Educators participating in school improvement efforts are likely to follow one of three paths toward implementation of changes, and the most successful projects cut across all three, according to two recent studies. The three processes parallel the three perspectives adopted in research on innovation: technical, emphasizing a rational approach to improving job effectiveness; political, highlighting the power relations involved in altering behavior; and cultural, stressing the norms and values shared by practitioners and the symbolic meanings attached to change efforts.

Researchers conducted a 3-year, longitudinal study of 14 elementary and secondary schools undergoing curriculum changes and a 1-year study of three "good" high schools trying to become better. This research report presents in chart form a model of a causal network that depicts the forces at work in schools implementing changes and shows how the three perspectives on innovation interact. The report then discusses the three typical pathways toward innovation and refers to the network model to explain the causal factors at work in each pathway. The report concludes that: (1) antecedent conditions significantly affect project success; and (2) the provision of encouragement and assistance and the alteration of rules and procedures are critical during the process of implementation.
FANFARE AND FAILURE: PATH WAYS TO IMPLEMENTING CHANGE

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"We're great at starting projects, but we never seem to finish them."

The numerous school improvement projects that most educators have read about, participated in, or otherwise been subjected to have left no legacy more unanimously chorused than the above. Project after project is heralded at its beginning, slows down as planning meets implementation, and eventually disappears in the face of newer and more politically favored initiatives. Researchers and project participants alike have learned that no change strategy or innovation works everywhere. For example, administrative support certainly helps a project but it does not insure success; encouraging a wide range of staff to participate is an almost inviolate principle but many projects that adhere to it fail; and improving time-on-task, no matter how commonsensical it sounds, is more complicated than running a few workshops to show teachers how to alter their classroom practices. Research has still to answer satisfactorily the question of what happens between the fanfare and the failure.

House (1981) argues that research on innovation use adopts one of three perspectives: technical, political, or cultural. The technical emphasizes a rational, almost mechanistic approach to improving job effectiveness; the political highlights the power relations involved in altering behavior; and the cultural stresses shared norms and values among practitioners and the symbolic meanings attached to change efforts. This paper argues that potential implementors in every improvement effort likely follow one of three paths—technical, political, or cultural—before putting a new practice into their repertoire, and that the most successful projects either luckily
or intentionally cut across all three. Rather than being artificial perspectives imposed by researchers on observed phenomena, these categories capture the reality of the processes by which individual teachers ultimately implement. The complication is that as participants define their relationship to a project, project leaders are defining the relationship of the project to participants. Both sets of definitions determine "appropriate" actions, creating the potential for misunderstanding, direct conflict, and unresponsiveness. The net result appears to be that it is easier to generate excitement about a project when no one understands that everyone understands it differently than when everyone understands that no one understands it the same.

Study Sites and Network Development

The following causal network and narratives are based on two studies. The first was of 14 schools undergoing curriculum changes in basic skills, career education, and citizen education. Working in conjunction with external field agents, local planning teams consisting of administrators, teachers, and occasionally others were to move the projects from design to implementation. Field researchers examined planning, implementing, and institutionalizing in the sites for three years using a combination of observation, open-ended interviews, and some surveys. The schools were both elementary and secondary, and urban, suburban, and rural. The research was completed three years ago; project reports are readily available (see Corbett, Dawson, & Firestone, 1984). The second study was of three "good" high schools (as defined by members and outsiders) trying to become better. The one-year project used intensive qualitative field work (an average of 50 days on site) and described and accounted for events using a cultural perspective. The report from the project will be presented in another AERA session tomorrow afternoon (see Rossman, Corbett, & Firestone, 1985).
Using both studies offered additional analytical power. The first study highlighted technical and political processes. Mapping the results of the second study onto this pointed out significant phenomena unaccounted for by the first two perspectives alone. Thus, the cultural perspective was introduced. Revisiting the data from the first study with this additional tool helped to increase understanding of why the successful sites succeeded and the unsuccessful ones failed.

The network reflects certain idiosyncracies of the sites. First, the 14 schools in the first study all created planning teams. The importance of this specific form of temporary system (Miles 1964), thus, is captured in the network. Second, these schools had the assistance of external field agents. The network relegates field agents to an apparently minor role. This is somewhat an artifact of a network that explains the percentage of implementors in a school. The field agents did not affect who implemented directly, but they were key in keeping the plugs from being pulled before individuals had a chance to implement. (For more detail on the field agent see Chapter Three in Corbett, Dawson & Firestone, 1984). Third, at first glance the network underestimates the importance of the cultural stream. This is a function of the detailed longitudinal data available from the 14-school study and the one-year time frame of the three high school study. Confidence in determining who had really implemented and why they had done so was greater in the first study, and yet the "gut" reaction of the researchers involved is that the cultural stream will ultimately prove to be of equal or greater importance in affecting lasting change. As a final comment, network construction and narrative development are inferential and interpretive acts. The data on which these interpretations rest are contained in the 1984 and 1985 reports mentioned above.
The Narratives

Individuals reached implementing through one of three "streams" in the causal network. Key variables in each stream are clustered together although several of these played important roles in more than one stream.

The Technical Stream

The technical stream applied to three sets of individuals in a school, with each set entering at a different point: planning team members, teachers in organizationally tight subunits with at least one representative on the planning team, and teachers who encountered the innovation because decision makers had either made adjustments in or incorporated changes into system rules and procedures.

The planning teams' importance can be seen in the fact that of the 114 teachers on them in the 14 schools, all but 23 eventually became implementors. By way of comparison, 43 non-planning team members in the 14 schools eventually implemented, with three schools accounting for 26 of these. Table 1 summarizes these data for the 14 school study. (See Wilson and Corbett, 1983, for an explanation of the implementing pattern).

Planning team members confronted the innovation the earliest of any other faculty in a school. They typically arrived at implementing (20) on a path from 9 through 11, 14 and 15. How often they met to discuss the project and proposed new practices (9) primarily depended on how many planning team members there were (10) and how much slack time (3) each had. Meeting frequency declined as the number of members increased and slack time became more constrained. Slack time in turn was dependent on the course load and duty assignments of members (4) as well as the number of competing projects underway or being planned in the school and/or its district (6).
<table>
<thead>
<tr>
<th>School</th>
<th>Number of Classroom Teachers</th>
<th>Teachers on Planning Team</th>
<th>Team Teachers Making Change</th>
<th>All Teachers Making Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>18</td>
<td>4</td>
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<td>6</td>
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<td>02</td>
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<td>11</td>
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<td>14</td>
<td>141</td>
<td>20</td>
<td>19</td>
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</tbody>
</table>

<sup>a</sup> Eight of these teachers were department chairpersons who had no classroom teaching responsibilities.
The more often planning team members met (9), the more likely they would receive encouragement to implement as well as assistance in understanding the proposed changes and how they could be made (11). Encouragement and assistance (11) were tempered by three other factors. First, the number of staff on the planning (10) team was important. Teams that were large to begin with focused mostly on group maintenance issues like where and how long to meet and rarely discussed the innovation. Teams that slowly expanded over time remained task oriented but new members received less encouragement and assistance than original members. A second factor was whether a building administrator attended the meetings (12); the more frequently an administrator was present the more he or she encouraged participants both inside and outside the meetings. Third, whether or not the outside field agent attended most meetings (13) was a factor. The field agent was often the final arbiter of what was an innovation-related change and kept the process moving.

At this point, planning team members began to judge whether new practices fit their teaching styles, course content, students, or philosophies (15), and tried out some of the practices (14). Interestingly, these trials typically occurred well ahead of the time that such "pilot" activities were called for in the formal plans. Early success in the trials encouraged more reticent planning team members also to try the practices and spurred the experimenters to make favorable judgments of fit. Thus, 11, 14, and 15 became a loop that continually operated from early in the project to the end. Eventually, all planning team members made judgments of fit (15). Positive judgments led directly to implementing the changes (20). Negative
judgements caused staff to either reject the innovation outright or to consider the possibility of rearranging their views of what their role was and/or should be (19). (See the cultural stream narrative).

Non-planning team members entered the stream in two places. The first path was 5, 16, 11, 14 and 15 to 20. School subunits (departments and/or grade level teams) varied widely as to how much interaction about instruction typically occurred in them. Those that held frequent discussions exhibited the characteristics of tightly-coupled systems (see Miles, 1981). When a planning team members was also a member of an organizationally tight subunit (16), discussions about the innovation frequently occurred within the subunit. This often led to mutual encouragement to try out the ideas (11). The probability of these situations arising was primarily dependent on how many organizationally tight subunits existed in the school (5) and how many planning team members there were (10). It is interesting that planning team size (10) had a negative influence on the technical stream in terms of meeting frequently (9) but a positive effect on how many non-planning team members entered the stream. Having received encouragement and assistance (11), non-planning team members from tight subunits became implementors in similar fashion to planning team members -- that is, through the 11, 14 and 15 loop.

Second, some non-planning team members entered the trial-judgment loop (11, 14, 15) from 18. These staff tried innovation-related practices because of adjustments made in rules and procedures, primarily evaluation systems or course guidelines. As will be discussed in the political stream, some
implemented directly as a result of these adjustments (18 to 20), but a subset entered the technical stream. For whatever reason, the subset perceived that little penalty would be associated with non-compliance and believed themselves to be the ultimate judges of whether they would implement or not.

The Political Stream

The political stream reflected the use of power and authority to bring about change. Events appeared more benign to the field researchers than typically are associated with a "stick" approach; but for a number of teachers the effect was the same as if changes had been mandated. Two paths operated: 18 directly to 20; and 16, 17, 18 to 20. As mentioned in the technical stream narrative, some individuals moved from 18 to the technical stream.

Key antecedent variables were the number of competing demands and projects in the school and/or district (6) and the number of organizationally tight subunits (5). The first variable directly affected whether key decision makers (administrators and teachers) bought into the project (17). The second variable operated through those situations in which a teacher held joint membership in an organizationally tight subunit and the planning team (16). Subunits that entered the political stream, however, not only had frequent interaction about instruction but also made joint curriculum decisions that were binding on all members. The presence of the planning team member tended to spur the group to consider "buying in" to the innovation (17).

Some administrative decision makers bought in (17) as planning occurred; essentially they became "converts" as they went through the technical stream and subsequently saw how they could use their position to boost the project.
This typically led to making rules and procedures (18) that supported innovation efforts better (such as altering schedules to free individuals to discuss the innovation) or requiring the changes to be made (e.g., by incorporating new practices into the evaluation system). Theoretically, the political stream could result in shifts in power and authority (21). This was not observed in the 14-school study; however, hints of it were appearing in the three-high-school study at its conclusion.

The Cultural Stream

The cultural stream was somewhat different from the technical and political because it highlighted the tacit, often murky aspects of organizational life—the norms, beliefs, and values that framed people’s actions, often in a marginally conscious way. Briefly, culture is "the way things are done around here": how people define their work, roles, and relationships. Cultural outcomes were observable changes in these norms (19). Acceptance of norms supportive of the innovative practices (19) led directly to implementing (20).

The cultural path was initiated by a negative judgment of fit (15) to 8, 19, and 20. This judgment generated the possibility of having to redefine the norms related to work, roles, and relationships (8). That is, new norms challenged the way things were done from that person's point of view. The greater the discrepancy or dissonance created by this situation, the more likely the person would have to decide to accept or reject the new norms. Essentially, cultural change is possible only when such discrepancies between what is and what should be appear. Several antecedent and intervening variables directly affected both 19 and 8. First, the sacredness of norms adhered to by
organizational members (1) was important. Sacred norms were inviolate (Eliade, 1957); to suggest alternatives or to imply that they were archaic, anachronistic, or just plain wrong led to anger, outrage, and disbelief. The more sacred the norms (1), the less likely new ones redefining that aspect of work, one's role, or relationships were accepted (19). Thus, l had an inverse relationship with 19.

Second, community beliefs (2) affected perceived discrepancies between current and new norms. Strong community beliefs set up "noise" around the school and suggested specific ways of behaving. The greater the perceived discrepancy between new norms and community beliefs, the more pressure there would be to not see a need to redefine one's role (8). To have altered behaviors in the direction of the new norms would have placed too much conflict between internal beliefs and external pressures. To not change--to continue to adhere to the old norms--was psychically less costly. Third, whether or not the need to redefine (8) led to accepting new norms (19) was dependent not only on how much the new norms challenged sacred territory (1) but also on whether encouragement and assistance continued to flow to the individual (11) and whether rituals, ceremonies, and other symbolic acts expressing and defining the new norms (7) occurred. Interestingly, supportive rituals and ceremonies could "hook" teachers who had not entered the implementing streams anywhere else by pointing to alternative norms concerning work, roles and/or relationships, thereby generating a need to redefine existing norms (8).

Stream Interaction

The streams interconnected. Schools that had the most staff implementing had activities going on in all three streams. Schools that only forced change lost staff who opted into the technical and/or cultural streams.
Schools that defined change only in technical terms limited the maximum number of potential implementors to the initial planning team members unless they had the serendipitous presence of organizationally tight subunits with planning team members in them. Such schools tended to lose those teachers entering the cultural stream. Only one school operated solely in the cultural stream (one of the high schools in the three-school study). This school lost a number of teachers who were probably willing to change if they had had a better technical understanding of what the principal wanted. In one of the most successful schools (School #4 in Table 1), the principal altered teacher evaluations to include discussion of innovation-related changes (18), technical assistance and informal encouragement were available from beginning to end (11), a variety of bulletin board displays in the school reminded all of the importance of innovation-related changes (7), and parents who sent students to the school did so because their expectations for how their children learned best fit with innovation-related changes (2). As a result, factors positively affecting the paths towards implementing in each of the three streams were operating.

The stream a teacher entered tempered his or her view of an event. For example, for teachers in the cultural stream, altering rules and procedures became interpreted not so much as evidence of a suffocating top-down strategy but as a symbolic gesture of the importance of project to decision makers. Similarly, rituals and ceremonies that were so meaningful to teachers in the cultural stream appeared empty and hokey to those in the political.

Putting Together a Change Strategy

What lessons can be drawn about appropriate strategies for implementing change? Two seem most apparent. First, certain antecedent conditions set the
stage for how well or poorly a change project will go. Manipulating these to support innovative efforts creates an organization capable of intentionally changing whenever a worthwhile opportunity presents itself. For example, establishing assignments and schedules that allow frequent staff interaction is a noble end itself, but it also provides the slack time necessary for innovation to occur and avoids the costs associated with pulling staff away from regular duties or to cover the assignment of those participating. Structured time for interaction may also encourage tighter bonds among teachers, thereby creating more subunits capable of spreading change beyond temporary systems like planning teams. Slack time is increased also by reducing the number of competitors for available time. Too often an innovative reputation is built on the habit of starting new project after new project, piling one on top of the other. The result is that the noted innovator rarely becomes a noted implementor.

Second, several intervening variables can be very powerful components of a change strategy. The two pivotal points in the network seem to be encouragement/assistance (11) and altering rules and procedures to accommodate change (18). The first should be almost self evident. Recent popular literature in business like Peters and Waterman (1982) stresses the incredible leverage appropriate incentives give an organization in channeling energy creatively and productively. Incentives have the added benefit of increasing the probability of favorable decisions to implement for both those who see the innovation as a technical change and those who see the change as a challenge to current definitions of their work, roles, and relationships. The second variable (18) can operate less as a stick (although it always will be for
some) and more as a way of introducing innovation-related changes to those
beyond the planning team.
It is not only a political tool, then, but also a
stimulus to nove individuals into the technical and cultural streams.
For the latter stream, adjustments in rules and procedures take on symbolic importance
as well.
Fanfare and failure?
Research says the two go hand-in-hand, but a
closer look at implementing suggests the two do not have to be so inseparably
linked.
REFERENCES


