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Bettendorf conditions for teacher leadership survey analysis: Differences by demographic characteristics of teachers

This report presents additional analyses of the Bettendorf Community School District Conditions for Teacher Leadership survey. Our purpose for these analyses was to identify differences within district-wide response patterns that are associated with several demographic characteristics of the teachers and administrators who responded. By determining where differences exist and where they do not, we may identify important issues and considerations for the district's efforts to design its Teacher Leadership and Compensation plans.

In this report we review survey data that were analyzed to discover differences in response patterns in terms of the following demographic characteristics:

- Primary role or position of the respondent, i.e., teacher, district administrator, coach or instructional specialist, principal or assistant principal, teacher's aide or para-professional, other (Question #1).
- Years of experience, i.e., 1-3 years, 4-5 years, 6-10 years, 11-20 years, 21-30 years, 30+ years (Question #49).
- Grade levels taught, i.e., elementary (PK-5), middle school (6-8), high school (9-12) (Question #46)

Specifically, we were interested in seeing if there were differences associated with primary role or position (e.g., whether teachers tended to answer questions differently than administrators), years of experience (whether educators with less experience tended to answer questions differently than educators with more experience), and grade levels taught (e.g., whether educators teaching at the elementary grades tended to answer questions differently than their middle or high school counterparts). Appendix A offers details of how these analyses were conducted. *However, because teachers comprise 93% of the population of respondents who identified their roles (N = 260), statistically significant differences could not be determined (non-teacher groups are too small)*.

This report should be read and considered in conjunction with our first report, submitted on November 21, 2013. That first report presents district-wide survey findings, including the findings of our analysis of the open-ended prompt regarding how respondents would describe the role they would play during release time as a teacher leader to advance student learning and other goals for their schools. What follows sheds some light on the findings we surfaced in our initial report.

Major findings

We found relatively few differences in the ways the different groups of respondents answered questions in the survey. The differences we did find are both interesting and instructive for considering teacher leadership development.

Much like the findings of our analysis of responses to the open-ended prompt (see the first report), the findings here are consistent with what we might expect from a reading of research on teacher leadership and leadership development from classroom practitioners. In the sections below, we focus on those differences in response patterns that we found to be statistically significant.

Differences by years of experience

Two-hundred-and-fifty-one respondents reported their years of experience in response to Question #49. Of these respondents, 29 (12%) reported 1-3 years of experience, 25 (10%) reported 4-5 years of experience, 52 (21%) reported 6-10 years of experience, 89 (42%) reported 11-20 years of experience, 41 (16%) reported 21-30 years of experience, and 15 (6%) reported more than 30 years of experience.

We found several statistically significant differences in responses according to years of experience. First, we found several differences in responses to parts of Question #33: "Teachers typically engage in the following kinds of collaboration and work." These differences are shown in the Tables 1, 2 and 3 below.

Table 1: Collaborating with colleagues across districts (N=252, p= .034)

Experience	Mean	N	Standard Deviation
1-3 Years	1.52*	29	.688
4-5 Years	1.16	25	.374
6-10 Years	1.25	52	.437
11-20 Years	1.26	89	.512
21-30 Years	1.15	42	.422
30+ Years	1.13	15	.352

** $p \leq .05$. *** $p \leq .01$

Table 2: Collaborating with teachers outside the district (N=251, p=.005)

Experience	Mean	N	Standard Deviation
1-3 Years	1.59**	29	.733
4-5 Years	1.24	25	.597
6-10 Years	1.13	52	.444
11-20 Years	1.18	89	.555
21-30 Years	1.24	41	.582
30+ Years	1.00	15	.000

** $p \leq .05$. *** $p \leq .01$

Table 3: Representing the school at public meetings (N=250, p=.004)

Experience	Mean	N	Standard Deviation
1-3 Years	1.59**	29	.628
4-5 Years	1.32	25	.557
6-10 Years	1.17	52	.382
11-20 Years	1.21	89	.439
21-30 Years	1.25	40	.494
30+ Years	1.13	15	.352

** $p \leq .05$. *** $p \leq .01$

Table 1 indicates that respondents with 1-3 years teaching experience report significantly more frequent occurrences of collaboration with colleagues across the district than teachers with 21 or more years of experience. Table 2 indicates that respondents with 1-3 years of teaching experience report more frequent occurrences of collaboration with teachers outside the district than teachers with 6-10 and 11-20 years of experience. Similarly, Table 3 indicates that respondents with 1-3 years of teaching experience report more frequent occurrences of representing the school at public meetings than teachers of all other years of experience.

Overall, these findings indicate that respondents with the least years of teaching experience (i.e., teachers early in their careers) are engaged more frequently than their more experienced counterparts in outside-of-the-building collaboration and in representing their schools to the public. It is difficult to know how to interpret these findings. One possible explanation is that beginning teachers may be more "energized" and more inclined to take on such activity voluntarily. Another possibility is that they may be appointed to such tasks and activities by their building administrators or more experienced colleagues because more experienced colleagues may be engaged in other activities. It might be useful to explore possible explanations for this difference further. There is a good argument to be made that beginning teachers need time to "learn to teach" and that they might be most successful in the long run if their efforts were focused on a limited range of activities. Research indicates that the highest rates of teacher attrition occur during the first five years of practice, and that work overload and role fragmentation play roles in attrition.[1] On the other hand, depending on the nature of it and the time required, school-level and district-level activity may make important contributions to beginning teachers' professional learning, socialization, and development.

While the differences here might sound a note of caution for beginning teachers, it is important to note that the reported frequencies of occurrence of these activities are low, even for beginning teachers who engage in them most relatively often. The average reports of occurrence for beginning teachers fall between "monthly" (coded 2) and "less often [than monthly]" (coded 1). The averages (means) for beginning teachers for "collaborating with colleagues across district," "collaborating with teachers outside the district," and "representing the school at public meetings" are 1.52, 1.59, and 1.59 respectively. Averages for more experienced respondents are even less.

Differences by grade levels taught (school level)

We found several differences in responses associated with the grade level taught by respondents. Of the 251 respondents who answered Question #46, 108 (43%) teach/work at the elementary school level (PK-5), 52 (21%) teach/work at the middle school level, 81 (32%) teach/work at the high school level, and 11 (4%) teach/work across these levels (PK-8, 6-12 or PK-12).

The first difference among grade or school levels was found in responses to Question #2: "Which of the following descriptions most closely aligns with the way you would currently define 'teacher leadership' as it exists at your school today?" The responses choices for this question were as follows and were coded as indicated:

4 = Formal or informal roles that spread teachers' expertise to colleagues, offer rewards (of money or released time) to encourage this work, and allow space for teachers to generate their own solutions to challenges in a school.

3 = Formal or informal roles intended to support collaboration and teamwork within a school (e.g., PLC facilitators).

2 = Formal or informal roles meant to improve instructional practice or implement new programs in a school or district (e.g., mentors, instructional coaches, peer evaluators, curriculum designers).

1 = Formal positions designed to make a school operate more efficiently (e.g., department heads, grade level chairs).

As shown in Table 4 below, respondents at the elementary school level were more likely to describe teacher leadership as it currently exists in their schools as between "formal or informal roles meant to improve instructional practice or implement new programs in a school or district" (Response 2) and "formal or informal roles intended to support collaboration and teamwork within a school" (Response 3). Respondents at the middle and high school levels were more likely to describe teacher leadership as closer to Response 2 or between Responses 1 and 2.

Table 4: Which of the following descriptions most closely aligns with the way you'd currently define "teacher leadership" as it exists at your school today? (N=240, p<.001)

Role	Mean	N	Standard Deviation
Elementary	2.41***	107	.921
Middle	1.60	52	.869
High	1.98	81	.894
PK-8	---	3	---
6-12	---	4	---
PK-12	---	4	---

** $p \leq .05$. *** $p \leq .01$

Differences among grade levels were also found in responses to two questions regarding teachers' involvement in and influence on decision-making in their schools regarding instruction (Questions #10 and #11). These differences are shown in Tables 5 and 6 below.

Table 5: Teachers are involved in decision-making processes related to instruction (N=251, p<.001)

Role	Mean	N	Standard Deviation
Elementary	3.07	107	.669
Middle	3.06	52	.639
High	3.46***	81	.633
PK-8	---	3	---
6-12	---	4	---
PK-12	---	4	---

** $p \leq .05$. *** $p \leq .01$

Table 6: Teachers influence decisions related to instruction (N=251, p=.021)

Role	Mean	N	Standard Deviation
Elementary	3.10	107	.658
Middle	3.12	52	.704
High	3.43**	81	.651
PK-8	---	3	---
6-12	---	4	---
PK-12	---	4	---

** $p \leq .05$. *** $p \leq .01$

These findings indicate that teachers at the high school level are more likely to report that they are involved in decision making processes related to instruction than their elementary and middle school counterparts. High school teachers are also more likely to report that they have influence over decisions related to instruction than their elementary school counterparts.

The sizes of the average (mean) responses at all school levels are again important to note. At the high school level, average involvement in instructional decision making falls between “always or nearly always” (coded 4) and “sometimes” (coded 3), whereas at the elementary and middle school levels average levels of involvement are closer to “sometimes” (coded 3). Average reports of influence over instructional decisions are similar. Without knowing a great deal about the specific organization and workplace environments of elementary schools, the middle school, and the high school in Bettendorf, it is likely that the higher reports of involvement and influence in instructional decision making at the high school level are related to the work of teachers and the processes of curricular and instructional decision making within subject matter department structures.[2]

Further differences among grade levels were found in responses to three questions concerning teachers’ opportunities to learn from others within their schools (Questions #30, #31, and #32). These differences are shown in Tables 7, 8, and 9 below.

Table 7: Teachers see the principal and assistant principals as teaching experts (N=250, p<.001)

Role	Mean	N	Standard Deviation
Elementary	2.81***	106	.770
Middle	2.58	52	.696
High	2.26	81	.755
PK-8	---	3	---
6-12	---	4	---
PK-12	---	4	---

** $p \leq .05$. *** $p \leq .01$

Table 8: Teachers have opportunities to observe one another teacher (N=251, p<.001)

Role	Mean	N	Standard Deviation
Elementary	1.56	107	.755
Middle	1.69	52	.897
High	2.38***	81	.768
PK-8	---	3	---
6-12	---	4	---
PK-12	---	4	---

** $p \leq .05$. *** $p \leq .01$

Table 9: Teachers have opportunities to team with colleagues (N=251, p=.023)

Role	Mean	N	Standard Deviation
Elementary	1.76	107	1.106
Middle	2.42**	52	1.258
High	2.07	81	1.491
PK-8	---	3	---
6-12	---	4	---
PK-12	---	4	---

** $p \leq .05$. *** $p \leq .01$

These tables indicate that elementary schools teachers are more likely than respondents at the high school level to view their principals and assistant principals as teaching experts. The sizes of the means are important to note. The response scale for this item ranged from “strongly agree” (coded 4) to “strongly disagree” (coded 1). Average responses for all levels are between “agree” (coded 3) and “disagree” (coded 2) which suggests that even though

responses at the elementary level fall closer to "agree" than "disagree" and responses at the high school level fall closer to "disagree" than "agree" the opinions at all levels might best be thought of as "mixed."

On the other hand, respondents at the high school level report greater opportunity to observe others' teaching than respondents at the elementary or middle school levels, whereas respondents are the middle school level report greater opportunity than respondents at the elementary level that they have opportunities to team with colleagues. Again, the sizes of the means are important to note. The response scales for these items are "more than once a month" (coded 4), "about once a month" (coded 3), "once or twice a year" (coded 2), and "never" (coded 1). The largest means for both these items fall between "once or twice a year" (2) and "about once a month" (3). ***Neither is particularly frequent, even for those levels at which the greatest frequency is reported.***

There are several possible explanations for these differences. First, it is possible that at the elementary level the nature of school organization and administrative work provides greater opportunity for principals and assistant principals to work "closer" to the classroom than at middle or high school levels, where school organization is more complex and the nature of administrative work may take principals and assistant principals "farther away" from the classroom.[3] And if this is correct, such proximity may create greater opportunity at the elementary level for principals and assistant principals to convey their teaching expertise or be perceived for such expertise.

The greater frequency for peer observation at the high school level may be related to proximity to fellow teachers within department structures and to the nature of work within those structures that might create opportunities and need for curricular and instructional coordination within departments. The greater frequency for teaming with colleagues at the middle school level may be related to house or inter-disciplinary team structures.[4] We do not know if these structures exist at the middle schools in Bettendorf, but if they did exist, these structures would be a good place to begin to explore explanations for the difference. It is important for the district's leadership to investigate which schools offer more opportunities for teachers to see each other teach—and how and why. Structured peer observations serve as a powerful catalyst of teacher leadership that makes a difference for student learning.

The last difference we found related to grade level was in responses to Question #33 which asked about the frequency in which respondents engaged in particular collaborative and leadership work activity. As shown in Table 10 (below), we found that high school teachers reported greater instances of writing about their teaching and other leadership work for external publication than respondents at the elementary and middle school levels. While this difference is statistically significant, these data suggest instances of writing for respondents at all levels is likely to be very infrequent (2 = monthly, 1 = less often).

Table 10: Writing about their teaching and other leadership work for external publication (N=251, p<.001)

Role	Mean	N	Standard Deviation
Elementary	1.01	107	.097
Middle	1.08	52	.268
High	1.30***	81	.558
PK-8	---	3	---
6-12	---	4	---
PK-12	---	4	---

** $p \leq .05$. *** $p \leq .01$

We point out these findings because writing for publication has been found—also—to be an important tool to cultivate teacher leadership

Differences between current and envisioned definition of teacher leadership

Finally, we found a statistically significant difference between teachers' views of their leadership as it is currently perceived and as they envision it (Questions #2 and #3). As shown in Table 11 below, on average respondents defined teacher leadership in their schools currently in terms of "formal or informal roles meant to improve instructional practice or implement new programs in a school or district (e.g., mentors, instructional coaches, peer evaluators, curriculum designers)" (coded 2). On average respondents described or defined teacher leadership envisioned in their schools more in terms of "formal or informal roles intended to support collaboration and teamwork within a school (e.g., PLC facilitators)" (coded 3). (And this "envisioned" definition is similar to several role categories that respondents identified in answers to the open-ended prompt at the end of the survey.)

Table 11: Comparison of teacher leadership definition now and after implementation (p<.001)

	Mean	N	Standard Deviation
Now	2.09	259	.966
After implementation	2.64***	259	1.014

** $p \leq .05$. *** $p \leq .01$

The difference in the way that teachers, on average, answered Questions #2 and #3 suggest several things. Primarily, it suggests that teachers are expressing a preference for a future state of teacher leadership that emphasizes collaboration, teamwork, and community rather leadership that is based on role distinction and perhaps role hierarchy and division (e.g., mentor-mentee, coach-the coached, evaluator-the evaluated). The difference suggests further, as we noted in the first report regarding responses to the open-ended prompt, an orientation toward leadership not from the "top-down" but leadership from "the middle" or even from "behind." It suggests an

orientation toward teacher leadership that would promote improvement through collegial facilitation, development, and the enabling of others.

ENDNOTES

[1] Ingersoll, R. M. (2003). Who controls teachers' work? Power and accountability in America's schools. Cambridge, MA: Harvard University Press.

[2] Johnson, S. M. (1990). *Teachers at work: Achieving success in our schools.* New York, NY: Basic Books; Lee, V. E., Bryk, A. S., & Smith, J. B. (1993). The organization of effective high schools. Review of Research in Education, 19, 171-267; McLaughlin, M. W., & Talbert, J. E. (2001). Professional communities and the wor of high school teaching. Chicago, IL: University of Chicago Press.

[3] Lortie, D. C. (2009). *School principal: Managing in public.* Chicago, IL: University of Chicago Press; Morris, V. C., Crowson, R. L., Porter-Gehrie, C., & Hurwitz, E., Jr. (1984). *Principals in action: The reality of managing schools.* Columbus, OH: Charles E. Merrill; Rousmaniere, K. (2013). *The principal's office: A social history of the American school principal.* Albany, NY: State University of New York Press.

[4] Pounder, D. G. (1999). Teacher teams: Exploring job characteristics and work-related outcomes of work group enhancement. *Educational Administration Quarterly, 35*(3), 317-348.

Appendix

In this report CTQ researchers looked for variances in how different groups of respondents answered Questions #2-45 in the survey. These questions are reproduced below. Answer choices for each question can be found in the survey itself. Some are discussed in this report to help describe and explain our findings. For purposes of analysis, answer choices were coded on numerical scales where the largest number on the scale represents the most positive opinion or the most frequent occurrence, whereas the lowest number on the scale represents the least positive response or the least frequent occurrence. For example, on an agree-disagree answer scale, 4 was assigned to "strongly agree," 3 was assigned to "agree," 2 was assigned to "disagree," and 1 was assigned to "strongly disagree."

In addition to testing for differences in responses to Questions #2-45, we wanted to see if, overall, there was a significant difference in the ways that respondents answered Questions #2 and #3. That is, we wanted to see if definitions of teacher leadership envisioned for the future were similar to or different than definitions of teacher leadership as it currently exists in respondents' schools.

All analyses were conducted by first calculating means and standard deviations for responses to each question, then using one-way analyses of variance to identify differences among means, and finally employing post hoc Tukey tests to determine whether differences found were statistically significant. We set statistical significance at both the .05 or less level and the .01 or less level, meaning in the first instance a 1% and 5% chance that a difference occurred by chance, and in the second instance a 1% or less chance that a difference occurred by chance.

The questions analyzed for this report included the following:

- Q2: Which of the following descriptions most closely aligns with the way you'd currently define "teacher leadership" as it exists in your school today?
- Q3: Which of the following descriptions most closely aligns with the way you'd currently define "teacher leadership" as you envision it in your school after implementation of the teacher leadership system?
- Q4: I consider this proportion of my school's staff to be teacher leaders.
- Q5: I think this proportion of my school's staff consider themselves to be teacher leaders.
- Q6: Which of the following descriptions most closely aligns with the way you'd currently define "teacher leadership" as it exists in most schools through the district today?
- Q7: Which of the following descriptions most closely aligns with the way you'd currently define "teacher leadership" as you envision it in most schools through the district after implementation of the teacher leadership system?
- Q8: I consider this proportion of the district's teaching staff to be teacher leaders.
- Q9: I think this proportion of the district's teaching staff consider themselves to be teacher leaders.
- Q10: Teachers are involved in decision-making processes related to instruction at my own school.
- Q11: Teachers influence decisions related to instruction at my own school.
- Q12: Teachers are involved in decision-making processes related to non-instructional issues (schedules, budgets, staffing, etc.) at my own school.
- Q13: Teachers influence decisions related to non-instructional issues (schedules, budgets, staffing, etc.) at my own school.
- Q14: Some teachers are more influential with their colleagues than others at my own school.

- Q15: Teachers are involved in decision-making processes related to instruction at most schools in the district.
- Q16: Teachers influence decisions related to instruction at most schools in the district.
- Q17: Teachers are involved in decision-making processes related to non-instructional issues (schedules, budgets, staffing, etc.) at most schools in the district.
- Q18: Teachers influence decisions related to non-instructional issues (schedules, budgets, staffing, etc.) at most schools in the district.
- Q19: Some teachers are more influential with their colleagues than others at most schools in the district.
- Q20: Every staff member feels equally able to volunteer her opinion about challenges, plans, and programs in our building—whether she is an administrator, teacher, coach, or other member of our school personnel at my own school.
- Q21: Teachers volunteer their own ideas about ways to address challenges in our building.
- Q22: Teachers are supported to implement their own solutions to challenges in our building.
- Q23: Teachers can access professional learning opportunities that help them to lead as well as execute new programs and solutions to challenges.
- Q24: Every staff member feels equally able to volunteer her opinion about challenges, plans, and programs in our building—whether she is an administrator, teacher, coach, or other member of our school personnel at most schools in the district.
- Q25: Teachers volunteer their own ideas about ways to address challenges in their buildings.
- Q26: Teachers are supported to implement their own solutions to challenges in their buildings.
- Q27: Teachers can access professional learning opportunities that help them to lead as well as execute new programs and solutions to challenges at most schools in the district.
- Q28: Teachers know who the teaching experts are in the building at my own school.
- Q29: Current teacher leaders are respected by their colleagues for their teaching at my own school.
- Q30: Teachers see the principal and assistance principals as teaching experts at my own school.
- Q31: Teachers have opportunities to observe one another teaching at my own school.
- Q32: Teachers have opportunities to team teach with colleagues at my own school.
- Q33: Teachers typically engage in the following kids of collaboration and work at my own school.
- Q34: Teachers and staff collaborate via face-to-face meetings at my own school.
- Q35: Teachers and staff collaborate via virtual tools at my own school.
- Q36: When teachers are involved in collaborations or meetings, they co-develop the agenda and activities with other staff at my own school.
- Q37: Teachers know who the teaching experts are in the building at most schools in the district.
- Q38: Current teacher leaders are respected by their colleagues for their teaching at most schools in the district.
- Q39: Teachers see the principal and assistance principals as teaching experts at most schools in the district.
- Q40: Teachers have opportunities to observe one another teaching at most schools in the district.
- Q41: Teachers have opportunities to team teach with colleagues at most schools in the district.
- Q42: Teachers typically engage in the following kids of collaboration and work at most schools in the district.
- Q43: Teachers and staff collaborate via face-to-face meetings at most schools in the district.
- Q44: Teachers and staff collaborate via virtual tools at most schools in the district.
- Q45: When teachers are involved in collaborations or meetings, they co-develop the agenda and activities with other staff at my own school