Emerging Action Research Traditions:
Rigor in Practice

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ABSTRACT

The authors argue here that contemporary use of action research shares the exploratory, inductive nature of many qualitative research approaches—no matter the type of data collected—because the type of research problems studied are set in complex, dynamic, rapidly changing contexts and because action research is undertaken to support social and organizational change that requires buy-in from many stakeholders affected by the research problem. Action research serves as a critique and alternative to more traditional views of social science. In this article, the authors first describe action research as defined by Kurt Lewin, its originator. They show how two variants of action research—Action Science and Collaborative Developmental Action Inquiry—advance insight into how action research can be used to develop personal capability to address system changes that action research seeks to unveil. By using the example of an innovative action research approach to doctoral research, the authors illustrate the context-rich, exploratory nature of action research that both generates knowledge for and in change, and developmentally engages collaborating researchers and participants. They conclude with reflections on criteria for rigor and relevance in action research in today's post-modern, complex world.

KEYWORDS

Action Research, Action Science, CDAI, Rigor

INTRODUCTION

This paper explores the initial framing of action research as a much needed alternative research approach in the social sciences within a positivist research tradition, and then offers emerging variations both in organizational practice and in a doctoral program to demonstrate how action research has evolved. With this evolution, new criteria for rigor are needed. This article offers a new perspective on validity in action research.

The Lewinian Tradition

Kurt Lewin (1946)—when inquiring into complex social issues in his era—concluded that research methods needed for social management were really a "type of action-research, a comparative research on the conditions and effects of various forms of social action, and research leading to social action." (p. 35). He argued that such research was not 'lower' than pure science, but quite the opposite- since it needed to uncover the underlying laws governing social action. Lewin noted that traditional social

science research focused on fact-finding data and diagnosis. Yet, given the complexity of social problems such as intergroup relations, diagnosis was not enough. It needed to be "complemented by experimental comparative studies of the effectiveness of various techniques of change." (p. 37) Drawing on the example of the bombing of Germany, he noted that in social action, once a plan was made, reconnaissance had to serve several functions. The proposed action had to be evaluated against actions taken and whether results were above or below expectations to help planners assess what was or was not working. Researchers could then make mid-course corrections to both the initial and overall plan. Lewin's process of change began with collaborative fact-finding with those who sought to understand the social problem more clearly. Together they did the reconnaissance needed to further refine their change plans, improve the plan, take actions, and monitor results, leading to an iterative cyclical process of action and evaluation that helped calibrate the best steps to take to resolve the social problem under study. See Figure 1. For Sussman and Evered (1978) Lewin's action research "provides a mode of inquiry for evolving criteria by which to articulate and appraise actions taken in organizational contexts." (p. 599).

Lewin saw the benefit of collaborative reflection and dialogue. What was particularly telling in one action research initiative was the effect of the evaluation meetings held at the end of each day of training, in which trainers reflected on what went well, what they had observed, and what they could do differently. This reflection clearly led to changes in the pedagogy implemented the next day. As Lewin (1946) commented, "This and similar experiences have convinced me that we should

Figure 1. Lewin's action research cycle
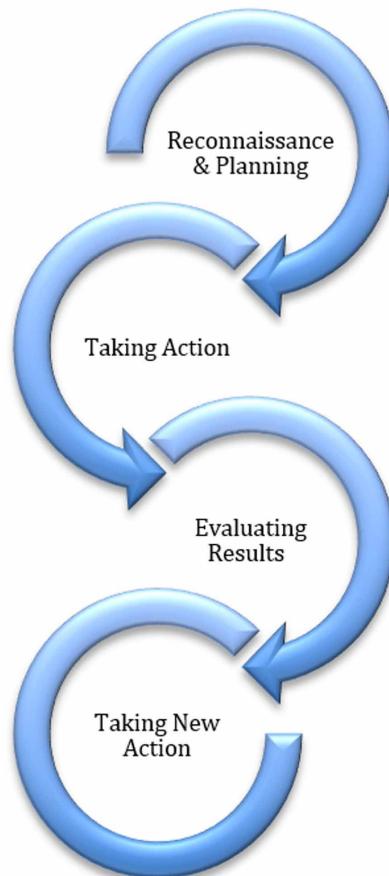
consider action, research and training as a triangle that should be kept together for the sake of any of its corners. It is seldom possible to improve the action pattern without training personnel" (p. 42).

Lewin stressed that social scientists need to be aware of the moral obligation of using action research tools for good, and recognized the results of action experiments such as his work to address minority problems had the potential to create a lasting effect on the history of the country. He concluded, "It is equally clear, however, that this job demands from the social scientists an utmost amount of courage. It needs courage as Plato defines it. It needs the best of what the best among us can give, and the help of everybody." (Ibid, p. 46) While acknowledging the level of ambiguity inherent in such important change work, he was also mindful that this work requires moral courage and a faith over fear that is uncommon in pure science. Yet Lewin (1944) said that "It is essential that a democratic commonwealth and its educational system apply the rational procedures of scientific investigation also to its own process of group living." (p. 200).

Lewin saw action research as a new research methodology that grew out of his earlier theories of learning and of the social field. He argued that behavior change is a function of the interaction of the person in their environment (B = f(P,E) in the social context (Lewin, 1936). Traditional research of his time seemed inadequate in face of the dynamic, ever changing context, with multiple intervening variables. Susman and Evered (1978) refer to Lewin's laboratory as a change experiment that heralded a new form of social research "which combined generation of theory with changing the social system through the researcher acting on or in the social system. The act itself is presented as the means of both changing the system and generating critical knowledge about it." (p. 586).

Lewin's (1947) analyses of the force fields surrounding social change led him to conclude that change was advanced by reducing barriers to its implementation. Coghlan and Jacobs (2005) found this to be consistent with Lewin's earlier writing on re-education. In effect, one barrier to change is our own internal conceptions of a situation, our attitudes or resistance toward changing it. Re-education can thus become transformative. Coghlan and Jacobs further stressed Lewin's assertions that social action is 'steered by perception,' and that false perceptions are not changed by accurate information (p. 448). Rather, "Lewin's notion of re-education is that change in cognition, values, and behavior is intimately linked to membership and identification with groups." (p. 453). The group helps encourage and reinforce new behavior- and for Lewin, re-education has not occurred until the new cognitions or attitudes are evident in individuals' and group's behavior (Ibid. p. 454).

Clearly, this type of research changes the roles of the researcher and the researched. "Action research constitutes a kind of science with a different epistemology that produces a different kind of knowledge, a knowledge which is contingent on the particular situation, and which develops the capacity of members of the organization to solve their own problems." (Sussman & Evered, 1978, p. 601). These authors also noted that enacting action research develops skills that "are interpersonal and problem-defining. Competence is developed in interpretation and judgment, in establishing problem-solving procedures, acting in contingent and uncertain situations, learning from one's errors, generating workable new constructs from one's experiences." (Ibid., p. 599).

Checkland and Holwell (1998) asserted that "With the increased acceptance that 'social reality' is not a given, but is the changing product of a continual intersubjective discourse, there has been in the last decade an increased interest in qualitative research. AR and its many variants are increasingly being treated as serious and appropriate alternatives to the hypothesis testing which is at the core of research methodology in natural science. But proponents of AR need to recognize the limits to the claims they can make for the validity of their approach." (p. 20).

The legacy of Lewin seen in contemporary approaches to action research is that knowledge is socially constructed. Collaborative, participatory, democratic, group processes dominate emerging approaches. Stakeholders who are tightly tied to the study's social action concerns are involved in multiple ways – as members of an action research team, as sources of "reconnaissance" data, and/or as experimental subjects. Checkland and Holwell (1998) describe action research as developed by Lewin as a cycle that begins with a framework of ideas that are embodied in a methodology that is

applied to an area of concern that yields learning about both the framework of ideas and the area of concern. This formula (F + M + A = L) essentially describes all research methods. Action research is conducted in the social context, however, and must adapt as the situation unfolds. Over time, as complexity of social situations has seemed to increase, social scientists have evolved variations of AR that combine research with solutions suited to the changing environment that also build human capacity for their implementation.

CONTEMPORARY VARIATIONS OF ACTION RESEARCH

Watkins and Brooks (1994) described the multiple variants of action research as "action technologies" to indicate that they were different approaches or tools to generate changed action. They noted these common characteristics: "formation of groups from among those who have the problem, reflection on problems in groups, collection of data around the problems, group analysis and group feedback; group-designed interventions to attempt to solve the problems." (p. 100) Their emphasis on the role of the group continues the tradition of a collaboratively designed and enacted process. Their framework alters Lewin's focus on social change to one of solving problems, though involvement of key stakeholders and groups still roots these modifications in the social context. Contemporary variations often combine research with personal and social development. Action Science embraces the re-educative role of action research, and the transformation of mental models that prevent implementing change. Finally, collaborative developmental action inquiry emphasizes the persons in their context and their developmental capacity to change and transform themselves and their systems.

Action Science

Argyris, Putnam, and Smith (1985) contrasted action research with traditional qualitative methods by pointing to differences in the degree of detachment or objectivity vs engagement and intersubjectivity. This separation of the researcher from the researched disappears in action research; and researchers are expected to reflect on their own biases and deeply held views of the world, particularly their need to control the purposes of the research in such a way that could cause harm to others. Action research is catalytic; it knowingly intends to change or transform. This brings with it significant ethical demands, as extensively discussed in Argyris' (1970) text on *Intervention Theory and Method*.

Action science is Argyris' (1982) unique approach to action research constructed around these ethical concerns. Described as a science of interpersonal action, action science is an approach to researching problematic social encounters for the purpose of transforming future actions in similar situations. Argyris proposed that there are two dominant patterns of social interaction—one that is characterized by attempts to control others, the situation, and the outcome (Model I); and one that is focused on learning, i.e., creating situations that allow all involved to learn their way through to a new way of seeing that will lead to new ways of acting (Model II) (Argyris, 1982).

In action science, individuals share a personal case using a 2-column format, writing what was said or done in the right hand column, and what was thought or felt but not said in the left hand column. A small group works together on each case to identify the theory-in-use driving the person's behavior in a collaborative learning climate characterized by the Model II principles of valid information, free and informed choice, and internal commitment to the change. Individuals seek to transform the belief system that prevents them from acting effectively in these problematic situations and to enact a Model II dialogue that creates enhanced capacity for individuals to learn and to act differently when these interpersonal problems recur.

Action science shares elements in common with other action research approaches:

- Action science is conducted in groups (collaborative)
- With cycles of taking action and reflecting (iterative)

- Using directly observable data to inform future action (evidence-driven)
- That is publicly shared and tested against an ideal ethical standard [Model II] (democratic transparency)
- Until new behavior is generated consistent with that standard and that transforms the interaction from one dominated by control to one characterized by a learning intent (re-education and change)

Action science requires the courage of Plato as well in pursuit of change goals. What must change is individuals' and systems' fundamental belief system and ways of interacting particularly when we are most stressed—in difficult, conflict situations.

Collaborative Developmental Action Inquiry

Developed by Torbert (2004), Collaborative Developmental Action Inquiry (CDAI, henceforth) focuses on developing individuals' and organizations' ability to engage in simultaneous action and inquiry for greater awareness and effectiveness in the moment. Torbert (2013) describes CDAI as a "meta-paradigmatic approach of scientific inquiry that integrates first-person, adult spiritual inquiry and consciousness development in the emerging present with second-person, transformational mutuality-seeking social scientific inquiry over a lifetime, and third-person, intergenerational, objectivity-seeking social scientific inquiry and its effects" (p. 265). CDAI seeks to build capacity to triangulate among the subjective, inter-subjective, and objective aspects of real-time action and inquiry. In this way, it extends traditional social science paradigms that privilege and focus on objective or third-person, "after-the-fact" knowledge.

CDAI's formation was influenced by action science and constructive-developmental theory. Specifically, it incorporates and builds on action science's second-person communication practices and parts of speech, and on single-, double-, and triple-loop learning (Foster, 2012). Torbert (2004) extends action science's concepts of advocating and inquiring to include four parts of speech: framing, advocating, illustrating, and inquiring. Framing describes the purpose for the communication and setting the context; advocating states an assertion or position; illustrating provides concrete details that support the advocacy; and inquiring involves questioning and inviting input from others. According to Torbert, using these four parts of speech improves mutuality and receiving better, accurate information from others. CDAI also extends action science's discussion of single- and double-loop learning to include triple-loop learning. Single-loop learning is the most basic form of learning and involves making connections between one's actions and the outcomes of those actions, and being able to identify and implement basic changes in tactics to get different results. In double-loop learning, a person examines his/her strategy and beliefs underlying actions that cause these outcomes. In triple-loop learning, a person further probes deeper assumptions and ways of knowing, often linked to the environment, that further inform strategy and actions. While all three levels of learning are necessary, triple-loop learning is often considered a prerequisite for true and lasting transformation.

CDAI is both action-oriented and developmentally focused—the latter by probing for increased levels of awareness and more complex meaning-making capacity. Specifically, in CDAI, individuals draw on cases to describe four territories of experience: one's intentions or purposes, one's plans or strategies, one's behaviors or actions, and the third-person outcomes that occur as a result of these (Torbert & Associates, 2004). CDAI seeks effective, simultaneous action and inquiry through two mechanisms:

- Greater mutuality between people and groups that allows for more open and honest information sharing,
- More complex meaning-making capacity and greater personal awareness on multiple levels (Fisher, Rooke, & Torbert; 2003; Foster, 2012; Torbert & Associates, 2004).

CDAI offers an approach and a set of tools that promote first-, second-, and third-person inquiry and practice. CDAI is a form of action research that reflects deeply on prior action using a developmental lens and a process of inquiry that reveals deeper insights that have the potential to transform how an individual thinks and acts in the world.

ACTION RESEARCH IN DOCTORAL STUDIES

The use of action research to solve problems and simultaneously develop capacity through exploratory inquiry can be seen in a doctoral program in learning, leadership and organization development at the University of Georgia that uses action research as a primary culminating activity. The approach is highly consistent with the program's mission to lead change through action research. It challenges students to use theory to implement change at the individual, group, and system levels—while generating new knowledge (Coghlan & Brannick, 2014).

Action research begins with a problem—generally one that requires investigation that, if solved, will improve the social conditions of those affected. The problem as defined by stakeholders is examined—as Lewin said—with discussions, negotiations, immersion in the context, and marshaling evidence. Through this process, the problem is redefined and reframed to fit what has been learned in the literature and through local reconnaissance.

Cycles of action and reflection occur next. Each cycle can potentially reframe or even invalidate the problem's original conception. The quality of the data collected to monitor the results of the action experiments taken enables this rethinking, as does the quality of the group process of the action research team as they navigate this process.

Data are collected throughout about the nature of the problem, the effectiveness of interventions, and the dynamics of the action research team process. One assumption in the UGA approach is that the team could be a potential source of error in the process, and a thorough understanding and documentation of what happens in team meetings is one way to identify and interrupt these errors.

Data are collected early on to verify that the problem selected is actually a problem—both locally and beyond the borders of the selected context. Data may be collected through documents within the organization, sometimes from state or national databases, or other research studies on the topic. Students may also design a survey or needs assessment, re-analyze an existing organizational survey, or use a validated instrument to identify the current state relative to the problem of interest. Finally, the action researcher keeps a research journal, noting instances of evolution of the understanding of the problem through the lens of the theory guiding the study, process issues within the team, and possible outcome data as it unfolds.

As with all qualitative research, the rigor of this approach is tied to the credibility of the documents, potential triangulation among the multiple sources of evidence, and particularly any validation the student can find that the problem in the local setting is significant beyond the borders of their context and not readily solved by means discovered elsewhere.

Another source of data is transcripts of action research team meetings and of summary interviews with action research team members. Interviews can shed light on what members learned through the action research process and about the research purpose. In some cases, these data are also the only source of evidence on how the interventions worked.

In most instances, the team and key stakeholders collect and review additional data to monitor the chosen interventions. Sources could include additional interviews with stakeholders and clients; questionnaire and survey data; descriptive statistics of changes in participation rates, retention data, or other relevant outcome data; or products developed by the team that are then reviewed by the team and key stakeholders.

With so much data collected, an important step in action research is data reduction. First, data are identified and eliminated that do not fit the research purpose. Then data that best fit each research question are identified and a final dataset created for analysis that might be both inductive and

deductive. Inductively, the action researcher reads through data and notes what is significant. He/she uses open coding (Strauss & Corbin, 1990) to look for patterns and themes. Then, a more deductive approach may winnow interesting but irrelevant information. The process is often iterative to eliminate conversations ancillary to the team's focus. Frugal action researchers may even tell transcriptionists which time frames they do not want transcribed to eliminate this "noise" from their dataset.

Data analysis varies with the type of data the researcher is analyzing, i.e. documents, transcripts, or questionnaires. Students at UGA often use critical incident technique using guidelines by Flanagan (1954) and by Ellinger and Watkins (1998).

Writing the research report is a daunting undertaking, given the sheer volume and complexity of the data as well as the challenge of depicting a systemic look at what has occurred. Students often divide their findings into two chapters—a chronologically rendered case study of what they did in the project and a discussion based on the research purpose. The case study gives transparency to the process, and is often a strong practitioner report of what worked and what did not work to address the original problem. The second findings chapter explores what was learned about the research questions, particularly about how well the theory guiding the work illuminated the problem and provided guidance for addressing it. Whether or not action researchers separate these two sets of findings, inclusion of both is essential in the report (Coghlan and Brannick, 2014).

MOVING PAST MODERNIST IMPOSITIONS OF RIGOR IN ACTION RESEARCH

Rigor and validity need to be differently understood in this context. The inductive, constructivist qualitative paradigm—or even abductive reasoning that seeks the best possible explanation from limited information—are used in action research to open thinking to views of multiple stakeholders and changing circumstances. A core idea is to interrupt habitual practice by exploring and inspiring innovative alternatives (Zandee, 2013) in action research. How do action researchers escape the impositions of an objective truth to embrace the messy reality of subjective and inter-subjective inquiry in action? Whereas empirical positivism aims at universalisable, valid certainty in reflection about particular pre-designated questions, action research aims at timely, voluntary, mutual, validity-testing, transformative action at all moments of living. This is a move away from a primarily reflective science about "bedrock truth" and toward critical inquiry-in-action by individuals, groups, organizations and the wider community.

In their 1978 article, Susman and Evered pointed to a crisis in organizational science in that "the findings in our scholarly management journals are only remotely related to the real world of practicing managers" (p.582). The positivist approaches to science which have dominated our perspective on research "are deficient in their capacity to generate knowledge for use by members of organizations" (p.585). Action research is future oriented, collaborative, implies system development, generates theory grounded in action, and is agnostic and situational, and as such, is clearly not supported by a positivist view of science. Susman and Evered argued that the conditions in which all of us try to learn in everyday life are better explored through a range of alternative philosophical viewpoints; Aristotelian praxis, hermeneutics, existentialism, pragmatism, process philosophies and phenomenology all point toward methods for improving validity under action conditions. Susman and Evered concluded:

We hope that this article will enable others to assess the scientific merits of action research. We believe that action research is both scientific in terms of the criteria of positivist science and relevant in terms of generating good organizational science. As a procedure for generating knowledge, we believe it has a far greater potential than positivist science for understanding and managing the affairs of organizations (p.601).

But still another transformation—this time toward the action turn—is necessary to reach a full understanding of the action research that Susman and Evered called for so long ago. In making

the action turn we re-vision our view of the nature and purpose of social science. Drawing on a participatory paradigm for research (Heron & Reason, 1997; Reason & Bradbury, 2000), we argue that the primary purpose of inquiry is not simply—or even primarily—to contribute to the fund of knowledge in a field, not to deconstruct taken-for-granted realities, nor even to develop emancipatory theory—although the latter can be valuable. Rather, it is to forge a direct link between intellectual knowledge and moment-to-moment personal and social action, so that inquiry contributes directly to the flourishing of human persons, their communities, and the ecosystems of which they are part (including the question of when foregrounding or backgrounding inquiry contributes best).

Since its origins in Kurt Lewin's social psychological experiments in the 1940s, action research emerged as a critique and alternative to more traditional views of social science (Argyris, 1970; Reason & Bradbury, 2001). Most social science studies seek to make causal links between predictor and dependent variables based on data or events that occurred in the past. In contrast, action research aims not only to understand past events, but also present phenomena, particularly the ongoing dynamics of human interactions, as well as future intentions and the forward design of joint organizing. Inquiry conducted in the present and for the future by co-participants remains underexplored in empirical scholarship to date. How do we generate valid information about a present situation when we are an "interested party" and action is urgent? How do we generate data about our practice and monitor its congruity or incongruity with strategies? How do we determine what we truly wish for the future? By employing action research strategies associated with present or future-oriented practical and transformational learning in action, we can re-vision the research method options available to research/practitioners and their rigor.

Second, action research differs from most social science studies that are aimed at aggregating data about many individuals, organizations, or events and attributing generalizable causal links among the variables studied, irrespective of the particulars. Thus, a kind of anonymous, third-person knowledge is sought, and it is then communicated to other anonymous third-persons, usually in the impersonal, third-person voice of a journal article.

Qualitative studies may achieve rigor through rich, in-depth accounts of one or numerous cases, and quantitative studies by generating statistically significant results. Although explanatory and predictor studies are clearly valuable to understanding the social world, other areas of reality have been relatively neglected. Action research begins to fill this void by emphasizing methods to obtain first-person, subjective data about oneself while in action to act differently in present time. Action research also generates second-person data from team members that they can use to appreciate their multiple perspectives and to change how they work together. The methods that constitute the core of action research are not impersonal disembodied methods, but rather personal embodied disciplines of simultaneous research and practice among others "on line" (Heron, 1996; Reason, 1994; Sherman & Torbert, 2000; Torbert, 1991).

Empirical positivism concerns two territories of experience – the outside world territory where we find data; and the cognitive territory where we generate theory and systematic methods for testing the validity of the "fit" between data and theory. Research methods are, in effect, guidelines for how to sequence one's attention between the outside world territory of experience (to collect data) and the cognitive territory (to theorize, design, analyze, and write-up the study). One collects, analyzes and reports on data long after the actions are taken. This kind of science does not train us to study social dynamics in the present when we are co-participants in the ongoing action, let alone how to invite the emergent data patterns to influence our emergent actions in the present.

By contrast, in describing "ecological education and action research as a transformative blend for formal and nonformal educators," educators Duenkel and Pratt, (2013) write from within the context of an ecological education graduate degree. They bring analysis of data from four cohorts of students engaged in capstone action research projects to describe transformative learning experiences for formal and nonformal educators that highlight constructive encounters with layers of hegemony. Awakening to relations of power, however, facilitated a profound shift within these teacher-researchers, engendering a

newly felt sense of empowerment. Integral to the transformative learning process were opportunities for reflection fostering greater balance between the personal and professional, learning to accept feelings of confusion and disorientation, and evolving a deeper understanding of ecological education.

CONCLUSION

Learning and doing action research in the neo-liberal world of contemporary higher education is seldom supported by the larger institutional context. As Greenwood (2012) suggests, understanding how action research can be practiced, taught, and learned in contemporary universities requires understanding the dominant structures that organize higher education in the 21st century. He draws attention to the neo-liberal and Taylorist structures affecting higher education which make it difficult to step outside the margins. We caution that action research be viewed in the larger context in order to demonstrate how it can contribute to an improved future for higher education and for the organizational contexts in which it is used. Perhaps the best action related to the question of rigor of Action Research is to pause before we attempt to predefine what is recognized as meaningful inquiry, and simply encourage generative and transformative learning for action that benefits the whole system and the people the system serves.

For Argyris (1980), what social scientists do to ensure internal and external validity almost guarantees that their findings will not be implementable – they may be replicable by other scientists conducting research, but the real world problems that may have led to the research in the first place will not be addressed by the knowledge produced under the tightly controlled conditions of normal science. What is needed instead, he argues, is research that produces "actionable knowledge (Argyris, 1996). Actionable knowledge makes clear the causal process that leads to action: If I do X, then Y will happen. Action research is a form of intervention research – focused on improving how we intervene in human systems in order to change them. Watkins (1981) stressed that in action research, the interventionist must produce or elicit the phenomena they hope to study. Clearly another barrier to using action research is the degree of interpersonal skills required of the researcher.

Similarly, Hackman (1985) was concerned that traditional laboratory research methods ignore the effects of context and the environment and assume a static state in the organization being studied. He commented, "Organizations do not hold still while we negotiate entry, make our intervention, and wait for an appropriate time to collect follow-up data." (p. 10). So, like others who sought research that is useful to practice (Lawler, 1985; Argyris, 1996), Hackman suggested that research that advances practice may also contribute to theory: "It may be that the best way to generate advances in basic theory is to do research that seeks solutions to real problems, and to keep one's eyes open for fundamental conceptual issues as one proceeds." (Ibid, p. 26).

Van de Ven and Johnson (2006) emphasize engaged scholarship, (including action research) that "adopts a pluralistic methodology that advances knowledge by leveraging the relative contributions and conceptual frameworks that researchers and practitioners bring to bear on a given problem or question. . . . The models that better fit the problems they were intended to solve are selected by users, and the gradual winnowing down of plausible rival models or hypotheses by the scholarly community produces an evolutionary conception of the growth of scientific knowledge." (p. 817).

We would argue then that, freed of some of the constraints of traditional social science research, action research may nevertheless help build theory precisely because it has the time to develop iterative tests of theory in different contexts, and the capacity through multiple data collection approaches to better capture the complexity of organizational contexts.

Small wonder that the academy is reluctant to embrace such a challenging form of research. Where the academy has ceded ground to action research is in professional doctoral programs such as the UGA doctoral program described above. These scholar-practitioner programs focus on improving practice through research. It is unlikely that these small initiatives will challenge traditional social science practices, but they do represent a powerful means for changing human systems and a rich alternative to traditional research approaches.

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