Teacher Perceptions of What Needs to Be Changed in Low-Performing Schools
Daniel L. Duke, Timothy R. Konold, and Michael J. Salmonowicz

This study investigated teachers’ beliefs about the changes needed to improve student learning in low-performing schools. The study employed a new instrument, the Need for Change Assessment (NCA), which solicited teachers’ perceptions of the need for change in areas such as reading and math programs, classroom instruction, and school policies. Teachers in 15 elementary, middle, and high schools in four states participated (N = 320). Factor analysis revealed two factors and showed that the NCA possesses sufficient internal consistency to justify its use by researchers and practitioners. In the aggregate, teachers were more likely to identify change as necessary in areas that did not involve their own practice. A school-level comparison of survey results revealed that high school teachers were more likely to see the need for change in their schools than were elementary and middle school teachers. Perceptions of the need for change varied substantially between schools; no two schools were alike. Finally, the authors found that teachers and principals may differ in their perceptions of what needs to change. This study has implications for how low-performing schools may undertake improvement efforts, specifically regarding which stakeholders drive change and how they do so.

The contemporary focus on educational accountability and the public sharing of student achievement data on a school-by-school basis has revealed a large number of low-performing schools in the United States. During the 2007-2008 school year, 28.1% of public schools were classified as not having made adequate yearly progress (AYP), up from 25.8% during 2005-2006. Nearly half the schools that failed to achieve AYP—13% of all public schools—were classified as being “in improvement/corrective action” (National Education Association, 2008). Many observers maintain that to raise student achievement in these schools, substantial changes are needed.

Finding Consensus

But what issues or problems, specifically, need to be addressed in the low-performing schools in the United States are to improve? On this matter there is less agreement. Suggestions range from altering funding formulas to replacing principals to improving instructional practice. Stone (1989) has made a compelling case for understanding how people account for problems. Their explanations, or what Stone terms “causal stories,” can be subject to considerable debate. Why is there often so much competition regarding the reasons why problems exist? Stone argues that whoever gets their causal story accepted is in a strong position to dictate what choices educators make to resolve the problem at hand. Imagine that the problem is low student achievement in a school. If the explanation for low achievement is acknowledged to be poor leadership, the appropriate corrective measure may be for the school district to provide more guidance and support to the school’s administration or to replace the principal. If, however, the explanation is inadequate instruction, the answer may entail better teacher training and staff development, more highly qualified teachers, and more rigorous teacher evaluation. A safe assumption would be that the likelihood of turning around a low-performing school is reduced when stakeholders disagree about what problems exist and what changes need to be made.

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Early research on the School Turnaround Specialist Program (STSP), a University of Virginia program that prepares principals to improve student achievement in low-performing schools, identified many changes that principals perceived as being necessary to improve their schools (Duke, Tucker, Salomonowicz, & Levy, 2007). It goes without saying, though, that no principal, however capable, can turn around a low-performing school alone. At least for the first year of the school turnaround process, principals in the STSP typically must work with the teachers they inherited from their predecessors. And what these teachers regard as aspects of their school in need of change has some bearing on the ultimate success (or failure) of school turnaround efforts.

The primary purposes of this investigation were to determine (a) what teachers in low-performing schools perceive needs to be changed to raise student achievement, (b) the extent of agreement—between and within schools and across school levels—about what needs to be changed to raise student achievement, and (c) how teacher perceptions of the need for change compare to principal perceptions.

The next section examines the literature that provided a foundation for the investigation of teacher perceptions of the need for change. Following is an overview of the study of principal perceptions of the need for change. We have also provided the instrument that was based on this study (see Appendix). We discuss the methodology for the study and present findings related to the three focal areas outlined previously. The findings are followed by an analysis of the Need for Change Assessment, including its internal consistency and factor structure. We conclude with several implications of the findings for educators engaged in turning around low-performing schools.

The Need to Know What Teachers Think

Given teachers' central role in raising student achievement, it is reasonable to expect that efforts to learn about teachers' perceptions of the need for change in low-performing schools would be numerous. Published research in this area, however, is relatively scarce. It seems likely that such efforts to discover teachers' perceptions exist largely at the local level, conducted by consultants and administrators using focus groups and various types of needs assessments.

One exception to the preceding generalization involves the work of Leithwood, Aitken, and Jantzi (2001). In Making Schools Smarter: A System for Monitoring School and District Progress, they offer a detailed survey that teachers and other stakeholders can complete before and after school improvement efforts. Presumably, data from pre-improvement surveys would reveal perceptions of the conditions requiring change. The authors, however, do not provide information on the extent to which teachers have used the survey or on trends in responses.

For the most part, though, research on teacher perceptions has focused on teacher reactions to existing reforms and changes that already are in place (e.g., Andrews, Gilbert, & Martin, 2006; Gazi, 1996; Kataoka, van Krayenhoo, & Elkins, 2004; Kelley, Thornton, & Daugherty, 2005). Much of this research is based on the Stages of Concern about an Innovation (Hall & Hord, 2001). Hall and Hord trace the origins of their research to the work of Frances Fuller (1969), who investigated the concerns of student teachers. She found that self-reports of concerns tended to change with increased experience, moving from concerns that were unrelated to teaching to concerns about how teachers would be personally affected by their assignments. Eventually concerns shifted to particular teaching tasks and whether student learning was affected.

Applying the framework generated by Fuller (1969), Hall and Hord (2001, p. 60) found that the "same unrelated, self, task, and impact pattern of concerns is found in people involved with all types of innovations and change processes." The resulting Stages of Concern model represents a "quasi-developmental path" consisting of seven levels of concern, ranging from "awareness," where the individual expresses little interest in an innovation, to "refocusing," where the individual has embraced the innovation and is beginning to look for even more useful alternatives.

Hall and Hord (2001) sought to understand where individuals were located along a continuum of general reactions to organizational change. Other researchers have focused on gathering specific reactions of teachers to particular reforms. Coburn (2001) drew on sensemaking theory to investigate how teachers in a California elementary school interpreted, adapted, and sometimes transformed new state policies related to reading instruction. Her research revealed how group dynamics and "collective sensemaking" within a faculty can influence and mediate teacher reactions to external pressures to change practice. Teachers co-constructed "understandings of policy messages," made "decisions about which messages to pursue in their classrooms," and negotiated "the technical and practice details of implementation in conversations with their colleagues" (p. 145).

Whereas Coburn (2001) studied how teacher perceptions of change can be mediated by faculty networks and alliances, Hargreaves, Earl, Moore, and Manning (2001) focused on individual variations in how change was perceived by seventh and eighth grade teachers in Ontario. In response to new provincial curriculum standards, some teachers desired more precise details regarding what was
expected of them. Other teachers seized the opportunity provided by the new standards to press ahead with units and lessons on which they had been working prior to the provincial initiative.

The works of Hall and Hord (2001), Hargreaves and his colleagues (2001), and Coburn (2001) deal with teacher perceptions of changes that already have been implemented or are in the process of being implemented. But what about teacher perceptions prior to the change process? We conducted an Internet search for research on teacher perceptions of the need for change and teacher-based needs assessments. All but one of the identified studies involved investigations of teacher perceptions of existing reforms, and one study focused on the perceived need for change within the context of staff development needs (Ivanicki & McEachern, 1984).

Perhaps most closely related to our focus on teachers’ perceptions of needed change is Kennedy’s (2005) work on understanding the motivation behind teacher behaviors. She videotaped 45 elementary teachers conducting lessons and interviewed them regarding their impressions of the videotaped lessons. In analyzing her qualitative data, Kennedy identified various “self-criticisms” noted by teachers as they reflected on their lessons. These included failure to foster adequate student learning, failure to attend adequately to students’ personal needs, and the need to maintain lesson momentum, establish more of a sense of classroom community, and foster more student willingness to participate in class activities (p. 159). Presumably these concerns represent aspects of their practice that the responding teachers desired to change.

The absence of systematic research on teachers’ perceived needs for change was disturbing as well as surprising. Teachers in low-performing schools, especially those with many years of experience, presumably possess considerable local knowledge, or what some refer to as “deep smarts” (Burbach & Duke, 2007; Leonard & Swap, 2005). Such knowledge from the “front lines” should be valued and sought out by investigators concerned with learning more about the school turnaround process. Although in some cases teachers may not perceive the types of changes they need to make, in general it seems that researchers are content with stereotyping teachers as resisters of change who possess few insights of value for those desiring to improve school performance (Fullan, 2007; Nolan & Meister, 2000; Wagner, 1994). Even if some teachers do oppose particular educational reforms, Fullan (2001) cautions that in some cases more can be learned from resisters of change than from advocates. The latter often minimize or overlook impediments and obstacles that change agents would do well to consider.

**Principals’ Perceptions of the Need for Change**

During the first 2 years of the School Turnaround Specialist Program (STSP), all participating schools were located in Virginia. A total of 19 schools was involved, including 10 elementary schools and 9 middle schools. Fourteen of the schools failed to make AYP the year before joining the program, and 14 schools (not necessarily the same as those not making AYP) were “accredited with warning” by the state. At the outset of the program, we asked the principals to assess the conditions they perceived to be adversely affecting student achievement in their school. This information was shared with their fellow school turnaround specialists and members of the research team. Over the course of their first year in the STSP, we interviewed principals on site, by phone and e-mail, and during training sessions to collect additional perceptions of what needed to be changed in their schools. We compiled the data and condensed it into five general areas of perceived needs for change (Duke et al., 2007). This work identified 24 specific areas in need of change. With regard to student achievement and behavior, the principals reported four areas in need of change. Every principal noted the need to raise reading achievement, and 11 principals cited low math achievement as a concern. Six principals reported reducing absenteeism, and 13 reported discipline problems as concerns.

For principals involved in a previous study, the largest number of perceived needs for change was associated with school programs, practices, and organization.

The largest number of perceived needs for change was associated with school programs, practices, and organization. Principals indicated that their low-performing schools required the following (numbers of principals responding in parentheses):

- A more focused mission with clearly articulated instructional priorities (13).
- A curriculum closely aligned to state standards (11).
- Better classroom instruction (16).
- More timely data concerning student progress in mastering curriculum standards (15).
- More teamwork and collaboration among teachers (12).
More opportunities for teachers to plan together and address issues of concern within and across grade levels (10).

- More effective daily schedules that allowed for extended learning time (9).

- Improved school cultures that reinforced the belief that all students were capable learners (9).

- Improved instructional interventions for struggling students (11).

- Greater efforts to include special education students in regular classrooms (8).

- Better school and classroom facilities (5).

- Better instructional materials (3).

- Improved staff development opportunities for teachers (3).

With regard to staffing, 18 principals believed that schools and districts needed to correct personnel problems to raise student achievement. These problems included getting rid of incompetent teachers and re-assigning teachers to grade levels and subjects where they could be more effective. Five principals also expressed the need for more specialists, including reading and math specialists.

When principals looked beyond their schools, they saw a need for changes in the school district and community. Nine principals noted a need for greater stability of leadership in the central office, whereas four commented on technical difficulties with the district computer network. Four principals indicated an unspecified need for greater support from the central office. A large number of principals (11) expressed a need for greater parent involvement, and seven principals believed that negative perceptions of the school in the community required improvement.

These results indicated that principals varied in their perceptions of the needs of low-performing schools for change. At the same time, many of the 19 schools shared a number of similar needs. Every school needed to make changes to raise reading achievement, and all but one school faced personnel problems. Eleven of the perceived needs for change were reported by at least 10 of the 19 principals.

**Methodology**

Given the absence of empirical tools designed specifically for the purpose of evaluating teachers' perceptions of needed changes, our first focus was to develop such a tool. The data on principals' perceived needs for change in the original 19 STSP schools provided a reasonable basis for designing an instrument, called the Need for Change Assessment (NCA), to collect comparable data from teachers in low-performing schools. All items on the NCA have been noted in various studies addressing the problems of low-performing schools and the reforms required to raise student achievement (Duke, 2006; Leithwood et al., 2001; MacBeath & Mortimore, 2001). Using a 4-point scale with anchor statements at each extreme, we wrote items for most of the principals' 24 perceived needs for change. In the case of the school system, the three original items were condensed into one item covering central office support. We added additional items for reading and instructional practices. We dropped several items from the NCA that principals had not often mentioned in the STSP survey. These included items related to inadequate facilities and materials. (See the Appendix for the resulting Need for Change Assessment.)

A 4-point scale was chosen to force respondents to choose a rating that either supported change or opposed change. A rating of 1 indicated a high perceived need for change. A rating of 4 indicated no perceived need for change. We wrote the items in a broad enough way to include changes requiring both teacher and administrative initiative at either the school or the district level.

The NCA was designed not only as a tool for conducting research in low-performing schools, but as a source of data for educational leaders charged with turning around low-performing schools. We worked on the assumption that these leaders would benefit from knowing how teachers felt about aspects of the school that previous research suggested were associated with school turnaround efforts (Duke et al., 2007).

The 22 principals who comprised the STSP's third cohort were asked if they would be interested in administering the NCA to their faculty during the first months of the program. Fifteen principals expressed an interest. They included eight elementary, three middle, and four high school principals. The elementary schools were located in Philadelphia (4), Chicago (3), and Broward County, Florida (1). The middle schools were located in rural Virginia (2) and Chicago (1). All four high schools were located in Philadelphia. The 15 principals distributed copies of the NCA to every faculty member in their schools. Stamped, self-addressed envelopes were provided so that respondents could mail their completed NCAs directly to the researchers. After we compiled and analyzed the data, we sent all participating principals reports summarizing the findings for their own schools. Teachers were not identified by name in these reports; they had been instructed to not include their names on the NCA.
Copies of the NCA were distributed to each school based on the principal's report of the number of faculty members. At the elementary level, 337 surveys were distributed to the eight schools and 151 (45%) were returned. For the three middle schools, 103 surveys were sent and 33 (32%) were returned. The four high schools received 326 surveys and 136 (42%) were returned. A total of 766 surveys were distributed, with 320 being returned. Return rates ranged from 17% to 83%, with an overall mean of 42%. It should be noted that most principals admitted not knowing the exact number of teachers in the building. Therefore, in many cases, the number of surveys provided to schools was higher than the actual number of faculty members employed. Taking this into account, the actual response rate was likely near 50%.

Results

This study's first area of focus concerned the changes that teachers in low-performing schools perceived were necessary to raise student achievement. Table 1 shows the rank-ordered means for the 25 items on the NCA. Across the 15 low-performing schools, the greatest need for change concerned parent involvement. Other highly ranked needs for change involved greater district support, better interventions to assist low-achievers, more partnerships with community groups, a new approach to discipline, and additional instructional time on reading. The five changes that teachers perceived were least necessary included learning how to use classroom assessment to support student learning, greater emphasis on data-driven instructional planning, more teacher time devoted to aligning instruction with the content of state tests and curriculum standards, greater inclusion of special education students in regular classrooms, and greater use of benchmark tests so teachers can monitor student progress more closely.

Across all 15 schools in the study, teachers tended to perceive needs for change that did not directly involve changes in their own practice or workload... But no two schools had identical profiles of teacher-perceived needs for change.

Differences by School Level

The next step in our analysis involved disaggregating the means by school level (see Table 2). Although the size of the means varied, elementary, middle, and high school teachers generally agreed that the greatest need for change concerned parent involvement and the least need for change concerned increased benchmark testing. With few exceptions, descriptive analysis revealed that high school teachers were more likely to perceive a need for change than elementary and middle school teachers. The exceptions occurred for items 12, 13, and 14—which covered the inclusion of special education students, the teaching of reading, and the presence of community partnerships, respectively. Given the concerns that have been raised by policy makers and pundits regarding the high school as an institution—from high dropout rates to lack of curricular rigor to poorly serving low-income and minority students (Editorial: High school reform, round 1, 2005; Quint, 2006; Strong American Schools, 2008)—this finding is not surprising. High school teachers in low-performing high schools apparently agree that considerable change is needed, though they may differ with critics about what specific changes are necessary.

Differences by School

Though some researchers (Duke et al, 2007; Mazzeo & Berman, 2003) have concluded otherwise, discussions about low-performing schools often suggest that they are largely the same. When we examined item-level mean
Table 1. Rank-Ordered Means, From Lowest to Highest, by Teachers Across All Levels (Elementary, Middle, High) for Items on the Need for Change Assessment (NCA)

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>This school needs more parent involvement</td>
<td>1.53</td>
</tr>
<tr>
<td>25</td>
<td>The district should provide more support for what we do</td>
<td>1.72</td>
</tr>
<tr>
<td>7</td>
<td>We need better interventions to assist low-achievers</td>
<td>1.81</td>
</tr>
<tr>
<td>14</td>
<td>This school needs more partnerships with community groups</td>
<td>1.84</td>
</tr>
<tr>
<td>4</td>
<td>We need a new approach to discipline</td>
<td>1.86</td>
</tr>
<tr>
<td>1</td>
<td>Struggling readers at this school need additional instructional time on reading</td>
<td>1.95</td>
</tr>
<tr>
<td>8</td>
<td>We need more specialists to assist teachers</td>
<td>2.01</td>
</tr>
<tr>
<td>19</td>
<td>Struggling students should receive more targeted assistance prior to standardized tests</td>
<td>2.02</td>
</tr>
<tr>
<td>13</td>
<td>More teachers at this school should be involved in teaching reading</td>
<td>2.07</td>
</tr>
<tr>
<td>24</td>
<td>Professional development should be more closely tied to the needs of students</td>
<td>2.12</td>
</tr>
<tr>
<td>15</td>
<td>Students need more instruction in how to take standardized tests</td>
<td>2.14</td>
</tr>
<tr>
<td>23</td>
<td>Changes are needed in how students are grouped for instruction</td>
<td>2.16</td>
</tr>
<tr>
<td>3</td>
<td>Our reading program is not well-suited to the needs of our students</td>
<td>2.17</td>
</tr>
<tr>
<td>6</td>
<td>We should do more to encourage better student attendance</td>
<td>2.21</td>
</tr>
<tr>
<td>5</td>
<td>Our math program is not well-suited to the needs of our students</td>
<td>2.23</td>
</tr>
<tr>
<td>9</td>
<td>Teachers need to engage in more collaboration/teamwork</td>
<td>2.37</td>
</tr>
<tr>
<td>22</td>
<td>Schedule should be changed to permit more effective instruction &amp; assistance for struggling students</td>
<td>2.41</td>
</tr>
<tr>
<td>11</td>
<td>Teachers should do more to differentiate instruction for students of different ability levels</td>
<td>2.43</td>
</tr>
<tr>
<td>21</td>
<td>Some teachers need to be reassigned in order to increase instructional effectiveness</td>
<td>2.55</td>
</tr>
<tr>
<td>2</td>
<td>Teachers at this school need to spend more time reviewing student performance data</td>
<td>2.64</td>
</tr>
<tr>
<td>18</td>
<td>Teachers need to learn how to use classroom assessment to support student learning</td>
<td>2.73</td>
</tr>
<tr>
<td>20</td>
<td>Instructional planning needs to be more data driven</td>
<td>2.86</td>
</tr>
<tr>
<td>16</td>
<td>Teachers should spend more time aligning instruction with the content of state tests &amp; curriculum standards</td>
<td>2.95</td>
</tr>
<tr>
<td>12</td>
<td>Special education students should be included more in regular classrooms</td>
<td>2.98</td>
</tr>
<tr>
<td>17</td>
<td>Students need to take more benchmark tests so teachers can monitor student progress more closely</td>
<td>3.26</td>
</tr>
</tbody>
</table>

Note: Items were ranked in a 4-point scale: A rating of 1 indicated a high perceived need for change. A rating of 4 indicated no perceived need for change. Source of items: a new instrument, the Need for Change Assessment (NCA; see Appendix).
Table 2. Comparison of Mean Scores of Teachers Between School Levels (Elementary, Middle, High) from Lowest to Highest

<table>
<thead>
<tr>
<th>Item 1</th>
<th>Item 2</th>
<th>Item 3</th>
<th>Item 4</th>
<th>Item 5</th>
<th>Item 6</th>
<th>Item 7</th>
<th>Item 8</th>
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<tbody>
<tr>
<td>1.62</td>
<td>H</td>
<td>2.41</td>
<td>H</td>
<td>1.82</td>
<td>H</td>
<td>1.51</td>
<td>H</td>
</tr>
<tr>
<td>1.79</td>
<td>M</td>
<td>2.79</td>
<td>E</td>
<td>2.38</td>
<td>M</td>
<td>1.61</td>
<td>M</td>
</tr>
<tr>
<td>2.34</td>
<td>E</td>
<td>2.85</td>
<td>M</td>
<td>2.45</td>
<td>E</td>
<td>2.24</td>
<td>E</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Item 9</th>
<th>Item 10</th>
<th>Item 11</th>
<th>Item 12</th>
<th>Item 13</th>
<th>Item 14</th>
<th>Item 15</th>
<th>Item 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.05</td>
<td>H</td>
<td>1.36</td>
<td>H</td>
<td>2.27</td>
<td>H</td>
<td>2.93</td>
<td>E</td>
</tr>
<tr>
<td>2.42</td>
<td>M</td>
<td>1.60</td>
<td>E</td>
<td>2.51</td>
<td>E</td>
<td>2.94</td>
<td>H</td>
</tr>
<tr>
<td>2.64</td>
<td>E</td>
<td>1.88</td>
<td>M</td>
<td>2.64</td>
<td>M</td>
<td>3.36</td>
<td>M</td>
</tr>
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<table>
<thead>
<tr>
<th>Item 17</th>
<th>Item 18</th>
<th>Item 19</th>
<th>Item 20</th>
<th>Item 21</th>
<th>Item 22</th>
<th>Item 23</th>
<th>Item 24</th>
<th>Item 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.12</td>
<td>H</td>
<td>2.53</td>
<td>H</td>
<td>1.99</td>
<td>H</td>
<td>2.67</td>
<td>H</td>
<td>2.46</td>
</tr>
<tr>
<td>3.21</td>
<td>E</td>
<td>2.74</td>
<td>E</td>
<td>1.99</td>
<td>E</td>
<td>2.93</td>
<td>E</td>
<td>2.53</td>
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<tr>
<td>3.76</td>
<td>M</td>
<td>3.12</td>
<td>M</td>
<td>2.21</td>
<td>M</td>
<td>3.12</td>
<td>M</td>
<td>2.85</td>
</tr>
</tbody>
</table>

Note: Items were ranked in a 4-point scale: A rating of 1 indicated a high perceived need for change. A rating of 4 indicated no perceived need for change. Source of items: a new instrument, the Need for Change Assessment (NCA; see Appendix).

responses of teachers on the NCA on a school-by-school basis, we found some variations. These variations became more apparent when schools were compared based on the rank order of each item on the NCA. Greater parent involvement, for example, was perceived to be the greatest need for change in eight schools and the second greatest need for change in five schools, but it ranked sixth in one school and ninth in another. Meanwhile, teachers in three schools believed that increased central office support was the greatest need, whereas more partnerships with community groups ranked first among teachers in two schools. Teachers in 11 of the 15 schools indicated that more benchmark testing was not necessary. Teachers in two schools, however, noted greater inclusion of special education students as the area least in need of change. In two other schools teachers perceived that more data-driven decision making and the math program should not be targets for reform.

The rank order of NCA items made it clear that no two schools had identical profiles of teacher-perceived needs for change. Determining whether these differences in perception reflect actual differences in programs, practices, policies, and personnel was impossible in the present study, but such an undertaking constitutes a logical focus for subsequent investigation.

The mean standard deviations across the 15 schools were calculated for each item on the NCA to identify items for which agreement was relatively high (low mean standard deviations) and relatively low (high mean standard deviations). Teachers were most likely to give similar ratings to items 13 (.901), 5 (.921), 11 (.931), and 7 (.938). These items concerned the need for more teachers to read, the inadequacy of the math program, the need for more differentiated instruction, and the need for more effective instructional interventions. Teachers were most likely to deviate in their ratings of items 24 (1.141) and 22 (1.125). These items concerned professional development tied to the needs of students and the need for changes in the school schedule.

The mean standard deviation across all 25 items was calculated for each school. This statistic can be regarded as an indication of the extent to which responding teachers from each school agreed on their ratings for the NCA. Elementary School 4 posted the lowest mean standard deviation (.175), indicating the greatest level of agreement among responding teachers. The lowest level of agreement (.562) was posted by teachers from Elementary School 8. The mean standard deviation for all 15 schools was .509.
Comparing Teacher and Principal Perceptions

The third focus of our research concerned the relationship between teacher perceived needs for change and principal perceived needs for change. Drawing from a previous study in which principals in 19 low-performing elementary and middle schools identified 24 conditions in need of change to raise performance in their schools (Duke et al., 2007), contrasts between teachers’ and principals’ perceptions were evaluated. As previously indicated, the conditions identified by principals represent a subset of the items used to construct the NCA.

Table 3 shows the results of this comparison. The most frequently mentioned conditions in need of change among principals involved low reading achievement (100%), personnel problems (95%), ineffective instruction (84%), and inadequate data on student progress (79%). Although some of the items on the NCA do not match up exactly with the conditions identified by the principals, it is still possible to conduct a rough comparison of the rank order of many of the items. Parentheses are used in Table 3 to note the rank order of comparable items indicated by teachers as requiring change. It should be stressed that the teachers in this study were not in the same schools as the principals.

Despite the limitations of the comparison, differences in ranking remain striking. Results suggest that teachers in low-performing schools may not agree with similarly situated principals that there is a great need to address personnel problems, improve instruction, and compile more data on student progress. Principals, on the other hand, were less inclined to see a need for greater parent involvement, more district support, and more effective interventions for struggling students. A comparable ranking for teachers and principals was reported only for the area of student discipline.

Despite the limitations of the comparison, differences in ranking remain striking. Results suggest that teachers in low-performing schools may not agree with similarly situated principals.

Although we did not expect that principals and teachers would completely agree on what needs to be changed to raise student achievement, given the differences of their roles, the job of turning around a low-performing school clearly is more challenging when there are substantial differences in perceived needs for change between teachers and administrators. It will be important in the future for teachers and administrators in the same school to come to the NCA and discuss any differences that emerge in their rankings.

Investigating the Need for Change Assessment (NCA) Instrument

Because this study represented the first application of the NCA, we examined the qualities of the instrument itself. Exploratory factor analysis (EFA) is a useful technique for uncovering the relationships among a set of variables with the goal to better understand the underlying structure of those variables in terms of their unifying themes (Thompson, 2004). To this end, we used factor analysis to empirically evaluate both the number and nature of underlying dimensions (i.e., factors) responsible for the relationships among the items located on the NCA instrument.

We performed principal axis factor extraction, in which both orthogonal (varimax) and oblique (direct oblimin) rotations were considered in an attempt to uncover simple structure. Determining the correct number of factors to retain is one of the more challenging decisions in substantive applications of EFA (Tabachnick & Fidell, 1996). We considered both theoretical and empirical evidence when deciding on the number of factors to retain (Fabrigar, Wegener, MacCallum, & Strahan, 1999). We examined and contrasted a succession of several factor models across a variety of indexes used to determine the correct number of dimensions. The final solution was evaluated against the following criteria: (a) unrotated factors were required to satisfy Kaiser’s (1958) criterion of eigenvalues greater than 1.00; (b) accepted configurations had to account for an appreciable percentage of total score variance; (c) solutions needed to meet Cattell’s (1966) minimum scree requirement; (d) each rotated factor had to include at least two appreciable factor loadings (i.e., ≥ .35); (e) no more than 5% of the items could load on more than one factor; (f) resultant dimensions had to demonstrate good internal consistency; (g) the final solution needed to be compatible with theoretical postulates; and (h) the resultant factor solution had to be consistent with parallel analysis (Horn, 1965), often cited as the most accurate method for determining the number of factors to retain (Ledesma & Valero-Mora, 2007).

We performed principal axis factor (PAF) extraction through SPSS on the 25 items located on the NCA instrument. As a preliminary step, principal component extraction revealed the presence of six eigenvalues greater than 1.0, which accounted for 57% of the total observed score variance. The unrotated PAF extraction results
<table>
<thead>
<tr>
<th>Condition (N = 24)</th>
<th>Elementary (N = 10)</th>
<th>Middle (N = 9)</th>
<th>Total</th>
<th>Rank Order for Principals</th>
<th>Rank Order for Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low reading achievement</td>
<td>10</td>
<td>9</td>
<td>19</td>
<td>1</td>
<td>(13)</td>
</tr>
<tr>
<td>Personnel problems</td>
<td>10</td>
<td>8</td>
<td>18</td>
<td>2</td>
<td>(19)</td>
</tr>
<tr>
<td>Ineffective instruction</td>
<td>8</td>
<td>8</td>
<td>16</td>
<td>3</td>
<td>(18) (21)</td>
</tr>
<tr>
<td>Data Deprivation</td>
<td>8</td>
<td>7</td>
<td>15</td>
<td>4</td>
<td>(20) (22) (25)</td>
</tr>
<tr>
<td>Discipline problems</td>
<td>5</td>
<td>8</td>
<td>13</td>
<td>5</td>
<td>(5)</td>
</tr>
<tr>
<td>Lack of focus</td>
<td>7</td>
<td>6</td>
<td>13</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Lack of teamwork</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>7</td>
<td>(16)</td>
</tr>
<tr>
<td>Low math achievement</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>8</td>
<td>(15)</td>
</tr>
<tr>
<td>Unaligned curriculum</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td>8</td>
<td>(23)</td>
</tr>
<tr>
<td>Ineffective interventions</td>
<td>6</td>
<td>5</td>
<td>11</td>
<td>8</td>
<td>(3)</td>
</tr>
<tr>
<td>Low parent involvement</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td>8</td>
<td>(1)</td>
</tr>
<tr>
<td>Inadequate infrastructure</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Ineffective scheduling</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>13</td>
<td>(6) (17)</td>
</tr>
<tr>
<td>Dysfunctional culture</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Central office instability</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Lack of inclusion</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>16</td>
<td>(24)</td>
</tr>
<tr>
<td>Attendance problems</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Negative community perceptions</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Inadequate facilities</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Lack of specialists</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>19</td>
<td>(7)</td>
</tr>
<tr>
<td>Technical difficulties</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Lack of district support</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>21</td>
<td>(2)</td>
</tr>
<tr>
<td>Inadequate materials</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Ineffective staff development</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>23</td>
<td>(10)</td>
</tr>
</tbody>
</table>

*Note:* For principal ratings: Conditions were obtained from a previous study using the School Turnaround Specialist Program (STSP; see Duke, Tucker, Salmondowicz, & Levy, 2007). For teacher ratings: Items were ranked in a 4-point scale: A rating of 1 indicated a high perceived need for change. A rating of 4 indicated no perceived need for change. Source of item: a new instrument, the Need for Change Assessment (NCA).
indicated that the six factor solution accounted for 44% of the total observed score variance. Examination of the resulting structure matrix failed to reveal a clear pattern of simple structure across the three factors. As a result, both varimax (orthogonal) and oblimin (non-orthogonal) rotations were examined. Results of the varimax rotation indicated that the first four factors accounted for appreciable amounts of observed score variance, 12.8%, 10.6%, 7.7%, and 7.6%, respectively; whereas, the fifth and sixth factors explained only 3% and 2%, respectively. Neither the structure matrix resulting from the orthogonal rotation nor the pattern matrix resulting from the oblique rotation revealed a pattern consistent with simple structure. In both instances, item 13 was found to yield materially low loadings across all factors. As a result, this item was dropped from further analysis.

Re-examination of the solution revealed five factors with eigenvalues greater than 1.0. Here again, loading matrices for both rotations failed to closely approximate simple structure. Results from parallel analysis and examination of the scree plot strongly suggested that two factors were responsible for the relationships among the items. Accordingly, we conducted a final set of analyses, in which a two-factor solution was investigated under the conditions of both orthogonal and oblique rotations. The resulting varimax rotation accounted for 35% of the total observed score variance, with 26% attributable to the first factor and 9% attributable to the second. Observation of the structure matrix generally revealed a pattern of simple structure, with the exception of two items loading on both factors when loadings ≥ .36 were considered. Results of the two-factor oblimin rotation revealed a cleaner pattern of item loadings across the two factors as indicated by the pattern matrix of coefficients (see Table 4); the factor correlation matrix revealed a moderate correlation (.32) between the factors.

This final two-factor model, as suggested by Cattell’s (1966) scree, satisfied Kaiser’s (1958) eigenvalue criterion and was supported through parallel analysis (Horn, 1965). Factor one was defined by 16 items, and factor two was defined by 8 items. All items demonstrated appreciable loadings (i.e., ≥ .36). No doublets (i.e., an item that loads on two factors) were observed. Internal reliability as estimated

### Table 4. Pattern Matrix for Two-Factor Principal Axis Factor Solution With Direct Oblimin Rotation

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>.81</td>
<td>-.11</td>
</tr>
<tr>
<td>24</td>
<td>.69</td>
<td>.07</td>
</tr>
<tr>
<td>25</td>
<td>.67</td>
<td>-.02</td>
</tr>
<tr>
<td>10</td>
<td>.63</td>
<td>-.12</td>
</tr>
<tr>
<td>6</td>
<td>.59</td>
<td>-.01</td>
</tr>
<tr>
<td>4</td>
<td>.52</td>
<td>-.17</td>
</tr>
<tr>
<td>23</td>
<td>.50</td>
<td>.20</td>
</tr>
<tr>
<td>14</td>
<td>.49</td>
<td>.12</td>
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<tr>
<td>1</td>
<td>.48</td>
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<td>22</td>
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<td>18</td>
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<td>-.09</td>
<td>.50</td>
</tr>
<tr>
<td>11</td>
<td>.23</td>
<td>.50</td>
</tr>
<tr>
<td>21</td>
<td>.12</td>
<td>.36</td>
</tr>
</tbody>
</table>

| Eigenvalues | 5.45 | 4.17 |
| Percentage of Variance | 25.79 | 9.33 |
| Cumulative Percentage of Variance | 25.79 | 35.12 |

Note: N = 320. Decimal places were removed for ease of presentation. Rotated factor loadings ≥ .36 are presented in boldface type. For principal ratings: Conditions were obtained from a previous study using the School Turnaround Specialist Program (STSP; see Duke, Tucker, Salmonowicz, & Levy, 2007). For teacher ratings: Items were ranked in a 4-point scale: A rating of 1 indicated a high perceived need for change. A rating of 4 indicated no perceived need for change. Source of items: a new instrument, the Need for Change Assessment (NCA; see Appendix).

* Variance estimates from orthogonal rotation.
with coefficient alpha was appreciable for both factors one (.87) and two (.80), as well as the combined 24-item scale (.88). Moreover, these two factors closely align with previous theoretical postulates regarding characteristics of teachers' perceptions of needed change.

The items in Factor 1 for the most part were associated with instructional support. Instructional support represents actions that need to be taken by individuals other than classroom teachers to assist and facilitate the work of classroom teachers. Such actions include providing better interventions to help low-achievers (.812), offering professional development tied more closely to the needs of students (.693), and providing more district support for school-based efforts (.666).

The items defined by Factor 2 primarily involved data-driven planning and monitoring of student progress. They included the need for instructional planning to be more data-driven (.743), the need for teachers to learn how to use classroom assessment to support student learning (.693), and the need for teachers to spend more time aligning instruction with the context of state tests and state curriculum standards (.667).

**School Level Comparisons on Factor Scores**

We conducted a final set of analyses among the three school levels (elementary, middle, and high) on the two resulting NCA factors described previously, to gauge differences in perceptions on the underlying constructs being measured by the NCA items. Results of a one-way analysis of variance (ANOVA) on the instructional support factor revealed statistically significant differences between school levels, $F(2,292) = 30.05, p < .001, R^2 = .17$. Follow-up Tukey tests revealed results similar to those observed through item-level examinations described previously in that high school teachers were more concerned about change on this domain ($M = 28.15$) than were teachers from elementary ($M = 35.22$) or middle ($M = 38.45$) schools, $ps < .001$. No statistically significant differences were observed between elementary and middle school teachers on this factor. Contrasts among these groups also revealed statistically significant differences on the data-driven planning and monitoring of student progress factor, $F(2,292) = 10.43, p < .001$. Here, however, the differences were not as pronounced as indicated by a comparison of the amount of variance accounted for by school level on the factors (i.e., Factor 1 $R^2 = .17$, Factor 2 $R^2 = .07$). Nonetheless, all pair-wise Tukey comparisons were statistically significant, with high school teachers again reporting relatively more concern ($M = 20.98$) than elementary ($M = 22.77$) and middle ($M = 25.24$) school teachers. Mean comparisons between elementary and middle school teachers were also statistically significant on this factor, all $ps < .05$.

**Implications and Recommendations**

Given the pressure on low-performing schools to improve and the numerous efforts of researchers to study the school improvement process, we were surprised to find a dearth of published research on teachers’ perceptions of the changes needed to raise student performance. We find it hard to believe that the views of those closest to the students would not attract the interest of investigators seeking to understand the conditions associated with low performance. Researchers often seem content to rely exclusively on the perceptions of principals of low-performing schools. The present study indicates, however, that teachers and administrators may disagree about what needs to be changed to raise student achievement. Although we clearly are not in a position to determine whether teachers or administrators are closer to identifying the actual contributors to low performance, we believe that divergent views can make the school turnaround process much more challenging.

We also found that teacher perceptions of the need for change varied across schools. This is consistent with the National Governors Association (NGA) Center for Best Practices' first principle for improving low-performing schools: "Not all low-performing schools are the same" (Mazzeo & Berman, 2003, p. 10). The NGA recommends that states conduct "detailed assessments of the instructional programs of all schools in need of improvement." Our work supports the need for such assessments and goes one step further to indicate that even people within the same school may not agree on what needs to be improved or changed.

Despite these differences, however, we found an overall tendency for teachers to place greater emphasis on needs for change that did not directly involve their own practice. They were particularly interested in greater parental involvement and more central office support. Such views may be predictable—McCall and colleagues (2001), for example, also found that teachers saw a greater need for change when it came to issues outside of their own classrooms—but they should not be discounted by people charged with improving low-performing schools. These proposals school improvements must find ways to encourage teachers to accept greater responsibility for low student achievement and to explore new ways of teaching and collaborating, while at the same time addressing teachers' concerns.

The present study demonstrates the potential value of the Need for Change Assessment. The instrument possesses sufficient internal consistency to justify its use by researchers and practitioners. Factor analysis revealed two clusters of items among the 24 items on the NCA. Factor 1 focused on instructional support for classroom teachers,
and Factor 2 dealt with data-driven decision making and monitoring of student progress. By administering the NCA to teachers before launching a school turnaround initiative, principals can gain valuable information regarding the extent to which teachers agree about what needs to be changed. Such information can serve as a basis for initial discussions of school improvement, follow-up investigations to verify the salience of highly rated needs for change, and the development of school improvement plans. Parallel versions of the NCA that are oriented to students and parents could be developed in order to provide additional information of value.

Another recommendation is to use responses to the NCA as a basis for probing teachers for more specific information concerning the need for change. What kind of parent involvement and central office support, for example, do teachers feel would be useful in raising student achievement? Why is the present reading program or math program not well suited to the needs of students? What is wrong with current interventions intended to assist struggling students? Teacher responses to such follow-up queries promise to reveal a great deal about teachers' mental models of the etiology and treatment of low performance.

References


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