceptual framework for that practice. A theory allows the practitioner to move beyond the empirical level of trial-and-error application of techniques to the sensible application* of principles (to move out of rational realm—creativity is not rational—depends on juxtaposing the new, unexpected). * Sometimes the application of principles ought not to be purely rational. Sometimes the application of principles ought to exist outside of the realm of rationality, to what one of us has called earlier, a-rationality, to permit the intensely creative (Lincoln, 1985, 221-223).	Theories should be useful to ordinary persons to the extent that they suggest ways of being in the world, or ways of altering one’s circumstances in some context. Theories often provide new ways of seeing old situations, such that meaningful human change can occur. At their best, theories provide models for human flourishing (Reason 1996; Heron, 1996), as living knowledge (Swantz, 1996), and for practical application (Heron, 1996) and high organizational performance (Lincoln, 1985; Swanson, 1999).

Additional Theory Criteria from an Interpretive Perspective

The four additional criteria constructed for judging theory in applied disciplines from an interpretive perspective include: *compellingness*, *saturation*, *prompt to action* and *fittingness*. A brief description of each is offered.

The criterion of ‘compellingness’. This criterion recognizes and honors the abandonment of the ‘detached observer,’ by re-inserting social science’s mandate to provide information for positive action in the world. Compellingness references the ability of research to move stakeholders to action. There are two components to this criterion. The first is that the findings mirror the ineffable experience of respondent audiences. In addition to the first requirement (one of fidelity, or internal validity, to borrow the language of positivism), the 2nd component is also invoked: that the research create a vicarious, emotional response in those who read/experience it, which acts as a prompt to action on the part of some stakeholding audience. Stakeholders are therefore not merely those who funded the research, but a far wider set of audiences who have some legitimate stake in the findings, including researchers, other communities, policy circles, legislators, and those who participated in the research.

The criterion of ‘saturation’. Saturation speaks to a sampling of social constructions and meaningmaking narratives: when the stories begin to sound the same then the sample is saturated—that is, little new knowledge is forthcoming. Saturation exists at two points: the first form of saturation refers to the narratives and respondents’ explanations having been exhaustively sampled; the second form exists when multiple examples of the phenomenon

can be found independently, that is, by independent researchers. This aspect of saturation speaks therefore to the extent to which the theory is buttressed by multiple examples of the phenomenon. So we say that the theory itself is saturated with exemplars.

The criterion of 'prompt to action'. A good theory provides a good conceptual understanding of practice. Prompts to action proceed from compellingness (and thus the two criteria are inextricably linked), and help both researchers and respondents to understand where and how to move next in a given context. Prompts to action include prompts to refine practice, to hone practice, to sharpen practice, to revise practice, to alter performance in the light of new information. This issue relates to the authenticity criteria, and combines the catalytic criterion with the tactical. The criterion of prompts to action more closely connect theory with action and learning, and therefore continuous refinement and improvement. In its movement to suggest ways of improving practice, the prompt to action illustrates Dubin's notion that "there is nothing quite as practical as good theory" (1976, p. xx).

The criterion of 'fittingness'. Interpretivist theories need to exhibit 'fit' in order to be useful, applicable and heuristic. Theories need to exhibit "fittingness" with their derivative context—that is, they need to limn clearly their roots in the local context and in native and indigenous perspectives, meanings and narratives. They must also exhibit 'fit' with the notion of equifinality, the requirement that there be no final solution to any given problem, but rather multiple, endlessly creative responses or solutions to a given problem, any of which might be satisfactory in a given context.

Conclusions, Implications and Contributions to New Knowledge

A number of conclusions can be drawn from the preceding discussions, although they are necessarily unfinished and await the experience and theoretical contributions of other scholars. Nevertheless, there are several lessons to be extracted from this discussion; they fall into two sections: specific conclusions directed at the deconstructive/reconstructive proposals contained in this work; and larger implications for all theory building enterprises.

With respect to the deconstructive/reconstitutive project we have undertaken here, it is evident that because the axioms of interpretive (constructivist, phenomenological, ethnographic) inquiry are not the same as those for conventional inquiry, the criteria for judging the goodness of theory and theory building efforts are also altered. Deriving *good* theory from interpretive work embodies a different set of processes, largely different kinds of data and data analytic techniques, and different requirements along the simplicity/parsimony → messiness continuum.

Second, criteria from one paradigm can be used to inform the development of criteria for another paradigm, but they cannot guarantee pure parallelism. The final arbiter for criteria proposal is the model of inquiry itself, the paradigm. Each criterion must not only exhibit fit with the ontological, epistemological, axiological, teleological and methodological requirements of the alternative model of inquiry, but those same axiomatic systems must suggest new criteria when the conventional criteria appear to be incomplete for purposes of the new paradigm's set.

Third, we believe this exercise demonstrates that the criteria for assessing goodness in theory building from a conventional perspective are neither sufficient, adequate, nor accurate for judging goodness of theory developed from an interpretivist perspective. 'Good' science and 'good' theory can and should be derived from multiple paradigms and epistemologies, and should reflect the multiple ways of knowing circulating in the social sciences' paradigmatic, theoretical and methodological literature today. We cannot assume criteria specified for judging theory from one perspective of inquiry (e.g., conventional) are adequate for the same task from another inquiry (neither interpretive nor critical) paradigm. Each formal epistemology contains within it the criteria for judging theory derived from its research practice. It is the task of the researcher to make clear to others the grounds on which theory from any given perspective should be judged, and the responsibility of the research community to refine and adhere to appropriate and fitting criteria when judging theory from emergent epistemologies.

Fourth, we have offered a level of specificity of description of criteria for judging theory and theory building efforts developed from an interpretive perspective/model of inquiry. We believe this is the first time this has been attempted, although HRD (and other applied fields/disciplines) has been interested in the theory building enterprise for a number of years. By displaying these criteria—both Patterson's and our own—side by side, we have tried to show where there are parallels and where there are definitive and ineluctable differences. As HRD extends its theory development sophistication, attention to criteria for goodness in theory will likewise enjoy additional sophistication.

There are, in the same vein, *some additional implications for theory, research and practice* which may be inferred from this reconstitutive work. For instance, first, it is clear that what makes for good applied theory is both ontologically and epistemologically informed (i.e., it is axiomatically 'resonant'; see Lincoln & Guba, 1985), as well as methodologically achieved (i.e., methods exhibit fittingness with problem and context). The inverse of these

statements are also true, paradigmatically speaking, namely, for theory to be internally consistent and therefore heuristic, it must exhibit some consonance or congruence with its ontological and epistemological groundings.

Second, as a consequence of the foregoing conclusion, we can understand that we cannot use a single, universal set of criteria to answer the question of how to assess for 'good' theory in HRD and other applied fields/disciplines. Theories, to exhibit goodness, must also exhibit internal coherence and symmetry with some metaphysical structure, a paradigm or model, if you will, complete with ontological, epistemological, axiological and sometimes, methodological foundations. When researchers shift models—for example, from conventional research and theory building to interpretivist research and theory building, the theories generated must be internally consistent (structurally corroborative) with the paradigm itself.

Third, having more than one ontological perspective allows for a richer, more complete consideration of the question, and helps to overcome the danger/propensity to 'overlook' a whole plethora of useful applied theories and practical implications. Theoretical tunnel vision leads sometimes to strained, attenuated and impractical theoretical positions, with little practicality or usefulness. Richer, if somewhat messier, theoretical statements can more readily suggest the complexity of human life, human performance and organizational behavior; complexity in this case is not a detriment to theory, but rather a set of incitements to further inquiries.

Fourth, we can conclude that applied theory is further an example of systems thinking in action, since a theoretical framework is an integrated, logical, and connected system of knowledge that serves both to describe and explain a phenomenon. Thus, applied theory building is a form of systems thinking.

Besides the value of the above-mentioned implications, this work contributes to new knowledge in HRD in a number of ways. To mention a few: it provides criteria useful for judging and developing applied theory from more than the conventional perspective; it promotes and extends the theory and theory-building assessment literature; and it helps provide new means for advancing the maturity of HRD.

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