Part 5

Modeling Stakeholder Commitments Using Design Research
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13 Toward Assessment of Teachers’ Receptivity to Change in Singapore

A Case Study

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Introduction

As a nation without natural resources, Singapore believes that the impact of global political and economic change is redressed best through change in education practices (Gopinathan, 2001). However, there is a dearth of international benchmarks (Luke et al., 2005). Toward this end, the National Institute of Education established the Centre for Research in Pedagogy and Practice (CRPP) in 2003, with a S$47 million commitment over a five-year period to enhance pedagogical innovation and classroom practice, build the national research infrastructure, and train a new generation of educational researchers (ibid.). As new interventions are initiated in schools, there is a need to gather information about the factors that enhance or inhibit educational change in Singapore’s context, create a common pool of knowledge among decision-makers about the characteristics of successful change, and develop tools for evaluating the impact of change.

However, change is a process filled with ambiguity, uncertainty, and risk (Fullan, 1991); consequently, fostering change can be difficult. Not surprisingly, explanations abound about the disappointing results of efforts to reform schools (Hopkins & Reynolds, 2001; Rogers, 1995; Waugh & Godfrey, 1995). In fact, pedagogy has proven quite resistant to change (Desimone, 2002). Since the late 1970s, researchers have argued that schools often respond to pressures in the institutional environment by merely making symbolic changes in structure and procedures while decoupling these changes from actual classroom practice and buffering the classroom from environmental pressures (Meyer & Wong, 1998). This suggests that the institutional environment has little influence on teachers’ work in the classroom and provides an explanation for the legion of studies that have recounted the failure of school reform efforts to reach classroom practice (Cohen & Ball 1990; Cuban, 1998; Elmore, 1997; Sarason, 1990). Teachers often have a way of shutting their classroom doors to unwanted pressures and priorities.

Our study reports an exploratory attempt to develop a tool to assess the receptivity of Singaporean teachers to change. We develop this tool by examining the available literature, surveying CRPP staff to get an in-depth understanding of their perspectives, assessing their experiences in schools, and then conducting qualitative data analysis to make sense of their experiences doing research in Singapore’s schools. The draft tool will assist in negotiations with teachers and school leaders about potential intervention sites. It also will enable us to make sense of the conditions that enhance and inhibit teachers’ receptivity to change throughout the life of an intervention.
We anticipate that the instrument will evolve over the course of educational interventions. This is important because the instrument potentially has multiple uses in the change process, among them diagnostic, enabling, and evaluative applications, and may offer one method to assess the viability and sustainability of the innovation introduced at a particular school. Nevertheless, the perceived benefits of this tool will be realized only through empirical evidence once it has been pilot-tested, validated, and used in Singaporean schools over time.

Singapore’s Educational Context

Singapore provides a unique venue for a case study. With the recent suite of innovations, it is moving away from a tightly coupled, state education model to a looser one, thus opening up the system. In addition, Singapore’s education system is at the top on many international comparative measures of conventional educational achievement (Luke et al., 2005). For example, Singapore was ranked number one and number two in the world for mathematics and science, respectively, in the Third International Mathematics and Science Study and first in Quality Mathematics and Science Education in the Global Competitiveness Report 2002–2003 (Kelly et al., 2000; Mullis et al., 2000). There is consensus that the system is a success and there is sustained governmental funding (Sharpe & Gopinathan, 2002). Teachers, too, are comfortable and experienced in the current system. However, moving such a “successful” environment to the next level has unique challenges.

The tradition in Singapore has been top-down educational planning. Two decades ago, a number of reforms were launched to diversify educational provisions (Luke et al., 2005). Recent major initiatives include Thinking Schools, Learning Nation (Goh, 1997) (this is the name of the initiative and the reference is the title of the speech from which this initiative was derived) and the Master Plan for Information Technology in Education (Ministry of Education, 1997) to increase the tools and resources available, augment instructional flexibility, and produce more autonomous, independent learners. Innovation and Enterprise (Ministry of Education, 2003) is another recent initiative launched at the annual workplan seminar to emphasize further the spirit of questioning, risk-taking, and tenacity that students need to respond to a fast-changing, global landscape. Another important reform was launched in 2004—the Teach Less Learn More (TLLM) (Ministry of Education, 2002) initiative whereby schools are expected to reduce the syllabus and develop local curricula and pedagogical strategies and teachers are encouraged to act as facilitators rather than authoritative dispensers of knowledge. Furthermore, this package of initiatives includes the allocation of more teachers to schools and the provision of teacher-assistants to help with administrative work in the classroom. Nonetheless, the mandate for TLLM is reverberating both optimism and worry among school leadership, teacher-trainers, and the teaching fraternity.

There is a feeling that there have been too many initiatives within a short span of time with the assumption that once policies are executed, real changes will take place (Tan & Tan, 2001). Teachers do not have the time and space to understand the innovations well enough for genuine acceptance, therefore they tend not to take risks (Tan, 2002). These latest initiatives open up more space and possibilities for the teacher to do less teacher-led, content-driven work, but they also create a need for teachers to move into a more independent and proactive educational context.

Other factors may contribute to an aversion to change. Singapore uses an annual public ranking of school performance on the grounds that it promotes competition and provides information for parents. Schools are judged by how much “value added” has
been achieved through their performance on these standardized examinations (Mortimore et al., 2000). Critical examinations make both parents and teachers nervous about innovative pedagogy because of uncertainties about outcomes, the final standardized measure of success, and the perceived need for top grades for future life pathways. Additionally, there is an aging teaching force, with 31 percent of primary school teachers and 22.8 percent of secondary school teachers aged 50 years and above (Ministry of Education, 2001).

The rate, pace, and intensity of innovations in Singapore have been relentless. Yet the Singaporean government, although zealous in its curricula initiatives (Gopinathan, 2001; Nathan, 2001), has not been very flexible in modifying the end measure of educational success. Teachers complain of little time to plan and develop an initiative before the next one gets started. Anecdotal accounts through informal discussions indicate that the heavy workload and the “voice” of teachers are often neglected. Rosenblatt’s (2004) cross-country study showed that teachers tended to use their skills when they had more of a role in the change, rather than receiving it top-down from management. In implementing school wide reform, the corpus of available research (which identifies a substantial number of failures and only a few successes) points to the need to stage interventions carefully to avoid resistance and to promote teachers’ acceptance and successful outcomes.

This need to ensure the success and sustainability of educational reforms is the concern and preoccupation of educators and policy-makers elsewhere, not only in Singapore. Education systems around the world are grappling with reforms and with the notion that the more things change, the more they remain the same. The rhetoric of reform often focuses on the role of the teacher in holding the key to change—that teachers matter if we want to realize the intended changes effectively. Singapore is no exception to this rhetoric. Teachers’ responses to change led us to develop a tool to assess the conditions contributing to pedagogical change in Singapore. Teachers’ receptivity to change is explored further in our study.

**Teachers’ Receptivity to Change**

Many studies have looked at the ways in which teachers implement new ideas. Some highlight the importance of teacher willingness/ability to change (Shulman, 1987), the resistance of teachers to changing their beliefs (Brown & Edelson, 2003; Cohen & Ball, 1990; Spillane, 1999), the adequacies of professional development (Putnam & Borko, 2000), and school culture (Chauvin & Ellett, 1993; Corbett et al., 1984; Fullan, 2001; Hargreaves, 1994). Other seminal works focus on the organizational arrangements and features that enable schools to get their work done and the core principles necessary to deepen reform and create learning organizations (Fullan, 2001; Senge, 1990). Still others provide a comprehensive analysis of the factors of change involved in restructuring, including, but not limited to, teachers’ instructional practices, professional activities and their environment, and the influence of outside agencies (Newmann et al., 2000). However, missing from most of these studies is a distinct focus on teachers’ receptivity to change.

Nevertheless, there is a small but growing body of literature that studies receptivity to change. One approach (Parsons, 2002) uses “force analyses to estimate the level and strength of forces for and against desired change.” In contrast, microlevel studies explore a large number of diverse variables such as individual sense of competence, values, past experiences, feelings of fear, tendency to distort information, and attitudinal changes, along with groups, organizations, and leadership (Chauvin & Ellett,
Alternatively, school-based ethnographies (Lasley et al., 1998; Mellencamp, 1992; Tunks, 1997) provide thick descriptions of change-ready and change-resistant teachers and their receptivity to specific curricula changes.

Other sets of studies examine receptivity to change using a range of instruments. Some, such as West Ed’s School Reform Readiness Assessment Matrix (West Ed, n.d.) and Newmann and Associates (1995), use one instrument, whereas others use multiple instruments. For example, Soodak et al. (1998) used the Response Inclusion Survey, Teacher Efficacy Scale, Differentiated Teaching Survey, and School Climate Survey to understand teachers’ response to inclusion, but Chauvin and Ellett (1993) used four different instruments (the Receptivity to Change Inventory, Attitudes of Professional Autonomy Scale, Bureaucratic Orientation Scale, and Change Facilitator Style Questionnaire) in their study of the relationship of principal facilitation styles and role orientations to teachers’ receptivity to change. Hall and Hord (2001) developed three diagnostic tools to probe change and the attitudinal dispositions of those who are involved in the design and implementation of school programs.

A final body of literature focuses predominantly on methodological issues, such as instrument validation. These include the Appalachian Education Laboratory (AEL) School Capacity for Improvement and AEL School Capacity Assessment (Howley & Riffe, 2002) and models that assess teachers’ receptivity to system-wide change during the implementation stage in Australia (Waugh, 2000; Waugh & Godfrey, 1995; Waugh & Punch, 1985, 1987). Studies in the United Kingdom (Jephcote & Williams, 1994), the United States (Fleming, 1992), and Hong Kong (Lee, 2000) have modified and used the Waugh and Godfrey (1995) questionnaire to examine receptivity to change.

Instruments to measure teachers’ receptivity to change have different emphases, areas of concern, and measures. Indeed, it is important to note that few, if any, of these instruments have been used in process-driven, collaborative, multilayered, and theory-driven interventions such as design experiments (Brown & Edelson, 2003; Cobb et al., 2003), and few measure teachers’ receptivity over the course of an innovation. To our knowledge, teachers’ receptivity to change has never been assessed in Singapore. Our study is the first of its kind.

Receptivity to Change Tool: The Development Process

Our literature review supports conceptualizing receptivity to change in terms of three broad categories—educational, organizational, and individual—along with a bridging factor to link the organization with the individual. We now apply this parsimonious framework, shown in Figure 13.1, to our study.

Educational policy in Singapore includes a tide of newly created initiatives to foster creativity and innovation and to enhance economic competitiveness, which teachers are implementing (Tan, 2003). In Singapore, according to Minister of Education, Shanmuganathan Tharman (2004), there is a strong, robust, education system in which teachers, parents, and students take education seriously and set aspirations for themselves. In tandem with the rate of innovation is the process of linking policies to practice and changing the ways in which teachers work and students learn.

But receptivity is also intervention-specific (Anyon, 1997; Lasley et al., 1998; Mellencamp, 1992; Newmann et al., 2000) and teachers struggle with the extent to which it is doable, practical, and manageable and fits into their current practice (Collins & Waugh, 1998; Rogers, 1993; Waugh, 2000). Over time, they construct meaning from the characteristics of the task and the practicality of accomplishing it in the classroom (Berg, 2002; Waugh, 2000). These factors influence how they deal with inevitable
ambiguities (Busik & Inos, 1992), their willingness to take risks (Meister, 2000), and the efforts that they will expend during implementation (Sarason, 1982).

Another key component of this process is the conduciveness of the school climate and the organizational culture to change. In congruent schools, change is greeted; supported by school leaders, colleagues, and community members; and given enough resources to realize the educational aims (Harris & Hopkins, 1999; Newmann & Wehlage, 1995; Purkey & Smith, 1983). Basic conditions, such as mechanisms that align school objectives to the innovation, exert a potent influence on teachers’ receptivity to change (Busick & Inos, 1992; Chauvin & Ellett, 1993; Berg, 2002). According to Corbett et al. (1984), one of the most critical resources for successful implementation is time. Fullan (1991) adds “three Rs” for the evaluation of change: relevance, readiness, and resources.

The final salient component in this process consists of the individuals who are faced with innovation, their sense of self and their professional identities (Louis et al., 1999). A substantial body of literature indicates how teachers’ enthusiasm is not only tempered by the task but also related to their individual beliefs, expectations about students (Berg, 2002), professional identity, and overall judgment of the efficacy of the intervention (Bandura, 1977). Alteration of beliefs, feelings of uncertainty, and personal theories help explain how they participate and their perceptions (Collins & Waugh, 1998; Hall & Hord, 1987). As indicated earlier, efficacy, or knowing that change makes a difference in the lives of students, is another critical aspect of teachers’ receptivity to change (Mellencamp, 1992).

Finally, change is a negotiated process (Meister, 2000). When teachers feel that they have an authentic voice in real change and feel a fit with themselves, their colleagues,
and their students, they move beyond the structural and organizational considerations to negotiate personal meaning (Meister, 2000; Mellencamp, 1992). Communication, including the interchange of information and their treatment as respected professionals, not only energizes teachers to initiate change (Hargreaves, 1994; Mellencamp, 1992), but also leads to corresponding physical and cultural changes (Ng, 2004). We turn now to our study of these relationships.

Methodology

A key feature of our design is the underlying assumption that understanding teachers’ receptivity to change involves multiple levels of interpretation. Thus, we used a mixed-mode methodology to develop the instruments. To reiterate briefly, items were extracted through the synthesis of previous research, the review of existing instruments, key informant interviews, and informal network input. To ensure further that the survey was grounded in practice, we reviewed our school intervention database and school profiles and spoke to contacts at potential innovation sites.

Initially, we drafted two instruments: (a) one to administer to principal investigators, and (b) a second to administer to school superintendents. Attitudes toward change were measured with a five-part Likert scale and several open-ended questions. Using feedback from reviewers, we decided to survey CRPP staff first in order to identify specific variables for receptivity to change in Singapore. To collect this information, the questionnaire’s format was changed from a long list of social desirability statements to open-ended questions, as follows:

- When thinking about your project or Singapore’s schools in general, what factors contributed to the success of the adaptation and diffusion of innovative pedagogy?
- When thinking about your present CRPP projects, what factors may inhibit the adaptation and diffusion of innovative pedagogy?
- Would any additional resources at the school have helped you in carrying out your research?

These questions were not set out using unidimensional scales, and theory did not inform their development. A detailed attachment listed a priori categories related to receptivity to change to help participants reconstruct their experiences. Project-specific information was collected as well.

Our sample was purposive, drawn to capture the views of all CRPP research staff. Over 85 percent of the CRPP staff responded. We also e-mailed questionnaires to all teachers and policy-makers who were seconded from the Ministry of Education to the National Institute of Education. Despite prompting with a follow-up e-mail, the response rate from ministry officials remained at less than 5 percent. Consequently, separate analyses were not conducted.

Data Analysis

Our study used a qualitative, semi-inductive process to analyze the responses. Initially, we coded into two overarching factors: enablers and inhibitors. Then, subcategories were established and triangulated across a range of multidisciplinary works in order to maximize local and institutional contexts. Disconfirming evidence was sought, too. Not surprisingly, most of the findings were consistent with the literature, as well as with the Mellencamp (1992) framework.
Findings and Discussion

Of those who responded, over 90 percent were involved in a school-based innovation. Across school types, grade levels, and subject areas, respondents highlighted the complexity of real change. They detailed numerous qualitative indicators and captured school-level conditions that enhance or impede teachers’ receptivity to change.

In sum, the findings suggest that innovations must fit within the educational, policy-making context, but they also must fit within the school culture and the organizational structure and become compatible with the individual teachers. Forty percent of the respondents highlighted organizational factors, such as competent leadership, as critical for success. They suggested numerous ways in which organizational configurations have a salient influence on receptivity to change. Elements viewed consistently as central included: (a) leaders’, parental, and community support, (b) school structures (e.g., workload, intensification, and examinations), (c) time, and (d) students. Moreover, they commented repeatedly on both the positive and negative effects of staff and leadership support, the availability of resources, and perceptions of the innovations’ cohesiveness, practicality, efficacy, and benefits. In contrast, the context of Singapore’s educational policy was interwoven across the responses. Individual variables, such as teachers’ instructional practices and intentions, were mentioned by roughly 15 percent of the staff; whereas the impact of the innovations and subject-specific variables were mentioned by less than 10 percent of the respondents. In the sections that follow, we discuss these potential enablers and barriers.

Potential Enablers

Educational Factors

Perhaps the most common theme was that teachers become favorably disposed toward change when they perceive congruency between the innovation and the benefits to themselves and their students, but they need time to find out that it works. They also want to know that there is a clear and convincing rationale for change and that the particular innovative pedagogy meets the goals of the Singaporean educational system. Respondents reported a link between sustained outside support, such as a letter from Ministry of Education officials supporting the innovation, and receptivity to change.

Organizational Factors

Various organizational factors related to receptivity to change were cited. The first factor was the importance of all the participants in the educational system—teachers, leaders, students, parents, and teachers’ aides—to help move innovation forward. The second was the need for structural variables to be in place to enhance receptivity. Among the microlevel variables, time was far and away the resource seen as most essential. Other dimensions included equipment, materials, and incentives to adopt innovative pedagogy, along with space to innovate and opportunities for further professional development. Resources are important, but it is also important to create an outlet where teachers, as a group, can show off what they have tried. A final dimension was the provision of incentives to encourage teachers to learn new skills and try new methods, along with venues for ongoing collaboration.

The micro, macro, and contextual roles of school leaders (defined broadly as principals, vice principals, and heads of departments) exert a powerful influence on
teachers’ receptivity to change. Not only did respondents stress the power of transformational leadership to shape a compelling vision that challenges teachers to rethink and build their skills, but also they were clear about the need to build consensus for how and why the project fits with school priorities. Facilitative school leaders were seen as stretching themselves over the organization, helping to procure vital resources, promoting public recognition of school achievement, and keeping teachers informed of progress. A theme uniting these comments was that receptivity also goes hand in hand with leaders who promote a learning organization.

**Teachers**

Ultimately, teachers are the innovators and reformers. However, researchers only partially captured teachers’ receptivity to change and their social world. Respondents did note that support, time, and resources help them prepare to handle change. Additionally, teachers feel empowered to take risks and to try new methods when they perceive benefit for their students and their school. At the same time, teachers seek explicit support or permission to proceed from their principal and their colleagues.

**Researchers**

Researchers explored their own cognitive and affective roles in school innovation. They noted that teachers must be willing to deal with their presence in the classroom, along with the introduction of new methods and materials. Teachers not only pay attention to researchers’ expertise, but also they value other characteristics of researchers—their cultural sensitivity, people skills, and knowledge of the unique nature of the school community. At times, change requires the researcher to support the teacher in order to increase the teacher’s confidence. According to one researcher, during the ups and downs of implementation, a sense of fun also heightens receptivity to change.

**Potential Inhibitors**

**Educational and Policy Context**

Even in Singapore, where explicit reform initiatives are introduced routinely, teachers tend to be fearful of change. Constraints arise from haste to complete the syllabus, dense workloads, and reduction of the teacher’s time to prepare and to learn. Innovations take considerable time from standard classroom practices. Ignoring these transaction costs can have a detrimental impact. Although some teachers will put in extra time, most of them need a reduced workload, relief of their duties, or ongoing new ways of being positioned into innovations. Without incentives, support, and structural adjustment, change is less likely to become institutionalized.

Coupled with innovation is the continuing demand of assessment requirements for ever-improving examination scores and higher school rankings (Tan, 2003). Another issue raised was that the results of critical examinations remain the criterion for assessing school performance. According to one respondent, if degrees of freedom are not addressed, significant barriers to change will persist. We note that this variable may or may not be subject to manipulation.
Organizational Factors

Over half of the respondents articulated ways in which organizational factors decrease receptivity to change. Paradoxically, although teachers may be thrown new ideas every year, their school culture remains focused on time-tested, pedagogical practices that may not align with innovations. These contradictions require delicate balancing acts.

Singaporean teachers are provided with the resources and the environment to do their job well. Yet, organizational structures and resources vary from site to site. This situation was recognized by the respondents who observed that teachers in schools with insufficient computers and network connections, technical support, and space were less favorably disposed to change.

Additional factors hampering receptivity to change were noted. Inconsistencies, such as cases where principals do not tolerate possible failure, noise, or differentiated results, overemphasize output, and do not impede teachers’ receptivity to change. One respondent cited an experience where low receptivity to change was attributed to the principal showcasing the highest performing students to enhance their status and community image, rather than the benefit of the innovation for all the students. Without a shared sense of purpose, teachers’ receptivity to change is likely to be low.

Parents

Concerns about parents focused on their opposition to innovative pedagogy (even as they complain about existing pedagogy) when they are uncertain about outcomes. Singaporean teachers face growing demands from parents and managing their expectations is no easy task (Khang, 2001). Despite these demands, many innovations promoting students’ achievement are limited in scope and leave other parts of a school unaltered. Receptivity to change can be enhanced when schools think in terms of systemwide change, with classroom projects as one tool available to add value to schools, teachers, and the public.

Teachers

Taken together, the educational context and school culture exert a powerful influence on receptivity to change. But change occurs as a result of the interplay of those factors with teachers’ beliefs and professional dispositions, along with interactions with staff and other myriad relations (Ng, 2004). Respondents noted cases in which teachers were not invited to participate or be involved in planning innovations. Consequently, they questioned whether the costs of change outweigh the benefits at the initiation stage. Similarly, when innovations were handed top-down to teachers by individuals with different personal, professional, and cultural views, the teachers hesitated to take risks.

Respondents highlighted the immense emotional labor required by change processes. Specifically, older teachers struggled to teach students in ways that they themselves did not know. Slightly more than 10 percent of the respondents noted that a lack of fit between professional identity and the design of the innovation or complex innovations involving huge changes can decrease teachers’ receptivity to change. Teachers facing competing demands tend to retreat to their old ways.

Additional obstacles exist to modifying classroom practices and beliefs about change. For example, teachers feel uncertainty regarding innovations seen as complex and theoretically based. Lack of fit causes them to assert their authority and impose rigid
structures over time or to be less inclined to take risks. In the longer term, when coupled with iterative research cycles, receptivity to change may diminish.

Conclusions

Volumes have been written about the three major findings that were identified in our study:

- The importance of numerous organizational, contextual, and individual variables in receptivity to change, including, but not limited to, the enhancement of internal capacity, support for teachers’ personal and professional growth, and a climate that supports risk and change.
- The dynamic multidimensional nature of teachers’ receptivity to change.
- The complexity of this negotiated process.

Moreover, change is inherently a political process (Hargreaves, 1994) and must address ways that teachers cope with assessment procedures and students’ and parental expectations. Although this logic is clear, a key problem for educators is how to learn from these findings.

Thus, in the Appendix, we propose a three-part instrument to assess Singaporean teachers’ receptivity to change. This instrument-in-progress builds upon the researchers’ perception survey and the voices of outsiders who are often omitted from the receptivity dialogue and shifts now to the voices of insiders, teachers, and principals. To capture the complex interactions among individuals, innovation, and change, it focuses on:

- perceptions of efficacy
- expectations, along with opportunities to be heard and to participate in decision making
- opportunities to learn and feel supported by principals and colleagues
- opportunities to seek assistance
- expectations about students’ performance, enhancement of learning, and outcomes.

Part One solicits perception data. Part Two looks beyond the human impact of change and examines potential, site-specific, contextual, educational, and organizational roadblocks to receptivity to change. Part Three asks open-ended questions.

Data Limitations

In reporting these findings, we want to emphasize that this work is exploratory, and several limitations exist. The first limitation is the scope of the self-reported data. Using researchers’ data provides an understandably incomplete picture of teachers’ receptivity to change. The second is definitional. The literature defines the essential features of teachers’ receptivity to change, but it does not help to distinguish the salient features of those who are ready to change from those who are not or what combinations of factors, if any, exert a greater influence on receptivity to change over the course of innovations. The third limitation involves research-related factors. For example, because of the low response rate from the educators who were seconded from the Ministry of Education, we did not analyze their responses. Additionally, psychometric processes were not tested. Finally, there are inherent limitations in using surveys to explore the complexities of teachers’ receptivity to change.
New Areas for Future Research

Understanding teachers' receptivity to change suggests new research directions. Further attention to the processes of implementation and scalability is merited. We also need to continue to ask probing questions about the extent to which individual cognitive, affective, and emotional factors can be assessed over time and the interactive and interdependent relationships of the structural, cultural, political, and individual aspects of the school intervention to receptivity to change (Van der Berg, 2002). Further exploration of what counts as evidence of enhanced receptivity, over the stages of an innovation, is needed also. On a broader level, our study suggests the need for attention to the national educational agenda and even the inclusion of policy-makers’ voices.

Another issue worthy of further investigation, one that is not addressed at this time, is whether all innovative pedagogies can include policy design. In regard to policy design, this was not an area that we addressed in our literature review; it is beyond the scope of our study. Simple answers are unwelcome; it is crucial to gather empirical evidence and learn how to take into account what we know already in order to support receptivity to change.

Other Factors Affecting Teachers' Receptivity to Change

Educational change does not operate in a vacuum. Teachers' readiness to change is intertwined with the context of educational policy. In Singapore, the remarkable range and depth of reforms and their impact on teachers' receptivity to change also must be factored into the receptivity-to-change equation continually. When coupled with the very nature of change and other competing demands, ongoing new efforts to work with and learn from these interactions are needed. Ultimately, pedagogical change is achieved by adopting organizational arrangements and changing teachers’ beliefs, knowledge, and understandings that underpin pedagogy (Harris, 2003; Murphy, 1993). Encouraging teachers to confront their beliefs and voice their concerns as well as creating a community to address them are important too. Thus, we offer a tool, albeit a partial one, to assess how teachers and schools will embrace change and to spot potential barriers and enablers. Although many of the difficulties identified can be addressed through new resources, professional development, and incentives for teachers to implement new curricula and instructional techniques, other systemic variables may not be so amenable to change. By being proactive and providing institutional resources and support for teachers in classrooms, we can not only enhance teachers' receptivity to change but also address professional development and ongoing organizational learning. We also hope to stimulate additional debate in order to reap the benefits of enhancing teachers' receptivity to change and learning from these assessments.

Note


References


Brown, M. & Edelson, D. C. (2003). Teaching as design: Can we better understand the ways in which teachers use materials so we can better design materials to support their change in practices? LETUS Report Series US: Centre for Learning Technologies in Urban Schools.


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The purpose of this survey is to gather information about various aspects of your work and the CRPP-“X” school innovation.

These questions cover many different areas and they are all important. Please read them carefully and please give honest answers. Most of the questions can be answered by placing an “x” in the appropriate circle.

If you have any questions about how to respond to a particular question, do not hesitate to ask for assistance.

Thank you for your cooperation.

Teacher’s Background

How many years have you taught in Singapore? _______________________

How many years have you taught at this school? _______________________

Part One: School Year Teaching and Professional Life

Please indicate the extent of your concern with the following statements:

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<th>Context</th>
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<th>Not true</th>
<th>Somewhat true</th>
<th>Very true</th>
<th>Do not know</th>
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<tr>
<td>I am worried that there are already too many innovations.</td>
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<td>Overall characteristics</td>
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3. I have been given information about the time and energy commitments required by this innovation.  

4. I am not worried about this innovation.  

5. I need more time to learn about the change and how best to adapt it to the class.  

6. I feel unprepared because I have limited knowledge of the innovation.  

7. I am concerned about how this innovation affects my students.  

8. I would like to know more about how this innovation is better than our current programme.  

**Innovation**  

9. I will need training to implement this innovation.  

**Culture**  

10. I can ask for advice from others in my school if I have problems with the innovation.  

11. The principal has provided good incentives to participate in this project.  

12. I think decision making in my school is a collaborative process.  

**Managing the change at school**  

13. I will be able to raise concerns about the innovation in school.  

14. I have the principal’s support for my contribution to this innovation.  

**Innovation**  

15. This innovation fits with our school’s goals and vision.  

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<th>Indicate the adequacy of the following statements:</th>
<th>VI</th>
<th>SI</th>
<th>A</th>
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<td>VI = Very inadequate SI = Somewhat inadequate</td>
<td>VI</td>
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<tr>
<td>A = Adequate VA = Very adequate DNK = Do not know</td>
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**Decision making**  

16. How adequate are the opportunities to participate in decisions about the innovation and implementation?  

17. Based on your understanding of this project, how adequate are the planned professional development programs?  

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<tr>
<th>Indicate the accuracy of the following statements:</th>
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<td>SA</td>
<td>A</td>
<td>VA</td>
<td>DNK</td>
</tr>
<tr>
<td>A = Accurate VA = Very accurate DNK = Do not know</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18. Teachers will receive the help that they require when problems arise.  

19. Teachers and administrators will work well together as a team during this innovation.  

20. Parents are likely to support the planned innovation.
Part Two: Potential Roadblocks

In this section, we are interested in potential roadblocks to change. Please answer the following questions regarding your school.

1. How were you selected to participate in this innovation?
   - ○ Volunteered
   - ○ Selected to participate
   - ○ Other: _______________________

2. Indicate the months in which you do not want to be involved in this innovation. Check all that apply.
   - ○ January  ○ February  ○ March  ○ April  ○ May  ○ June
   - ○ July  ○ August  ○ September  ○ October  ○ November  ○ December

3. During a typical week, on average, how much time do you spend in total: teaching, planning lessons, meeting students, supervising CCA, meeting with other teachers to collaborate and get advice, attending meetings, grading students’ work and examinations, meeting parents, participating in professional development activities, and/or doing administrative work?

<table>
<thead>
<tr>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

4. What type of incentives would help you to implement this innovation? Check all that apply:
   - ○ Professional development credit
   - ○ Reduction in teaching load
   - ○ Do not know
   - ○ Additional resources
   - ○ Change in assessment policies
   - ○ Other: _______________________

5. Estimate the number of innovative strategies currently planned and/or implemented:
   - ___ in your school
   - ___ in your classroom(s): ___ in your department

6. Over the last year, the time that you have spent on testing and test preparation has:
   - ○ Increased a great deal
   - ○ Moderately increased
   - ○ Stayed about the same
   - ○ Moderately decreased
   - ○ Decreased a great deal

7. In the following matrix, indicate the extent to which any of the following resources pose a problem for you.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Very often</th>
<th>Often</th>
<th>Occasionally</th>
<th>Seldom or never</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workspace</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
8 For each resource that might pose a problem, indicate if there are plans to deal with it. If so, by when?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Is there a plan to deal with the problem?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Workspace</td>
<td>☐</td>
</tr>
<tr>
<td>Instructional materials</td>
<td>☐</td>
</tr>
<tr>
<td>Reporting systems</td>
<td>☐</td>
</tr>
<tr>
<td>Functioning computers</td>
<td>☐</td>
</tr>
<tr>
<td>Internet access</td>
<td>☐</td>
</tr>
<tr>
<td>Photocopiers</td>
<td>☐</td>
</tr>
<tr>
<td>Administrative support</td>
<td>☐</td>
</tr>
<tr>
<td>Other:</td>
<td>☐</td>
</tr>
</tbody>
</table>

9 If this innovation were to start in your school tomorrow, which of the following might pose a significant challenge? For each challenge, indicate if it is amenable to input from a research team.

<table>
<thead>
<tr>
<th></th>
<th>Is it a significant challenge?</th>
<th>Is it amenable to change?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Parent relationships</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Improvement of instruction</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Alignment of innovation with school culture</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Student expectations</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Student progress</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Student ability</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Grading, testing, and tracking</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Recognition and rewards</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Time management</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other:</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Part Three: Open-Ended Questions

1 What other concerns, if any, do you have at this time?

____________________________________________________________________________________

____________________________________________________________________________________

2 What will be the most significant barrier to the implementation of this innovation? Describe one only.

____________________________________________________________________________________

____________________________________________________________________________________

3 What type of assistance do you want from CRPP to help you to implement this innovation effectively?

____________________________________________________________________________________

____________________________________________________________________________________

4 Your assistance in completing this survey is very much appreciated. If there is anything else that you would like to tell us about this survey, please do so in the space provided below.

____________________________________________________________________________________

____________________________________________________________________________________

Thank you for taking the time to participate in this survey.