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THEORY COMPETITION AND THE PROCESS OF CHANGE

ABSTRACT. The reasons why many educational change initiatives have little impact are often framed in terms of either a poorly designed process on the part of the change initiator, or in terms of problems with the attitudes, skills and/or knowledge of those responsible for implementation. In this paper, we seek to integrate these two perspectives more closely by focusing on their interface and the competing theories frequently held by the change initiators and implementers. This concept of theory competition is illustrated with a case of a national literacy initiative in New Zealand in which the change initiators wished to raise the achievement of low performing students through the development of “learning-centred” leadership in schools and evidence-based practice. The desired outcomes were not achieved because theories about what it means to be a successful leader in such a situation, the data needed to undertake the type of evidence-based analysis envisioned and school personnel beliefs about the target students were understood differently by those responsible for initiating the change and those responsible for implementing it.

KEY WORDS: competing theories, learning-centred leadership, school change

Educational change initiatives, whether they involve new policy implementation or school reform, often fail to achieve the desired impact. The reasons are frequently framed in terms of either a poorly designed process on the part of the change initiator, or in terms of problems with the attitudes, skills and/or knowledge of those responsible for implementation. The purpose of this paper is to integrate these two perspectives more closely by focusing on the interface between the change initiators and change implementers and what needs to happen to enhance the chances of success. Problems with how some change initiators go about their tasks are well articulated by Hargreaves (2002):

The goals of the change may be unrealistic or unclear so teachers cannot achieve what is expected of them. The perpetrators of change may have low credibility; their reasons may be politically suspect; the intentions regarding real improvement for students may be in doubt. (p.189)

Such critiques focus particularly on change initiatives that involve high-pressure reforms targeting poorly performing schools. The change is imposed on, rather than owned by, those responsible for

implementation; the options are perceived to straight-jacket teachers into a deprofessionalized work force with inadequate resourcing and support (e.g., Mintrop, 2003). Developing partnerships and respecting the expertise of those responsible for implementation is often seen as a desirable alternative to this type of change process (Borman, Hewes & Overman, 2002).

An alternative perspective is to focus the analysis lens on those responsible for implementing the change and the reasons they fail to do so. Teachers' preference for familiar practices and their low expectations of the potential achievement of those groups who have traditionally underachieved, for example, are well documented (e.g., Delpit, 1995; McLaughlin, 1990). There is an increasing realisation that implementation failures often occur as a result of the complex mediation processes between the proposed change and the existing norms, belief systems and practices that lead those responsible for implementation to impose their own meanings and interpretations on the change messages (Coburn, 2001; Spillane, Reiser & Reimer, 2002). Problems with the capacity of schools to implement the desired change are also posed as reasons for failure. The school, as an institution, and the individual personnel within it may lack the knowledge, skills and personnel to work in ways consistent with the change agenda (Fullan, 1991; McLaughlin, 1990).

Recommendations following from these types of analyses typically involve providing clearer messages, better resources, together with time and opportunities to access the skills and knowledge necessary to make sense of what is required. This sense-making process is strongly influenced by the social and professional context in which teachers work, so utilizing school-based professional communities with access to appropriate knowledge resources is often advocated as the ideal context for achieving the relevant understandings (Coburn, 2001; Stokes, 1997; Toole & Louis, 2001).

In both these positions there is an implication that many of the difficulties occur at the interface between the changes proposed by the initiators and those responsible for implementation. One of the most careful theoretical analyses of this interface has been undertaken by House (1981) who employed technological, political and cultural perspectives in his examination. House (1981) and Berman (1981) argue that in most school improvement situations, change initiators adopt a technological perspective in which teaching is viewed as a technology involving explicit knowledge that can be improved reasonably readily. In contrast, those responsible for change

implementation, the teachers in schools, are more likely to approach change from a cultural perspective in which teaching is viewed as a craft based on experience and tacit knowledge acquired over time in particular contexts. As a result, innovations are almost inevitably adapted from their initial conceptualizations because implementation depends to a large extent on how the innovation fits with this experiential craft knowledge. House (1981) suggests that successful change depends on change initiators “taking cognizance of the teachers and consider[ing] how congruent the innovation is with the school cultures” (p. 39).

In this paper, we examine the interface between change initiators and those responsible for implementation by framing the problem as one of theory competition and the attendant capacity issues. Such theories may arise from a technological, political or cultural perspective, but what is important is for each party to take responsibility to engage with the others’ theories and to recognize that advocacy by initiators and adoption by implementers in a change situation is motivated by what is valued. Mutual understanding of these values and the practices that arise from them are fundamental to success.

By theories, we are referring to personal theories consisting of particular beliefs and values, the knowledge and skills that follow from them and the outcomes that result (Robinson, 1993). Values and beliefs may include who should change, and what and how they should change. The knowledge and skills required are those needed to achieve what is valued. The outcomes relate to what would count as success in terms of the guiding beliefs and values. These theory components are illustrated in Figure 1.

The implications of a theory competition approach are that change initiators and implementers must engage with the others’ theories at each of these levels. It also means engagement over time because the relationship between values, acquired skills and outcomes is not linear or static but rather iterative and evolving. As Berman (1981) argues, linear models fail to capture complex educational phenomena particularly in change situations.

To illustrate the relationship between beliefs and knowledge and skills, and how these might be in competition and evolve over time, we have described an example using the teaching of reading. If teachers have particular beliefs about how to teach reading, they are likely to structure their lessons and pedagogical approaches in ways that are congruent with those beliefs, which then, in turn,

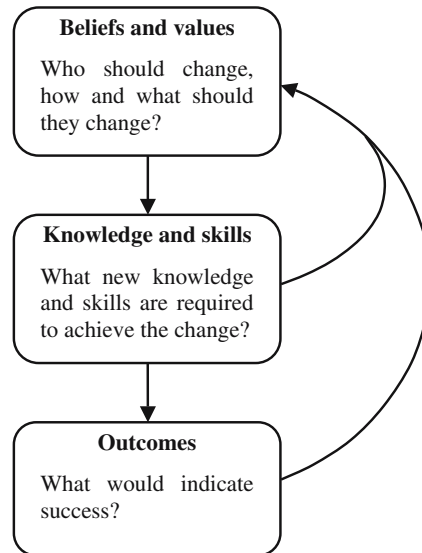


Figure 1. Components of theories likely to be in competition.

have particular outcomes for students' acquisition of reading skills. The professional knowledge and skills they seek to acquire are likely to be consistent with their beliefs about desired outcomes and the effectiveness of particular pedagogical approaches in achieving them. It is through such knowledge and skills that expertise is likely to be developed.

If the change initiator proposes an alternative approach to teaching reading based on a different set of beliefs, then those responsible for implementation will need to see the value of acquiring the knowledge and skills consistent with these new beliefs if they are to engage actively with them. Changes in beliefs and values do not necessarily precede changes in knowledge and skills, but rather evolve iteratively over time. In the reading scenario, for example, if some teachers were sceptical about the approach, but decided to try it anyway and achieved unexpected success with their students, then they would be likely to change the nature of their own theories about reading and engage differently with those of the change initiator.

In a theory competition approach differences between change agents' theories and those responsible for implementation are expected and accepted. It is not assumed that successful change is the same as full implementation of the change as formulated by the

change initiator, as is often assumed to be the case (Berman, 1981), but rather that successful change is that which achieves mutually desired outcomes. Mutual understanding of the competing theories is likely to mean better engagement on the part the implementers by making what is proposed more meaningful, while at the same time allowing the initiators to test whether what is proposed is as good as presumed or whether modification is needed to achieve the desired outcomes. Berman (1981) describes this process as one of “mutual adaptation” (p. 272).

In the remainder of this paper, this idea of theory competition will be illustrated with a case of a national literacy initiative in New Zealand schools designed to improve literacy achievement. The national Ministry of Education initiated the change, wanting to develop more “learning-centred” leadership in schools and more evidence-based practice in the interests of raising student achievement, particularly of the lowest achieving quartile. Learning-centred leadership has been variously referred to as “instructional” or “professionally oriented” leadership which requires principals and other school leaders to be leaders of instructional practices that have proven outcomes for students (National Council for School Leadership, 2001). The Ministry of Education was concerned that New Zealand school leaders had become expert managers of school operations in the 10 years since the nation’s schools had become self-managing but that their instructional role had weakened.

The development of evidence-based practice involved undertaking an action-research project in which schools were to collect literacy achievement data for a needs analysis, develop a school-based project based on those needs then evaluate its effectiveness in raising achievement. In many ways the process was consistent with frequently purported qualities of effective change processes in that schools volunteered to participate and were not straight-jacketed into a particular reform initiative. Support to undertake their project was provided through workshops, written materials and school visits by a team of national facilitators (N.Z. Ministry of Education, 2000).

The desired outcomes, however, were not achieved because the theories about what it means to be a successful leader and teacher in such a situation, and the evidence needed to undertake the type of data-based analysis envisioned, were understood differently by those responsible for initiating the change and those responsible for implementing it.

1. CONTEXT

In comparison to other countries, New Zealand students, on average, read well. In the International Programme for Student Assessment (PISA) study (N.Z. Ministry of Education, 2002), that assessed 15 year olds reading engagement and achievement, for example, New Zealand had the third highest scores for achievement with the highest proportion at the top level of proficiency. The problem that has been consistently identified in both international studies and other internal ones (Wagemaker, 1992; Wilkinson, 1998), however, is that New Zealand students have some of the greatest disparities in reading achievement between the highest and lowest performers. These disparities are stratified according to socio-economic and ethnic groups. Apart from the obvious issues of social justice, it is projected that the worst affected groups will make up the majority of the school population by the middle of this century, so changing this achievement pattern had some degree of urgency. The first of two education goals for the country comprises "Reducing systematic under achievement in education" (N.Z. Ministry of Education, 2002).

A number of initiatives were undertaken by the Ministry of Education to address this goal. The initiative discussed in this paper was designed to strengthen literacy leadership within the schools. Consistent with the self-management school policy in the New Zealand education system (New Zealand Government, 1989) leaders who volunteered to take part were assisted by a team of national facilitators to implement a research project in their schools focused on raising the achievement of targeted groups. The professional development involved two one-day regional workshops for principals and/or literacy leaders, followed by four visits from a national facilitator over the course of a year. The facilitators supported the principals and literacy leaders to develop professional communities among their teachers with a focus on collecting achievement data to analyse students' literacy needs, target groups of underachieving students in their junior classes, implement a class-based project and collect data to evaluate its success. The professional communities among the teachers were also encouraged through sharing reflective diaries and visiting each others' classrooms.

The authors were contracted to undertake an evaluation of the initiative. The Ministry of Education's particular interest in the evaluation was the extent to which the focus on data-based instructional

leadership in schools had positive outcomes for student achievement, so the main research question asked, “What was the nature of the evidence collected by schools to monitor the progress and success of students in relation to the school’s selected focus?” It became apparent through the course of the evaluation that the Ministry of Education’s and schools’ expectations of the project were not shared so we sought to delve into some of the reasons why this situation might have arisen by trying to understand the differing theories of the Ministry of Education and the schools.

2. METHOD

Initial data were collected through semi-structured interviews with all national facilitators. Ten of the facilitators were asked to nominate three schools they considered to be “most,” “somewhat,” and “least” successful in terms of the literacy leadership programme. Within each of these schools the principal, literacy leaders and two teachers were interviewed and achievement data collected. In all, 19 national facilitators and 29 elementary schools participated. There were 10 schools in each of the most and somewhat successful categories but only nine in the ‘least successful’ category because one principal was unable to be contacted. The student roll numbers in the schools ranged from less than 100 (three schools) to more than 500 (two schools). In all, 29 principals, 28 literacy leaders and 53 teachers were interviewed. One literacy leader and five teachers were unavailable.

All interviews had standard lead questions that were asked of all participants from the same group, followed by probe questions when further clarification was needed. Facilitators were asked for their reasons for categorizing schools as most, somewhat and least successful. In schools, the principals, literacy leaders and teachers were asked whose needs they perceived to be the focus of the initiative and to rate the success of their school-based project on a seven-point scale of “Unsuccessful” to “Highly successful” giving reasons for their ratings.

While these earlier questions tested perceptions, the next set of questions focused on the understandings and skills of evidence-based practice and leadership and the extent to which these understandings matched the stated intent of the Ministry. Facilitators, principals and literacy leaders (not teachers) read a hypothetical scenario of a school that did not exhibit effective evidence-based practice (See Appendix

A). The first aspect of the scenario identified students' needs (reading comprehension) solely on the basis of teachers' perceptions rather than any reference to achievement data. The second aspect involved selecting a program, "Peer Tutoring: Reading" that was mismatched to the identified need. This program is designed to provide students with reading mileage rather than targeting comprehension. Finally, the hypothetical school collected evaluative data that did not assess the identified need, that is, they assessed reading accuracy rather than reading comprehension. The leadership aspects of the scenario depicted a facilitative leader who encouraged the teachers to share ideas and focused on organizational issues, rather than promoting professional learning or challenging teachers in any way. Respondents were asked to rate the effectiveness or appropriateness of each of the aspects of the scenario outlined above on a seven-point scale ("Not effective/appropriate" to "Highly effective/appropriate"), and to give reasons for their rating. Instead of responding to the scenario, teachers were asked to rate their satisfaction with the achievement of students in their class on a seven-point scale ("Highly dissatisfied" to "Highly satisfied") and to give reasons for their ratings.

The interview transcripts, including the scenario responses were subject to an iterative analysis. The authors worked with a project manager to devise coding categories using both theoretical concepts and the responses themselves. The categories were specific to each question and are detailed in the results section when responses to specific questions are reported. The categories encompassed some common themes which included the following: the extent to which evidence was used when making judgments about student needs and project success; a process (e.g., collegiality) or outcome (e.g., raised student achievement) focus and an unchallenging/supportive or a challenging/learning form of professional interaction.

The categories specific to each question were then applied independently to the data by two coders and the categories reworked until a reliability coefficient of 85% on the coded sample was obtained on 10 transcripts. The project manager and a research assistant who had no other involvement with the project then coded the remaining transcripts. If they were unsure of a coding decision, they checked with the authors. Finally, a 10% sample of transcripts was checked by the principal researchers to ensure that the reliability coefficient remained above the 85% criterion.

2.1. *Achievement data*

Achievement data were also collected at the time of the interview. Two types of data were requested. The first related specifically to those students whose literacy achievement was targeted in the classroom project. These data were categorized according to whether they were collected at more than one point in time so that progress could be established and, if this were the case, whether any progress in achievement was evident. The second related to routine data collected by the school on all students' achievement. New Zealand does not have compulsory national testing for elementary school students although there are several tests with national and/or Australian norms that are regularly used by schools at their discretion. When we examined the assessment data supplied by schools, the only data that was common to them all related to students who had been at school for 1 year. We focused our analysis on the text reading levels (Clay, 1993) and word recognition (Gilmore, Croft & Reid, 1981) scores for these students for the year prior to the initiative, the year of the initiative and the year following it. A one-way analysis of variance was undertaken on these two scores to determine the effect of the initiative on achievement over the 3 years. Although these data are limited in the sense that they relate to 1-year level and so can be considered indicative only, it was intended that the school-based projects address achievement at this level. For other levels, many different kinds of assessments were used and the administration procedures were too variable to have any confidence in their results.

2.2. *Student outcomes and competing theories*

The selected focus of the schools' projects and the student achievement data relevant to them are reported in the first section because this question was of primary importance to the Ministry of Education and highlighted the different expectations of the Ministry and the schools in relation to the initiative. The second section analyses the competing theories of the schools and the Ministry of Education by examining their differing beliefs and values in relation to conceptualizations of leadership and what initiative was about.

2.2.1. *Literacy skills targeted and data collected*

Schools selected a number of different literacy foci for their school-based projects, with some aspect of reading being the most

frequently nominated (22 schools). Others focused on writing (5 schools) and oral language (2 schools). All targeted lower achieving students in Grades 1–4 as the Ministry of Education intended. Some included other students as well.

These aspects of the initiative, however, appeared to be the extent of the joint understandings between the Ministry of Education and the schools. The process of establishing a data-based action-research project in each school, as envisaged by the Ministry, did not appear to be realized. Few schools were able to provide student achievement information on their school-based project that allowed an evaluation of progress over time. Most schools were vague about this aspect of the initiative with many unsure about the nature of the information requested. Some principals had not been directly involved in the initiative and referred to the literacy leaders for details of the assessment information, but this was not always helpful because the literacy leaders were also unsure. For example, one principal responded like this when asked how she identified the students' needs:

Principal: Testing I suppose.

Interviewer: I realise that [the literacy leader] may know more about this.

Principal: Oh certainly, much more.

Interviewer: Okay so you did testing, Do you know if the data was benchmarked in any way?

Principal: No

When the literacy leader was interviewed about the data collected to establish needs and identify progress, she was more specific, but we found it difficult to determine the basis of her judgments of success.

Interviewer: Did you collect any data to see if it was successful?

Literacy Leader: Yes I had a look at the [teachers'] journals. I collected those in and had a look at those, collated some of them you know and with those children the comments from the teacher, or from the running records. Teachers had said, "You know this kid has more recall," and "Reciprocal reading helped." We used the three level guides also. So you know that was a child who had some comprehension but was unsure, so they'd moved from 10 to 10½ years to 10½ and 11 years so that was the reading age.

Interviewer: Did they work out the comprehension, for example, some tests have 4 or 5 questions and you can take 3 out of 5 as a pass?

Literacy Leader: No, not really, so it was just a basic either they could understand, yes we weren't that specific. I mean if they weren't getting more than 3 out of 5 you'd think, "Well their understanding wasn't good."

After considerable probing in many cases, 19 of the 29 schools were able to provide some achievement data on the targeted student population in relation to their project but only 9 of the 19 collected data at more than one point in time. The other 11 relied on teacher judgement to establish needs and/or assess progress with explanations such as, "Teachers highlighted the students they felt they could move" and "We just knew."

Of the nine who collected data at two points in time with the potential to judge change, the data for five schools were unable to be analysed for a variety of reasons. In one, the principal indicated that the data were probably inaccurate (and believed this accounted for the decline in student scores), another selected only one child per class although the reason for selection was not clear (the initiative was targeted at four children in each class), with yet others collecting data that did not relate to the focus of the initiative (e.g., reading accuracy data were collected when comprehension was targeted).

In the remaining four schools, there were difficulties with interpreting the data, but in no case from the data provided could it be stated unequivocally that achievement had improved. The data supplied were very difficult to interpret with conclusions difficult to substantiate. The school with the most promising set of data in terms of its completeness supplied pre-post data (over a 3 month period) for five students in eight classes listing reading ages, percentage of words read accurately and percentage of comprehension questions answered correctly. Detailed inspection of the data revealed that different criteria were used to determine reading ages in the pre- and post-test for both reading accuracy and comprehension.

2.2.2. *Regular data collection*

The data collected by the schools on text level and word recognition scores (BURT) at the end of the first year of schooling as part of their

regular data collection showed no year effect [Text – $F(2) = 2.203$, $p > 0.05$; BURT – $F(2) = 1.242$, $p > 0.05$]. On average, the means for the text levels showed a slight decline with the word recognition scores showing a slight gain. While these data are limited in the sense that they related to 1 year level only, they indicate that the initiative had little effect on reading scores for students at this stage of their acquisition of reading skills. Removing the data for the seven schools that did not target reading had no effect on the data patterns or results of the analyses. The Ministry's hoped for improvement in achievement was also not realized.

2.3. *Theories in competition*

In the remainder of this paper, we seek to delve deeper into some of the reasons why so few schools appeared to engage with the Ministry of Education's stated intent for the initiative, that is, for school leaders to become instructionally focused by developing a data-based action-research project in their schools. The analysis is based on the theory competition framework outlined in Figure 1. In summary, most school leaders did not perceive that they were the focus of the initiative. They also believed that effective leaders were those who facilitated commitment and collaboration among their staff, rather than those who provided strong instructional leadership. In many cases data-analysis skills were not considered to be particularly important because teacher judgment was believed to be an adequate measure of student progress. Criteria for success were more concerned with issues of good relationships and collegiality than with testing the effects of that collegiality on raising student achievement. The relationship between these findings and the theory competition framework is presented in Figure 2.

2.3.1. *Personnel focus of the initiative*

In the theory competition framework, we have identified that a key belief that may differ between change initiators and change implementers is who should be the focus of the change efforts. The Ministry was clear, the initiative was called "Literacy Leadership" and facilitators were instructed to work directly with the principal and literacy leader only with the aim of upskilling them sufficiently to work more effectively with their staff. An explicit aim of the initiative in the workshop materials was to enhance learning-centred leadership (Southworth, 2002).

Theory component	Ministry of Education's theory	Schools' theory
Beliefs and values <ul style="list-style-type: none"> ▪ Who should change ▪ How and what they should change 	Principals and literacy leaders Become more data-based and learning-centred leaders	Not the leadership but those for whom the leaders were responsible Foster commitment and collegiality among staff
Knowledge and skills <ul style="list-style-type: none"> ▪ What is needed to achieve the change 	Data-based skills to test the impact of teaching	No new leadership skills required and teacher judgement sufficient to assess student progress.
Desired outcomes and criteria for success <ul style="list-style-type: none"> ▪ New leadership and teaching skills ▪ Outcomes for students 	Leadership change Improved student achievement	Teachers become more focused and collaborative No student-related criteria because achievement already satisfactory

Figure 2. Components of theories in competition.

School personnel had a different perspective. In the interviews, when asked whose needs were the focus of the projects, no principal or literacy leader nominated themselves but rather nominated those for whom they were responsible. This trend was evident for other groups as well (see Table I). Facilitators most frequently nominated principals and literacy leaders who, in turn, nominated teachers and/or students. Although a few teachers nominated themselves, their focus was primarily on students. In this aspect of the initiative, the facilitators understood the key messages about leadership focus but those within the schools did not.

2.3.2. *How they should change*

Although the Ministry envisaged that the school leaders should become more instructionally focused through their action-research projects, it is difficult to ascertain how the leaders themselves believed

TABLE I
Personnel focus of the initiative

Nominated group	Respondent group			
	Facilitators <i>n</i> = 19	Principals <i>n</i> = 29	Literacy leaders <i>n</i> = 28	Teachers <i>n</i> = 53
Whole school	4	0	0	0
Principals/ literacy leaders	17	0	0	0
Teachers	8	14	21	7
Students	4	24	22	46

they should change when they did not perceive their knowledge and skills to be the focus of the initiative. We sought to explore this issue by probing in various ways what was considered to be important when judging successful schools and criteria for success when leading such schools. Facilitators provided a key intermediary role, so we began our analysis with their reasons for categorizing schools as most, somewhat and least successful. Although facilitators based the regional workshops on standard, nationally developed materials, with messages in line with the Ministry's objectives, they had more discretion in how they supported individual schools.

Reasons for categorizing schools as least, somewhat and most successful are listed in Table II. These reasons are divided into whether the description referred to a positive or negative attribute of the school and its project. Most facilitators gave several reasons. As can be seen from Table II, affective type reasons, such as the school being committed to the initiative and being collaborative with others accounted for 54% of the reasons. Knowledge-related reasons, such as having knowledge of literacy or a culture of learning or developing knowledge through professional development came in a poor second, accounting for only 16% of the total number of reasons given.

Specific references to leadership were categorised separately. Positive references were typically associated with leaders who were action-oriented, skilled, had systems in place and were organized. Leadership experience was always referred to negatively, in the sense of lack of experience. The final, and least used category was relatively broad and referred to anything that implied a focus on the Ministry's objectives for the initiative and included references to student achievement, use of data, self-reflective practices, or action-research. Only 6% of responses were in this category. When

TABLE II
Frequency of reasons given by facilitators when categorizing success of schools

Reasons	Schools			Total
	Most	Somewhat	Least	
Committed/supportive/collaborative				104 (54%)
Positive	32	21	2	
Negative		20	29	
Increased literacy knowledge				31 (16%)
Positive	16	3	0	
Negative	0	1	11	
Leadership (action oriented, skilled)				30 (15%)
Positive	11	4	1	
Negative	0	3	11	
Leadership experience				17 (9%)
Negative	0	8	9	
Achievement/data/self-review				12 (6%)
Positive	9	0	0	
Negative	0	0	3	

Note. Some facilitators gave more than one reason

faced with on-the-ground realities, the action-research focus assumed a much lower priority than collegial relationships and action-oriented leaders, regardless of the effectiveness of that action in raising student achievement.

2.3.3. *Criteria for effective leaders*

We sought the school leaders' views on effective leadership through their reactions to the hypothetical scenario in which the literacy leader took an essentially facilitative role, giving teachers time to talk about organizational issues rather than take an explicitly instructional role. A summary of ratings from the scenario on leadership style is provided in Table III.

The principals' and literacy leaders' responses followed themes similar to those of the facilitators when judging the success of a school in that they were generally positive about the leadership style depicted in the scenario with 27 of the 53 respondents giving high ratings and 11 assigning neutral ratings. The most common reason for these ratings (26 respondents) referred to the literacy leaders' facilitative/supportive role. Only three of all respondents expressed concerns about the failure to develop the teachers' professional

TABLE III
Principals' and literacy leaders' responses to the hypothetical scenario

	No. of low ratings (1–3)	No. of neutral ratings (3.5–4.5)	No. of high ratings (5–7)
Leadership style	14	11	27
Staff discussion as basis to adopt Peer Tutoring:	21	11	20
Reading Needs/program match	23	11	18
Inappropriate assessment to identify if need met	10	11	30

knowledge which is central to the learning-centred leadership the Ministry was attempting to develop.

2.3.4. *Valued knowledge and skills*

A simple explanation for the schools' failure to engage with the kind of intervention envisaged by the Ministry of Education is that they did not have the requisite knowledge and skills to do. The schools' responses to these aspects of the scenario indicated that for some this was indeed the case. However, they did not seek to acquire them, which is understandable if the theory of leadership is to be facilitative and collegial, rather than taking a strong instructional role and judging whether that instruction was successful. Valued skills are likely to be those compatible with beliefs about what is important. Others did have the requisite skills but did not perceive them to be relevant.

These data-based skills and knowledge were tested by asking principals and literacy leaders to rate three aspects of the hypothetical scenario related to the use of achievement data: diagnosing students' needs on the basis of teacher perceptions, rather than using data; selecting a programme that did not address the identified need; and collecting follow-up data mismatched to the identified need.

Principals and literacy leaders' responses were mixed and no pattern in their responses was evident according to whether the schools were categorized as most, somewhat and least successful, which is consistent with the facilitators' views of successful schools

being those most collegial and action-oriented rather than focused on achievement or data related to that collegiality.

For the first aspect of the scenario, identifying needs through teacher perception rather than using achievement data, low and high ratings were fairly evenly split (see Table III). Those who gave low ratings recognized the problem and rated this aspect of the scenario accordingly showing that they had the appropriate knowledge to make this judgment. High ratings were typically justified on the basis that the teachers did identify a need but six of these respondents also noted that there was no achievement data. Their absence did not concern them sufficiently to downgrade their ratings suggesting that although they had the knowledge and skills to recognize these types of problems they did not perceive them to be relevant.

For the second aspect of the scenario, the adoption of a programme that was not designed to address the identified need received more low than high ratings (see Table IV). The main reason for low ratings was the need/programme mismatch (17 respondents) or that the teachers did not find out enough about the programme (6 respondents) again suggesting that most had the requisite knowledge.

The third aspect, related to using an inappropriate assessment to identify if the need was met, was rated more highly than other aspects. Twenty-nine of the thirty high ratings were positive because they perceived that the data showed that the programme was successful. Again five of these respondents commented on the lack of needs/measure match but they were not sufficiently concerned about it to lower their ratings.

If detecting problems with the scenario can be used as a measure of relevant knowledge and skills, then the results indicated that principals and literacy leaders had a mix of the required expertise. Although some clearly had difficulties identifying problems with the scenario, many others readily identified the problems, but were differentially concerned about the importance of a data-based decision-making approach. A lack of knowledge and skills did not account for the failure of nearly all of the schools to undertake a project as the Ministry had envisaged.

2.3.5. *Criteria for success*

Criteria for success can be considered in various ways. While an obvious criterion is changes in student achievement, changes in leaders' and teachers' knowledge and skills can also be considered to be important mediators in that success. It was clear that the

Ministry's criteria for success of improved instructional leadership and student outcomes were not realized. We were interested to find out the schools' criteria for success and whether they believed these criteria had been met. To do this we asked them to rate the success of their action-research projects and to give the reasons for their ratings.

2.3.6. *Satisfaction with the initiative*

Most principals viewed their projects as reasonably successful, with literacy leaders and teachers being more positive. On the seven-point rating scale (one represented "Unsuccessful," seven represented "Highly successful") principals' average ratings were 5.2 and literacy leaders and teachers' average ratings were 5.6. The reasons given for their ratings followed similar themes to the responses related to leadership and school success that are reported above. The most common reason given (55% of principals and literacy leaders) was related to changes in teachers' perceptions or practice. These changes, however, were not so much the acquisition of specific literacy skills but related more to perceptions of generic skills and personal characteristics, such as becoming more focused and more collaborative. A typical response by a principal to explain his rating of seven comprised:

Because for a whole pile of reasons. For the things I've just said to you so we've got better people outcomes. We've got better teaching. I'm not sure if outcomes is the word. But better teaching practice – better people outcomes. Because it was a whole school thing, there was buy in and input from most of the staff so everyone had a role to play. Everyone could have a say in the whole thing

Reasons related to student achievement were much less frequent, and were based primarily on perceptions of students' achievement (11 principals and literacy leaders) rather than actual achievement data (1 principal; 0 literacy leaders). Teachers' responses followed a similar pattern. Twenty-seven teachers (52%) mentioned changes in perceptions or practice, with the same themes of collaboration evident. Ten teachers mentioned student achievement with the following teacher's response typical of others, "It was because the standard of writing went up in my classroom so it was highly successful for the children." Only one made any reference to data. One teacher expressed a sentiment that appeared to encapsulate the beliefs of many others in relation to using achievement data,

I don't need data to see that it has been successful. I mean you can see by the children's attitudes and all the extra things that we are putting in. I mean I look at my three

bottom children and even though they are not catching up, they haven't caught up but they have made gains. I mean we do little extra things for those children.

The lack of data-based monitoring of the target students could also possibly be explained by another component of the teachers' theory that was in competition with that of the Ministry of Education. The Ministry was concerned about serious achievement problems of the lowest quartile of students across all schools. The teachers, even though asked to target these students in their projects, did not appear to share the Ministry's concern. When asked to rate their satisfaction with achievement in their class on the seven point scale ranging from high dissatisfied (rating 1) to highly satisfied (rating 7), the average rating was 5.8. The most common reason given by teachers for their satisfaction rating was a general reference to class achievement as a whole ($n = 17$) or to the high achieving students ($n = 7$) as one said confidently, "I had some of the best readers I've ever had" (Rating 6). Because of the Ministry's interest in the lower achieving students, the analysis of reasons included any reference to these students. Eleven teachers specifically mentioned them when giving reasons for their ratings with 10 commenting on their lack of progress. For example, one teacher said, "Some children have not made progress, but I'm happy with the majority." These concerns did not appear to lower their ratings. The lowest rating of four was given by a teacher who was the only one who related her rating specifically to concerns about the progress of this group. She said, "Because I am satisfied with some children and not with others. Some children are progressing well and others, I feel, are stuck or really struggling." Other reasons given by the teachers for their ratings were factors outside of the schools' control ($n = 11$), such as poor skills at school entry, attendance, or "given the nature of the children, they are doing well."

3. CONCLUSION

Change is complex and successful change is particularly complex. As Berman (1981) warns, "there are many ways to fail, but few to succeed" (p. 255). A theory competition approach does not offer simple solutions to succeeding, but rather places particular demands on both change initiators and those responsible for implementation. In these conclusions, we examine some of these demands and suggest what needs to happen for the different parties to engage with and understand the other's theories in change situations. The previous analysis focused on

separate theory components, but in practice these components are integrated so a more holistic analysis is adopted in this discussion.

We suggest that one of the initial demands is to develop a shared understanding of the problem the change is designed to address. The Ministry was attempting to address two problems, neither of which was understood by the school personnel. The first was to develop more learning-centred leadership after a decade of self-management. An understanding of the Ministry's concern was not evident in the school leaders' responses. Rather they were more concerned to establish collaborative and collegial processes among their staff. While learning-centred leadership and collegiality are not incompatible, focusing on the latter in the absence of the former failed to impact on achievement.

A second problem the Ministry was attempting to address was the serious issue of disparity in national achievement patterns, yet the teachers were very satisfied with the achievement of the students in their classes, with only one expressing concerns about the progress of the lower achieving students. Unless these types of national concerns are debated and understood in ways that lead to their becoming local concerns, the motivation for the teachers to address such disparities in their classes is likely to be missing. Concerns 'out there' need to be translated into concerns "in here" if change is to be successful.

Another requirement of a theory competition approach is agreement that a solution to the problem is possible or, where such an agreement cannot be reached, at least agreement that there is some merit in trying. Although teacher expectations of achievement for the lower achieving students were not directly measured in this study, many comments, particularly in relation to the reasons teachers were satisfied with their students' achievement, indicated that most of the teachers expected and accepted the existence of a group of students in their classes who would make very slow progress. Hoping that teachers will adopt new strategies to address such endemic problems has rarely worked even when supporting professional development has been provided (e.g., McLaughlin & Talbert, 1993).

A theory competition approach requires that where existing beliefs and practices do not meet task requirements, such as raising the achievement of these students, professional development needs to target and challenge existing theories as much as the practices supported by them (Ingvarson, 1998; Thompson & Zeuli, 1999; Timperley & Phillips, 2003). The inevitably contextualized nature of

such professional learning typically requires it to be school-based within professional learning communities (DuFour & Eaker, 1999; Louis & Leithwood, 1998; Wald & Castleberry, 2000). In this respect, the model developed by the Ministry of Education was potentially effective in that the development of such communities were an explicit part of the initiative. Unfortunately, school-based professional communities can be as reinforcing of the *status quo* as disturbing of it with teachers supporting one another's beliefs rather than challenging them (Coburn, 2001; Lipman, 1997; Timperley & Robinson, 1998). The school-based leaders' emphasis on participation and collegiality in the study reported in this paper, combined with the absence of a problem to solve, suggests that this situation was often the case. Without an understanding of the problem or buy-in to the envisaged solution, the context for articulating and arguing the merits of competing theories had not been created.

A theory competition approach requires opportunities to challenge both the theories of the program implementers and those of the program initiators. There is often an assumed superiority of program initiator theories over those of the practitioners. Yet policy makers do not necessarily get it right and there is much practical wisdom held in schools. Understanding this wisdom requires that the change initiators engage with practitioners who have been successful in achieving the desired objectives to develop an understanding of the conditions underpinning success. Additional understandings may be obtained from those who have experienced difficulties in achieving such objectives, by asking questions such as, "What maintains the *status quo* and what might be the consequences of disturbing it for those responsible for implementation?"

The temptation might be to restrict such an analysis to one of skills and knowledge and to ask the question, "Do teachers and their leaders have sufficient pedagogical skills and knowledge to implement the change?" It is highly likely in a change scenario that existing skills and knowledge will not be adequate because the very nature of change implies the need for new capacities. Focusing only on the acquisition of new skills, however, bypasses a central premise of a theory competition approach. The acquisition of skills and knowledge are motivated by what is valued. The change initiator must engage also with the theories on which valued skills and knowledge are based. A more relevant question might be, "Are the new skills and knowledge sufficiently valued to motivate their acquisition?" Given the practical nature of teaching and learning problems and the

contextualised nature of sense-making by teachers and their leaders (Jennings, 1996; Siskin, 1994; Spillane, Reiser & Reimer 2002), this engagement cannot remain at an abstract level, but must occur at the level of what it means to lead a school in a particular environment and to teach particular students with whom success has not been previously achieved (Leithwood, Jantzi & Steinbach, 1999).

It is relatively easy to find fault with change initiators' approaches but we do not consider that responsibility for uncovering the different theories and finding the common ground should be seen as the sole responsibility of the change initiator. In the self-managing schools context of this initiative, where schools participated voluntarily, it appears that few sought to fully understand the reasoning underpinning the initiative, or its approach. This information was readily available and articulated clearly in the materials provided. Responsibility for developing mutual theory understanding needs to be shared by both those who initiate change and those who must implement it. Schools cannot continue to regard themselves, or to be treated as, recipients of various change initiators' knowledge (and money) that they are to make sense of (and use of) it as best they can. Rather they must seek to engage with the change initiators and be prepared to both critique the other's theories and have their own theories critiqued.

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4. APPENDIX A

4.1. *The hypothetical scenario*

Riverdale School is in a low income suburb. The staff teaching in Years 1–3 decided to participate in the Literacy Leadership initiative because the teachers were concerned about the students' comprehension of text. The students seemed to be able to learn new

vocabulary quickly, but the teachers were concerned that the students did not understand what they read.

The teachers met and brainstormed all the different ways they could help improve comprehension. Some of the teachers knew the itinerant resource teacher had introduced Peer Tutoring: Reading in a neighbouring school and the teachers in that school had told them how much the students enjoyed it.

The teachers agreed to try Peer Tutoring: Reading in their classes and asked the resource teacher to assist with the training of the student tutors. At the fortnightly team meeting the literacy leader gave the teachers time to talk about implementation issues, such as, how to match the student tutors with student tutees appropriately, and organize the right books. Other teachers described how they managed these kinds of problems.

At the end of the six-week period, the teachers reported at the syndicate meeting that their work with the Peer Tutoring: Reading appeared to be bringing about significant gains in comprehension. The teachers completed their usual end of term assessments and the literacy leader noticed the results showed nearly all the students were reading with greater accuracy and had improved their text levels compared with the previous term. She reported this to the teachers and they decided to continue with Peer Tutoring: Reading the following term.

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