AN ACTION SCIENCE APPROACH TO CREATING AND SUSTAINING PROFESSIONAL
LEARNING COMMUNITIES AS A VEHICLE FOR COMPREHENSIVE SCHOOL REFORM

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Abstract

Public education in the United States is in crisis. Far too many children are failing to achieve
minimal standards in reading, writing and mathematics. New federal legislation seeks to correct
this situation by legislative fiat that is backed with severe sanctions for schools and districts that
fail to improve. This situation offers a unique opportunity for adult educators to play a critical role
in helping public schools meet this challenge. The strategy is to focus on the learning and
professional development of the adults within the system—principals, teachers, staff, parents and
community partners. This paper summarizes an action research/intervention project with several
Milwaukee public schools that are attempting comprehensive school reform. The research
strategy employs action science theory and tools of inquiry to document interpersonal dynamics
at the individual, group and organizational level that either inhibit or promote the creation of a
learning culture within the school. The intervention strategy is to organize and facilitate a series of
participatory action research (PAR) initiatives aimed at implementing the components of the
school's reform initiative. The combined action research/intervention project explores whether
action learning technologies like PAR coupled with action science inquiry can make a significant
contribution to transforming schools into learning organizations that are capable of embracing all
children.

Introduction

This paper reports the progress and initial findings that flow from a multi-year action research
intervention strategy aimed at comprehensive school reform in Milwaukee, Wisconsin. Improving
public education is among the highest priorities in the United States and is embodied in President
Bush's campaign pledge to "leave no child behind" which is now the law of the land as a result of
the "No Child Left Behind Act of 2001." The challenge is to meet the goal of academic
achievement for all children as framed by political rhetoric and mandated by law. Meeting this
challenge within the Milwaukee Public Schools System (MPS) provides the context for the
present research/intervention project. MPS is a large urban district serving approximately
100,000 students with over 80% being students of color, while nearly 70% come from low-income
families. The district is plagued with chronic problems of low school attendance, high truancy and
suspension rates, and low academic performance in the classroom and on standardized tests.

The Wisconsin Department of Public Instruction is part of a national effort to provide funding for
comprehensive school reform (CSR). The literature on school reform is clear. Schools that make
the most progress in helping all children learn have transformed themselves into professional
learning communities that have a set of distinguishing qualities including a) shared mission, vision
and values, b) collective inquiry, c) collaborative teams, d) action orientation, and
experimentation; and e) continuous improvement (DuFour, 1998). This list is consistent with the
adult education literature on creating learning organizations. Watkins and Marsick (1993)
recommend a) creating continuous learning opportunities, b) promoting inquiry and dialogue, c)
encouraging collaboration and team learning, d) establishing systems to capture and share
learning, e) empowering people toward collective vision, and f) connecting the organization to its
environment.

If the strategy for school reform is so clear why is it such a rare event? Argyris and Schön (1996)
warn that the change process is fraught with defensive reasoning, self-fulfilling prophecies, and
self-sealing routines that are coupled with collusion and cover-up among the participants
themselves. This vicious cycle coalesces into policies, rules and cultural practices that become
institutionalized and inhibit learning at the individual, group and organizational level. From an
action science perspective (Argyris, Putnam, and Smith, 1987), comprehensive school reform
must break this vicious cycle that is the result of Model I values and skills and create an

environment that supports collaborative learning and embodies the values, skills, and reasoning-in-action associated with Model II learning organizations.

The following discussion begins by outlining a theory-of-action that guides the present research/intervention strategy. This is followed by a series of diagrams that depict the model I, learning environment of most schools in need of improvement and the reasoning-in-action among that prevents learning and change among the teachers, staff, parents, and other stakeholders. The end result is the perpetuation of low performing schools if nothing is done to intervene in the cycle. The remaining section describes the participatory action research (PAR) strategy that is being employed as an intervention tool. This strategy, when implemented through a multi-year iterative process, plays an important role in building leadership and the collaborative problem-solving capacity among school staff, parents and community partners that can help transform a low performing school into a learning organization with tangible gains in student academic performance. The paper concludes with a call to adult educators to develop and validate through their own practice research/intervention strategies that will help transform our schools (other public institutions) into productive and socially just learning organizations.

A Theory-of-Action Using Participatory Action Research in Support of Comprehensive School Reform

Argyris (1994) describes a four-stage theory of changes that is aimed at helping organizations shift from a Model I to a Model II learning organization. The first two steps include helping members 1) to become aware of existing Model I theories-in-use, and 2) to see how they perpetuate a Model I environment regardless of their efforts and desires to change the system. The remaining steps include helping members 3) to learn a new theory-of-action that is consistent with Model II values, and 4) to introduce Model II values and skills into the every-day practice environment of the organization and its members. Argyris identifies two implicit assumptions in his stage theory. First, the intervention should begin at a high enough level within the organization to have sufficient power and autonomy to make a difference. Second, organizational double-loop learning must begin at the individual level and then spread to the organizational level. The change process must begin at the individual level because the shift to a double-loop learning organization asks people to do what they don't know how to do. It entails overcoming strong socialization processes and internalized values and interpersonal skills that perpetuate a Model I environment even when it is shown to be dysfunctional in terms of becoming a learning organization. Marsick and Watkins (1999) elaborate on this stage theory in their own change model for organizational learning which includes a) diagnosing the situation, b) creating a vision, c) building alignment around the vision, d) framing collaborative experiments, e) monitoring outcomes, and f) reframing new experiments.

In both cases, the change process involves an iterative cycle of action experiments being undertaken among the members themselves that have both a task and process focus. The task is to accomplish the objectives of the action experiment, which should be linked to the core mission of the organizations. In schools the core mission is student learning. The focus on process is aimed at helping the members (teachers, staff, parents, etc.) learn, practice, and become proficient in Model II values and skills that will help them to work collaboratively together while accomplish their tasks. In other words, the action experiments are designed to help the organization move toward its goals while also serving as a vehicle for learning and internalizing a Model II way of working together.

From an action science perspective (Argyris, Putnam and Smith, 1987), the production of action experiments must lead to learning Model II values and interpersonal skills. Model II values are associated with having valid information, free and informed choice, and internal commitment to the choice and constant monitoring of its implementation. Model II skills are associated with productive group dialogue, inquiry, collaboration, collective problem solving, and self-monitoring. Model II values and skills combine to produce highly productive environments that are perceived as being socially just as members share control, responsibility and accountability for their actions.

Action science provides a cautionary note. Action experiments can be undertaken using Model I values and skills that produce short-term gains while short-circuiting the development of a true learning organization. Model I values emphasize gaining and maintaining control, winning not losing, avoiding negative feelings, and being rational. Model I skills are associated with playing politics, debating rather than dialoguing, behind the scenes maneuvering, saving face to a fault, as well as covering up mistakes and colluding in the process. While Model I values and skills can be effective in task oriented problem solving, they produce environments that are highly defensive, lacking in trust, self-sealing, and decreasing effectiveness. Accordingly, action experiments that are implemented within a Model II value and skill set and done through a multi-year iterative cycle have the best chance of helping to create a learning environment that can be self-sustaining by the members themselves.

Mapping Organizational Dynamics that Produce Low Performing School

Figure I is a framework that has been developed through numerous discussions with school principals, teachers, staff, parents and community partners. Some of these conversations have taken place as part of the dialogue in action research projects that I facilitate in different schools. Others were part of meetings, planning sessions, proposal writing efforts, and informal conversations with many different people. Figure I stands as a diagnostic model that describes the Model I conditions that are present in many schools as they initiate their own school reform efforts. This framework has been shared with many individuals and groups and it has been refined as a result of their feedback. There is general agreement that the figure captures a fundamental pattern that is keeping schools from improving.

Figure I: Organizational Dynamics Leading to Low Performing Schools
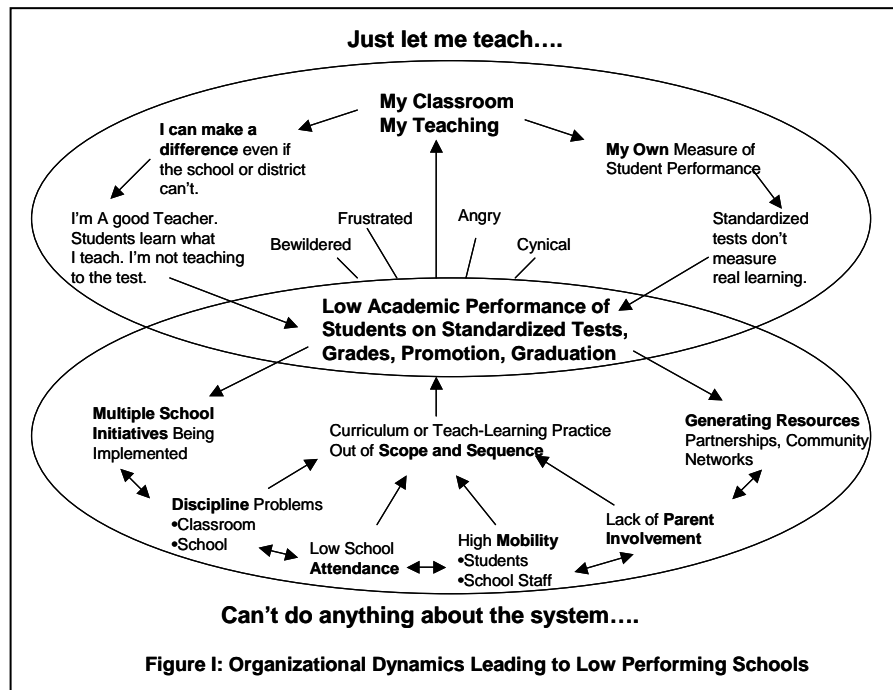
At the center of Figure I is the stark reality of continuing low academic performance of students. When asked about the conditions that contribute to this situation, people respond by identifying a set of perplexing dilemmas and challenges. These are depicted in the lower circle. Discipline problems in the school and the classroom are so severe that teachers don't have time to teach they're too busy trying to keep order. If discipline gets under control, then attendance becomes the issue. You can't teach if the students don't show up. In addition to these issues, mobility of both students and teachers is a major barrier. Schools report between 30% and 50% turnover among the student population. High teacher turnover and absenteeism is also a major barrier to creating a stable learning environment within the schools. Above all, the lack of parental

involvement in the education of their children is cited as a major barrier to improving the academic performance of students. It's not for the lack of resources. Many schools receive additional grants and other resources in the name of helping children learn. Still, low academic performance persists among the children. Finally, many have reported a stark, but often-undiscussable fact—teachers aren't teaching the curriculum or their teaching is out of scope and sequence with other teachers in the building or across different schools.

The upper circle depicts the response people have to this situation. Teachers talk about their own classrooms and their own teaching strategies. They operate with the conviction that they can make a difference among their own students even if the district can't. They affirm their contribution to helping students learn by pointing to their own classroom assessments (grades). They challenge the validity of standardized tests and the inappropriateness of simply teaching to the test. Most everyone openly expresses the conviction that they can't do anything about the system but things would improve if only they were left alone to teach.
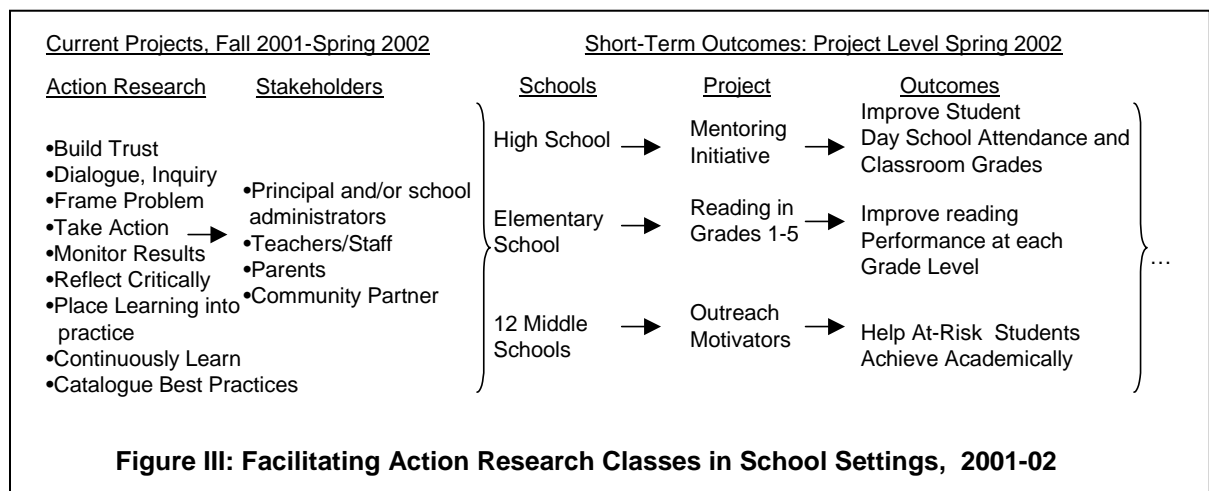
Contextual Cues	Action Strategies	Consequences	System Consequences
Individual Level When confronted with continued low academic performance of students	I remind everyone that the causes are vast and beyond my control—discipline, attendance, mobility, and lack of parent involvement, and other teachers/schools are not doing their job Recall that we've tried everything within reason to improve student performance and nothing works	Guarantees that nothing more will be tried and that low student academic performance will continue Guarantees that teachers will retreat into their classroom, focus on their own teaching and classroom assessments of performance	Neither I or my colleagues seek or learn why previous efforts have failed and what new efforts could be tried to improve the overall academic performance of students in the school
School Level When confronted with continued low academic performance of students	Principals, Assistant Principals and other school leaders ask teachers and staff to solve the problem in their classroom or form teams to address the problem. Or school leadership encourages staff to seek funding for new programs and resources to correct the problem	Guarantees that the teachers will repeat the same initiatives they've tried in the past with the same results Guarantees that everyone continues to feel dismayed, frustrated, angry and resigned to the fact that nothing works—so why try….	Low academic performance within the school will be rationalized and staff will distance themselves from personal and professional responsibility for student learning The cycle of low performance becomes perpetual and self-sealing

Figure II: Organizational Map of Reasoning and Defensive Routines Regarding School Reform

The framework in Figure I is a learned helplessness model (Watkins and Marsick, 1993) as indicated by the feelings of bewilderment, frustration, anger and cynicism that are openly expressed or easily recognized by everyone familiar with this pattern. Learned helplessness is expressed in a set of organizational defensive routines that limit the schools ability to problem solve, organize to take action, and learn from experience. Figure II provides a map of the defensive reasoning that is present in many schools. This map also has been shared with numerous people and affirmed as being a valid representation of how teachers and other stakeholders respond to their environment.

Participatory Action Research As a Strategy for Comprehensive School Reform

The preceding discussion places emphasis on breaking the learned helplessness cycle within the schools and altering the pattern of defensive reasoning among school staff and other stakeholders. Further, engaging organizational members in action experiments is seen as a vehicle to foster a learning organization. Participatory action research (PAR) is a strategy that that is well suited for this end that can be easily framed within a school environment. Figure III summarizes the PAR approach that is being implemented within several schools as part of the present research/intervention strategy. Each project has been organized as an action research class. Participants earn credit for completing the project, documenting the results, reflecting on what they have learned, and recommending subsequent actions that will contribute to the school's overall reform strategy. The action research process (classes) has both task and process goals. The task goal includes framing the project, taking action, monitoring results, placing what is learned into action, reflecting on the results, and cataloguing best practices. The process goal is to help the participants build trust and to learn how to engage in productive dialogue and collective inquiry as a collaborative team. In short, the process goal is to create a space where participants can learn and practice Model II skills that are associated with double-loop learning at the individual, group and organizational level. The dialogue includes discussions on how the group is functioning and how the group project, if proven effective, can be extended incrementally throughout the school building. In most cases the school principal or assistant principal is part of the team. This allows the members to practice Model II discourse where differences in power, position, and experience are at play. It also allows them to engage in meaningful problem solving because the team has the capacity and authority to make decisions and to act accordingly.

Current Projects, Fall 2001-Spring 2002   Short-Term Outcomes: Project Level Spring 2002

Action Research	Stakeholders	Schools	Project	Outcomes
•Build Trust •Dialogue, Inquiry •Frame Problem •Take Action → •Monitor Results •Reflect Critically •Place Learning into practice •Continuously Learn •Catalogue Best Practices	•Principal and/or school administrators •Teachers/Staff •Parents •Community Partner	High School →	Mentoring Initiative →	Improve Student Day School Attendance and Classroom Grades
		Elementary School →	Reading in Grades 1-5 →	Improve reading Performance at each Grade Level
		12 Middle Schools →	Outreach Motivators →	Help At-Risk Students Achieve Academically

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Figure III: Facilitating Action Research Classes in School Settings, 2001-02

It is crucial to see that Figure III represents the first year of a multi-year iterative cycle. As the year ends, team members frame action strategies that are designed to ensure that their project will get a fair hearing among their colleagues and be given a reasonable chance for replication (adaptation) on a larger scale during the next year. Over a series of yearlong iterations, the PAR strategy not only helps to identify and implement effective programs that produce tangible gains in student learning but also helps to broaden and deepen the change process throughout the school. The PAR strategy can be used to support the leadership development of the principal and assistant principal and to give them a tool for implementing their vision of a learning organization that is inclusive of the teachers, staff, parents and community partners. PAR is also a strategy that supports staff development among individuals and teams. Reports on project outcomes and best practices in the classroom and throughout the school can be used to benchmark progress toward acculturating a learning organization throughout the school environment. Further, The PAR strategy helps to build leadership capacity among a growing number of members throughout the school. Past PAR participants become ideal candidates to organize, facilitate and/or coach

the next round of action projects to be implemented in subsequent years. This group of "PAR alumni" can form an action learning team that is focused on developing effective group facilitation skills that keep new action teams aligned with the core mission of the school, focused on task and producing tangible results in student learning, and consistent with Model II values and practices associated with a learning organization. Finally, over time, the PAR strategy contributes to changing the culture of the school and its environment. This happens as a growing number of people come to experience action learning and begin to integrate the Model II values and interpersonal skills that they learned as team members into their every day practice in the classroom, school building, at home and/or in the community. The results of the PAR project aimed at helping students in 12 middle schools improve their academic performance are available for review at the poster sessions during this conference.

Conclusion

The crisis in public school education creates an opportunity for adult educators to help schools and school districts meet the challenge that no child shall be left behind. While the national goal is to improve the academic performance of all children, the role of the adult educator is to focus on the learning and professional development needs of the adults within the system—principals, teachers, staff, parents and community partners. More broadly, adult educators can make a significant contribution by developing and validating robust, theory laden research/intervention strategies that help transform our schools and other public institutions into high performing and socially just learning organizations. This entails integrating multiple strands of adult education theory and practices. We need to integrate theories of learning at the individual, group, organization, and social level. We need to include theories of social change and social justice while dealing effectively with issues of power, domination, and marginalization. We need to transform our espoused theories into action and then put our own theories-in-use to the test—can we facilitate the kind of adult learning experiences and produce the kind of learning environment that quite literally changes the world? Can we do this in our research, our classroom practice, and in our personal and professional role as change agents for a more humane, democratic and socially just society? Working in the context of public school reform affords a unique and challenging opportunity to put our best theory and practice to the test. This paper represents a humble beginning for this one adult education practitioner.

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