

TEACHING TEACHERS:
PERCEPTIONS OF DISTRICT-LEVEL
PROFESSIONAL DEVELOPMENT IN
METRO NASHVILLE PUBLIC
SCHOOLS



LaToya R. Anderson & Brian W. Polk

VANDERBILT UNIVERSITY

MAY 2018



Table of Contents

Tables and Figures	3
Executive Summary	4
Introduction	6
Background and Context	12
Project Design and Methodology	15
Data Analysis and Findings	19
Patterns of Teacher Engagement	19
Perceptions of Quality	33
Impact on Teacher Practice	44
Discussion and Interpretation	58
Recommendations and Conclusion	63
References	66
Appendices	67
Appendix A: Principal Recruitment Letter	67
Appendix B: Focus Group Guide	68
Appendix C: Conceptual Framework Linked to Data Collection Strategy	69



Tables & Figures

Tables

1. Survey Sample Demographics.....	16
2. Focus Group Selection Rationale	17
3. Professional Days Used in MNPS	20
4. Engagement: Female Teachers	22
5. Engagement: Male Teachers	22
6. Engagement: Black Teachers	23
7. Engagement: White Teachers	23
8. Engagement: Elementary Teachers	24
9. Engagement: Secondary Teachers	24
10. Engagement: Content Area	24
11. Engagement: Certification	25
12. Teachers’ Motivations for Signing Up for MNPS Professional Development	30
13. Motivation: Professional Development as a Professional Responsibility	31
14. Quality: Perceived Value of Professional Development	33
15. T-tests for Perceived Quality: Collaboration and Duration.....	34
16. Perceived Quality and Value of District-Level Professional Development	35
17. Perceived Quality of District-Level Professional Development: Content-Focus	37
18. Perceived Quality of District-Level Professional Development: Models Effective Practices	41
19. Perceived Quality of District-Level Professional Development: Sustained Duration	43
20. Descriptive Summary of MNPS Professional Development Utilization and TEAM Level of Overall Effectiveness Scores 2014-2017	44
21. Descriptive Statistics for MNPS TEAM Growth	45
22. Three-Year TEAM Growth & Three-Year Total Hours of Professional Development Utilized	45
23. Linear Regression: Hours of MNPS Professional Development and Perceived Impact	46
24. Perceived Impact: Female Teachers	51

25. Perceived Impact: Male Teachers51

26. Perceived Impact: Black Teachers52

27. Perceived Impact: White Teachers52

28. Perceived Impact: Mathematics and Science Teachers53

29. Perceived Impact: English Language Arts Teachers53

30. Perceived Impact: Humanities Teachers53

31. Perceived Impact: Elementary Teachers (All Subjects)53

32. Perceived Impact: Teachers with Traditional Certification54

33. Perceived Impact: Teachers with Alternative Certification54

34. Perceived Impact: Teachers with Bachelor’s Degrees (Highest Level)55

35. Perceived Impact: Teachers with Master’s Degrees (Highest Level)55

36. Perceived Impact. Teachers with Doctorate and Specialist Degrees (Highest Level)55

37. Perceived Impact: Elementary Teachers (Grades K-4)56

38. Perceived Impact: Secondary Teachers (Grades 5-12)56

39. Quality: Fall 2017 MNPS Professional Development Catalog (n=80 sessions)62

Figures

1. Conceptual Framework.....15

2. Mixed Methods approach.....16

3. Teacher Focus Group School Selection Matrix19

4. Engagement in Professional Development and Perceived Instructional Impact23

5: Comparison of Means of Quality.....37

6. Perceived Impact: MNPS Professional Development, TEAM, and Practice.....51

7. Key Elements of High Quality Professional Development.....64

Executive Summary

This report was requested by Metro Nashville Public Schools (MNPS) to examine teachers' perceptions of district-level professional learning experiences in Metro Nashville Public Schools. In analyzing how teachers think about the quality of professional learning and the determining factors related to their engagement, we hoped to make recommendations to help reframe quality, engagement, and impact of MNPS professional development.

We used a mixed-methods research design to explore the project questions in a rigorous, systematic manner. First, we created a teacher survey, which we adapted from several existing measures. It was disseminated to 200 elementary, 200 middle, and 200 high school teachers, with a response rate of 32.4%. Our sample did reflect the general demographics of teachers in the district fairly well, although teachers in our survey had fewer years of teaching experience on average than did the general MNPS population. To further this analysis, we created scales for school organization, faculty culture, and quality. Additionally, we used MNPS data, which included two years (2014-2015 and 2015-2016) of TEAM Level overall effectiveness scores and hours of professional development taken. Finally, we conducted teacher focus groups at six schools, purposefully selected to provide variety by grade tier, level of economic disadvantage, and engagement in MNPS professional development.

Findings

How are patterns of teacher engagement in professional development related to professional contexts and district policies?

- Teachers saw professional development as a responsibility and important for improving instruction.
- MNPS professional development was under-utilized.
- It is unclear which elements of school organization (i.e., securing a substitute teacher, lesson planning, administrator support, and logistical challenges) were related to teachers' engagement in MNPS professional development.
- Faculty culture (i.e., the degree to which they considered their school to be a learning community, mentor relationships, collaboration) was related to teachers' engagement in MNPS professional development.
- There were interesting distinctions by teacher characteristics as related to engagement in MNPS professional development, especially by teachers' career stage.

How do teachers in MNPS perceive the quality of professional development?

- Overall, teachers saw MNPS professional development as having many indicators of quality.
- There were interesting distinctions by teacher characteristics as related to perceptions of quality of MNPS professional development,

especially by teachers' grade tier and career stage.

To what extent does professional development offered by MNPS impact teacher practice?

- In general, teachers believe that MNPS professional development has some impact on classroom practice.
- Teachers saw MNPS professional development as having little direct impact on TEAM scores.
- Teachers saw duration of sessions offered by MNPS as being related to improved classroom practice.

Cross-Cutting Themes

- Differentiation: Teachers asked for professional development to be differentiated for them by content area, level of expertise, format, and cluster.
- Adult Learning Theory: Teachers felt that it was critical that choices related to their own learning goals and their feedback be built into the cycle of MNPS professional development (planning, design, and implementation).
- Rock Star Presenters: These were individuals who were able to boost engagement, improve the quality sessions through differentiation and problem solving, and who cultivated relationships to help teachers to translate their learning into actual teaching practice.
- Mixed Messages: Administrative support and other positive aspects of faculty culture were undercut by logistical concerns that made it difficult to pursue district-level professional learning experiences.

Recommendations

Address school and district policy concerns. Strategize with principals and teachers to circumvent school and district level logistical constraints to engaging in district professional development.

Leverage existing job-embedded professional development structures. Combine high quality, district-level professional development sessions with effective job-embedded instructional coaching that are intentionally linked to promote sustained duration.

Gather data on teachers' perceptions of quality. Consistently gather and use post-session evaluations to determine perceived quality and support for planning future professional learning opportunities.

Seek out the non-choosers. Intentionally seek out the opinions of teachers who do not engage in MNPS professional development. Consider leveraging alternative models of professional learning.

Prioritize differentiation. Differentiate professional learning experiences by teachers' level of experience with a topic, course content, or even by geographic cluster/quadrant. Consider a variety of professional development models and methods of delivery to be responsive to teacher and student data.

Shift focus to implementation. Develop a mechanism for supporting teachers in successful implementation of professional learning by concentrating on lagging indicators of high quality professional development in workshop design (i.e., coaching, feedback, and reflection)

Introduction

“Perhaps the most damning indictment of PD [professional development] is that even teachers themselves regard it with contempt,” - Frederick Hess, American Enterprise Institute

The assertion that high quality teaching is a top predictor of student achievement is well documented in educational literature. (Hightower et. al. 2011). Schools that are seeking high quality teachers have two options: hire great teachers or help the teachers already in the building to improve their teaching. The dominant mechanism for achieving teacher growth and improvement includes a number of activities related to professional development, which is broadly defined as an attempt to improve both teacher practice and student outcomes. It is estimated that schools in the United States spend close to 18 billion dollars a year providing professional development to 3.5 million teachers (Bill & Melinda Gates Foundation, 2015). Further, as demands placed on teachers by reforms and calls for developing “soft skills” increase, the stakes have never been higher. Schools need great teachers, and high quality professional development is the best way to meet that need.

While professional learning experiences in Metro Nashville Public Schools take place at both the district and school levels, the focus of this project is on district-level professional development and primarily those connected to curriculum and instruction. These opportunities are published in the Fall, Spring, and Summer

Professional Development Catalogs, which describe the session offerings in which teachers may choose to engage. For context, teachers in MNPS are allocated five days for professional development each school year, and they are offered an additional stipend if they choose to attend sessions that take place on the weekend or during the Summer session. The overall goal of these offerings is to help to improve teacher practice and thus increase student achievement.

Application of Findings: Theory of Change

By evaluating the perceptions of quality, motivation and context for engagement, and analyzing the data regarding both engagement and teacher practice, the district leaders will be able to systematize their approach to improving the quality of teaching practices and ultimately increase student learning.

It is our hope that by applying this theory of change, MNPS will be able to refine the design and implementation of high quality professional development at the district level gaining a more nuanced understanding teacher motivation, engagement in professional development, and the mechanisms by which teachers apply their learning to their instructional practices. Furthermore, our findings will

help district leaders, instructional coaches, administrators, and teachers to reframe their thinking about professional development and its role in carrying out the

mission and vision set forth in the human capital development section of the MNPS Strategic Framework (2017).

Project Questions

To better understand and thus offer meaningful recommendations to improve the professional development offered by MNPS, we asked the following questions:

1. How are patterns of teacher engagement in professional development related to professional contexts and district policies?
2. How do teachers in MNPS perceive the quality of professional development?
3. To what extent does professional development offered by MNPS impact teacher practice?

Based on our review of extant research, we will describe professional development within an overarching conceptual framework that includes antecedents, quality, and outputs (Appendix C).

Antecedents: Setting the Stage for Professional Learning

First, we considered the antecedents to effective professional development. Both the context and motivations that exist prior to professional learning are critical to understanding the context and motivation for engaging in professional learning experiences. In considering both formal and informal learning opportunities, the existing research suggests that teachers who experience collaborative school cultures are more likely to engage in professional development, to find it meaningful, and to incorporate their learning into their own practice (Jensen, Sonnemann, Roberts-Hull, & Hunter, 2016; Kyndt, Gijbels, Grosemans, & Donche, 2016).

Review of Literature

The definition of professional development has evolved over the last two decades to include more than traditional, formal teacher workshops, and experts in the field now recognize job-embedded, social, and informal learning as worthy of consideration (Borko, 2004; Desimone, 2009). Additionally, professional learning has been analyzed from a situative perspective that acknowledges that learning occurs across multiple contexts (e.g., traditional workshops, discourse-based professional learning communities, social advice-seeking networks) (Borko, 2004; Desimone, 2009; Elmore, 2000; Little, 2002).

Facilitative conditions for professional learning are created when administrators and coaches work proactively to connect “professional learning directly to teacher needs” (Jensen et al., 2016). They do this by making space for teachers to observe others’ lessons and for regular collaboration with the ultimate goal of helping teachers to continuously improve their practice (Jensen et al., 2016). Teachers, of course,

are not only motivated by these external requirements and structures, but they may see professional learning as a central professional obligation and as a lever for increasing teacher efficacy (Cravens, Drake, Goldring, & Schuermann, 2017; Jensen et al., 2016).

For the purpose of this analysis, we will focus on school characteristics that provide insight regarding the contextual factors that may inform teachers' perceptions of quality and/or engagement in professional development, and its subsequent impact on instructional practices. Some school characteristics that we will consider include, but are not limited to, school organization, administrative support, and evidence of collaborative faculty culture and learning stance.

Quality: How is Professional Development Evaluated?

Much of the work on professional development has been concerned with establishing indicators of quality. Having a core set of indicators of quality professional development is an attractive notion for those who wish to elevate the field of study. Researchers, policymakers, administrators, and teachers would have a common mechanism for decision-making about professional development (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017; Desimone, 2009).

There is some agreement, but the list is not exhaustive. Policymakers, researchers, and teachers reinterpret quality in light of the student achievement and accountability mechanisms, institutional isomorphism, and the current policy landscape. With that caveat, some core elements of high quality professional development are:

- Professional development links to content area and how students learn (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017; Desimone, 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001).
- Participating teachers have a chance to actively practice what they are learning (Darling-Hammond et al., 2017; Desimone, 2009; Desimone, Porter, Garet, Yoon, & Birman, 2002).
- Collective participation with others who teach in the same or similar contexts is encouraged to foster collaboration (Darling-Hammond et al., 2017; Desimone, 2009; Garet et al., 2001).
- The professional development is of “sustained duration” (Darling-Hammond et al., 2017; Desimone, 2009).
- The professional development uses models of effective practice (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017).
- Teachers are provided with coaching and expert support (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017).
- Participating teachers are encouraged to offer feedback and to reflect on their own learning (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017).

While each of these elements is important, sustained duration may be the mechanism by which other elements of quality can take place. DeMonte (2013) points out that “short-term, episodic, and disconnected professional learning” does little to improve teacher practice or student performance, largely due to a lack of duration. She goes on to propose “that programs had to include more than 14 hours of professional development for student learning to be affected” (Yoon et. al. 2007). We recognize that quality of professional development can be somewhat subjective and relate to certain teacher characteristics. For example, teachers’ career stages and the degree to which teachers see the learning as aligned with their other teaching activities is related to their perception of the quality (Desimone, 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001).

For the purposes of our analysis, we defined quality professional development as learning experiences that are content-focused, incorporate active learning, are of sustained duration, models effective practices, provides opportunity for collaboration, provides coaching, and has built-in feedback and reflection.

There is also a connection to the existing literature on adult learning theory, posits that adults learn in ways that are rather different from those of younger students. First, adult learners prefer to be approached as fellow experts, recognizing the richness of their varied and diverse experiences. Professional development that involves strategies and insights are far more effective at improving actual teaching practice than experiences that attempt to prescribe solutions or convey purely conceptual knowledge (Kennedy, 2016).

That is to say, adults’ learning has to relate to their everyday life/work and not simply rely on concepts/theories in order to be perceived as having value (Glazer & Peurach, 2015).

Furthermore, adults need to have a say in determining the goals, content, and process of their learning experience, so they can be coached to fit relevant information into their existing schema (Curtis, 2010; Glazer & Peurach, 2015). Once they have contributed to the decision-making regarding the conditions of their work and the measures of their own success, adults can more easily find the learning experience to be personally and professionally meaningful (Glazer & Peurach, 2015).

In addition, adult learning theory suggests that treating all participants’ real-world experience as valuable minimizes the threat of an unspoken requirement for them to heedlessly abandon current practices; thus some problems of enactment are eliminated (Kennedy, 2016). Facilitators and leaders are encouraged to acknowledge their own limitations and encourage collective work to ensure that participants get the “knowledge, skills, and supports” necessary to make instructional improvement feasible; otherwise, policy and structural changes will be meaningless (Feiman-Nemser 2001). Framing educational reform in terms of shared expertise also has the potential to contribute to the professionalization of the teaching practice (Diamond, 2012).

Finally, adult learners need to be encouraged to share their expertise within an atmosphere that is feedback-friendly and engages them in critical thinking about the work. As professional learning

communities become more responsive to changing educational needs, content and pedagogical expertise will improve, building an impetus for culturally responsive teaching and learning (Diamond, 2012). John B. Diamond's work on accountability policy and school organization argues that teachers' advice-seeking networks are limited by the quality of ideas and experience levels of the people who also work in their buildings. It seems that these social networks, or in this case informal professional learning opportunities, are also important to fostering the development of professional educators (Diamond, 2012). If professional development opportunities, both informal and formal, can create cohorts of like-minded individuals, a cohort effect could achieve collective goals rather than just individual ones (Desimone, Porter, Garet, Yoon, & Birman, 2002).

Output: Implementation & Impact on Teacher Practice

From a broader perspective, research is beginning to show that the format of the professional development is very important. Research commissioned by the Gates foundation in 2015 confirmed what many teachers already know: the majority of the many hours teachers spend each year doing professional development is in a workshop format - sit and get. The workshop model (or sit and get) seems to be particularly problematic. In a two-year study of professional development for math teachers conducted by the American Institutes for Research (AIR), researchers found no statistically significant impact on teacher knowledge or student achievement (AIR 2013). In other research by the AIR, it was reported that the professional development they studied did improve

teacher knowledge, but not student performance.

Demonte (2013), in a study of effective professional development, further highlights the shortcomings of the workshop model and advocates instead for professional development that follows a coaching model as a mechanism for improving teacher practice and student learning. She goes on to discuss the success that Houston Independent School District has enjoyed by moving from a professional development that consists completely of workshops to a model that relies heavily on instructional coaches.

In a meta-analysis of close to 1,300 studies of professional development, Matt Kraft and colleagues (2016) reached a similar conclusion as DeMonte (2013). They were able to demonstrate significant effect sizes by combining effective workshops with effective coaching defined as "all in-service PD programs where coaches or peers observe teachers' instruction and provide feedback to help them improve." The key benefit of coaching models seems to be that teachers are guided through the process of implementing their learning in their own contexts over a sustained period of weeks, months, or even years. By focusing on collaboration and sustained duration, comprehensive professional development models like these have the potential to affect teacher practice and student learning. This latest wave of professional development research casts significant doubt upon the workshop model and its ability to improve teacher practice and subsequent student outcomes significantly.

In the vast amount of scholarly research on this topic, researchers determine impacts through both outcomes (e.g., the difference in student achievement) and outputs (e.g., teacher engagement in professional development) (Darling-Hammond et al., 2017; Garet et al., 2001; Kennedy, 2016; Kyndt et al., 2016). Teachers are more likely to apply what they have learned in professional development when the content is “practical, relevant, useful, and

meaningful for their own classrooms” (Kyndt et al., 2016). The improvement is often incremental, and teachers alter their instructional practices significantly in the year following professional development; it is as if the passage of time is necessary for the integration of new knowledge, insights, and strategies into existing teaching routines (Garet et al., 2001; Kennedy, 2016).

Background & Context

Located in Davidson County, Metropolitan Nashville Public Schools (MNPS) is the second largest school district in Tennessee. As a large urban district spanning more than 500 square miles, it serves more than 88,000 students in 169 schools. The district employs more than 5000 teachers, and approximately 15% are new hires each year. As one could predict with a school district of this size, there is not a uniform teacher experience. The diversity of necessary professional competencies for teachers in varied school contexts are as diverse as the students they teach. As could be expected, “providing professional learning opportunities across the district is a massive undertaking” (Williams, 2017).

Just as teachers in the district are expected to engage in culturally responsive pedagogy, they are charged with meeting the diverse instructional needs of all students. For instance, 17.6% of students were English learners, 12.8% were students with disabilities, and 53.9% of students were economically disadvantaged during the 2015-2016 school year (Allen & McElroy, 2016). These data represent the depth of professional expertise, teacher practices, and instructional competencies that teachers in MNPS need to curate in order to be effective practitioners. Because of the amount of professional development and learning necessary for supporting the teaching force in a district of this size, some study of perceptions of quality and motivations for teacher engagement is both relevant and timely.

New leadership and a recent shifting of organizational priorities has triggered

structural and adaptive changes directly related to professional learning (Metropolitan Nashville Public Schools, 2017). One such reprioritization involves specific action regarding professional learning. It states that the district strives to “create a culture of collaboration and shared accountability where people are valued, supported, and personally invested in professional growth” (Metropolitan Nashville Public Schools, 2017).

The Department of Curriculum & Instruction, led by Executive Director, Dr. David Williams, has taken the lead in efforts to operationalize this goal by refining the processes by which professional learning takes place in the district. They aim to be responsive to teacher feedback while also challenging them to grow by using additive and transformative learning models (MNPS Professional Design Protocol, 2017).

We are careful here to distinguish between professional development and training for particular programs or software use. “Training” usually signals a non-instructional focus that does not necessarily “support ambitious and equitable teacher practice” (Williams, 2017).

More specifically, the scope of our project will be limited to district-level professional development opportunities – those offered by MNPS and recommended in each semester’s professional development catalog. It is the expectation that each school has some degree of professional development at the school level, whether through job-embedded professional

development coordinated by administrators, Literacy Teacher Development Specialists, instructional coaches, or teacher leaders. However, the specifics of this school-level professional development is at the discretion of each school's principal, and there is no formalized system for tracking school-level professional development. For this reason, we have chosen to limit consideration of school-level professional development to our analysis of contextual factors possibly related to teacher utilization of district-level experiences.

Description & Discussion of MNPS Program Theory

The program theory of MNPS is straightforward. The theory, as outlined earlier in this paper, is that high quality professional development offerings will improve teacher practices and thus student learning. Each professional learning experience is evaluated before release to ensure what Department of Curriculum and Instruction considers as a proper balance of content, pedagogy, and student learning, with the idea that the most effective offerings will focus on each of these domains.

Problems of Practice

In this section, we discuss the concerns identified by MNPS district leaders that formed the basis of our thinking about professional development. These problems of practice included engagement in professional development offerings, the tension between district leaders' and teachers' perceptions of quality, and the relationship between professional learning

experiences and teachers' classroom practice.

Engagement in Professional Development

Our clients are concerned about the relatively large proportion of teachers who do not participate in professional development opportunities offered by the district. This under-utilization or lack of uptake is apparent by the high number of last minute cancellations (sometimes estimated to be up to 85%). When teachers register but do not attend, the seat is most often unable to be filled due to the constraints of the online registration system, SchoolNet.

Additionally, they expressed a desire to understand the factors that may motivate that teacher participants and nonparticipants to seek out or avoid when making choices about engaging in district-level professional development. Does uptake of district-level professional development vary across quadrants, tiers, teacher characteristics (e.g., educational attainment, career stage, motivation)? On the contrary, there may be existing school conditions (e.g., economic disadvantage, student achievement) and/or district policies (e.g., licensure, evaluation) that facilitate or constrain participation. These questions have yet to be explored, so district leaders have limited information to use for planning their approach to addressing the problem of engagement.

Quality of Professional Development

MNPS has made efforts over the past two years to systematize and codify their approach to designing a comprehensive district-level professional development model, and they have come to some

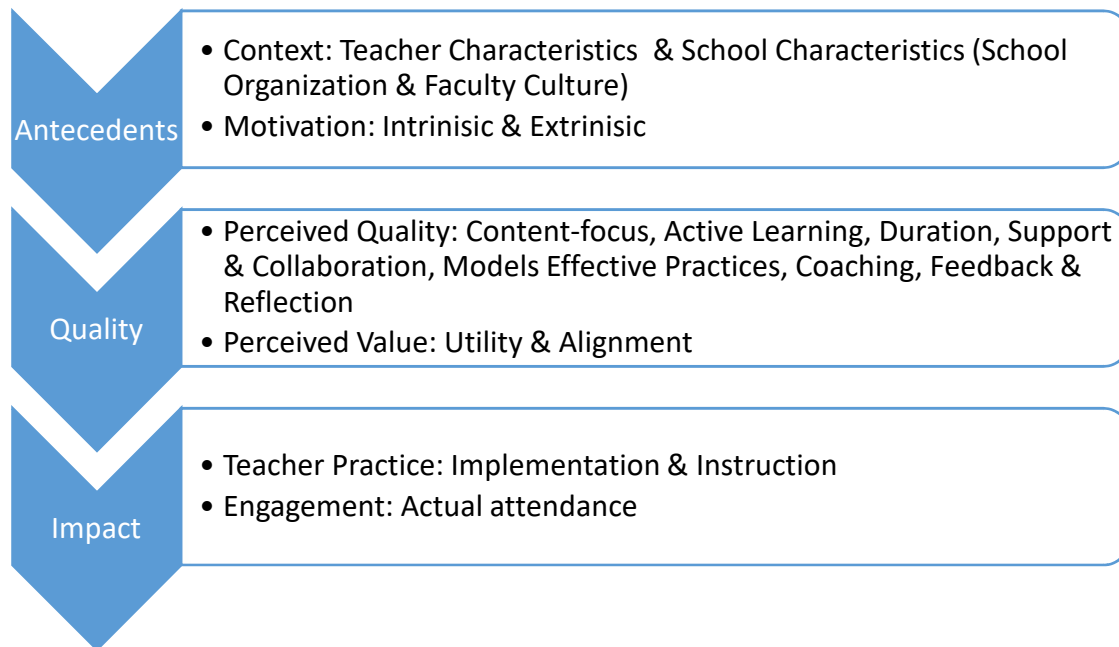
definite conclusions concerning their own internal quality standards. However, district leaders questioned the extent to which their own priorities match teachers' perceptions of quality. With this uncertainty, MNPS leaders are looking for answers about the efficacy of their current work and the direction of their future endeavors.

Relationship to Teacher Practice

For the teachers who do participate in professional development offered by MNPS, it is unclear if there is a meaningful

relationship to actual teaching practice. There is evidence of "shopping," meaning that some teachers choose to attend professional development that is unrelated to their teaching assignments or content areas, presumably in order to earn the summer stipend of \$85 per day. Another concern is the uncertainty around the impact of MNPS professional development on student learning. To what extent are teachers able to apply their learning in ways that are transformational and lead to improved student outcomes?

Figure 1. Conceptual Framework



3

Project Design & Methodology

Mixed Methods Approach

The project was undertaken to gain deeper insight into district-level professional development offered by MNPS. Our project was designed to tether our data collection and analysis to the project questions and to the conceptual framework (antecedents, quality, and output).

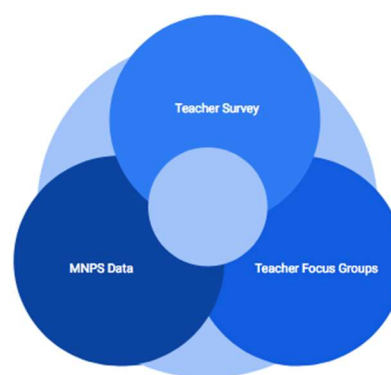
Our project questions were:

1. How are patterns of teacher engagement in professional development related to professional contexts and district policies?
2. How do teachers in MNPS perceive the quality of professional development?
3. To what extent does professional development offered by MNPS impact teacher practice?

To examine the three project questions in a rigorous and systematic manner, we used a mixed-methods research design. In our approach, we gathered data from a survey of MNPS certified teachers, an instrument that we designed by adapting questions from several existing measures. Additionally, we requested data from MNPS that provided a picture of district-wide professional development utilized during the 2014-2015 and 2015-2016 school years, as well as school demographics, and Tennessee Educator Acceleration Model (TEAM) Level of Overall Effectiveness Scores

for the same period. Finally, we conducted teacher focus groups at schools whose selection was based on grade tier, availability, and certain teacher and student characteristics.

Figure 2. Mixed Methods Approach



Teacher Survey

We developed the survey instrument by drawing primarily from three existing measures: The National Teacher and Principal Survey (2015-2016) from the National Center for Education Statistics, the 2017 Tennessee Educators Survey from the Tennessee Education Research Alliance, and a survey from a math professional development study made available to us by Laura Desimone from the University of Pennsylvania (2014). Our survey was organized based on antecedents (i.e., context and motivation), quality (i.e., perceived quality and perceived value), and output (i.e., teacher practice and engagement).

In an effort to generalize our findings to all MNPS teachers, we chose a random stratified sampling strategy. Six hundred certified MNPS teachers were randomly selected to receive the survey, 200 from elementary schools, 200 from middle schools, and 200 from high schools. Of the 600 invitations sent, four came back due to invalid email addresses and one teacher was on maternity leave. Of the 595 valid invitations, we received 193 responses for a response rate of 32.4%. Our sample was relatively similar to that of the population of all MNPS teachers, except that the teachers surveyed had fewer years of

teaching experience overall. The demographics of teachers in the survey sample as compared to the general population of all MNPS teachers are provided in Table 1. We also created scales for school organization (i.e., getting a substitute teacher, lesson planning, and administrator support), faculty culture (i.e., learning community, structures for teacher collaboration, mentor relationships) and perceived quality (i.e., content-focus, active learning, sustained duration, collaboration, models of effective practice, coaching, feedback and reflection).

	Male	Female	White	Black or African American	Hispanic	Average years teaching	Average years at MNPS	Elementary	Secondary
Survey Sample	20.1	79.9	73.8	18.6	4.26	8.80	5.31	42	58
MNPS provided data for all teachers	21.9	78.1	71.8	25.9	1.4	14.37	12.13	56	44

MNPS Data

First, we were able to obtain data from MNPS regarding the hours of professional development teachers at each school utilized, both as individual district-level sessions taken and as the sum of hours taken up at each school for the 2015-2016 school year, Summer 2016, the 2016-2017 school year, and Summer 2017. These data

also listed the name of the MNPS professional development workshop taken by each individual teacher, credit hours, job title, grade level, and school for the same period. These data enumerated the district-level professional development sessions, space available, and occupied seats (i.e., professional development utilized) for the same two-year period.

Finally, we used TEAM Level of Overall Effectiveness scores for all certified teachers in the district for academic years 2014-2015, 2015-2016, and 2016-2017, when available. The TEAM Level of Overall Effectiveness is a scale score that combines data regarding teachers’ instructional skills, knowledge, and responsibilities as demonstrated in periodic teaching observations with his/her impact on student achievement. It is important to note that this data is not available for teachers who do not have student achievement or individual growth scores for the previous years.

Teacher Focus Groups

The sampling strategy for our focus groups was devised in an effort to replicate methods utilized in the literature. We wanted to consider the relationship between poverty and engagement in professional development in the selection of our focus group schools. We considered schools for the focus groups by elementary (K-4) and secondary (grades 5-12) tiers to reflect the usual banding of professional development opportunities in MNPS, and we chose to follow this convention.

All schools in MNPS are under pressure to improve achievement scores, but schools with higher levels of economic disadvantage experience these pressures more urgently than do other similarly situated schools due to the effects of concentrated poverty. The variance in the levels of poverty within MNPS schools provides a rich opportunity for exploring our project questions. Therefore, we chose to use school demographic data that included the enrollment trends for the 2015-2016 and 2016-2017 school years

alongside the professional development utilization data described in the previous section to develop a purposeful, theory-based sample of schools for our focus groups.

In doing so, we categorized schools into high and low engagement and high and low poverty. For the sake of this project, we defined low poverty schools as those in the first quartile, or less than 41% of students who experienced economic disadvantage. High poverty schools were those identified as being in the third quartile, meaning that between 60% and 74% of students were economically disadvantaged. This rationale is summarized in Table 2.

School Level	Low Poverty: First Quartile (% ED)*	High Poverty: Third Quartile (% ED)*
Elementary	2-41	72-94
Middle	10-41	67-83
High	10-37	60-74

*ED is economically disadvantaged, a measure that refers to students who receive Supplemental Nutrition Assistance Program (SNAP) benefits, are homeless, or are foster children.

Next, our analysis of the district’s professional development utilization data helped us to identify schools’ level of engagement in professional development and, therefore, their viability for focus groups. We ordered schools by their total hours of district-level professional development utilized per person during the last two years; we used this as our secondary consideration for selecting schools for our focus groups, being sure to select schools at both the high and low ends of the spectrum. In an effort to focus on the school-level antecedents related to context (i.e., teacher and school characteristics), we

were able to use the data to create the following profiles:

Figure 3. Teacher Focus Group School Selection Matrix	
Profile 1 High PD & Low ED	Profile 2 High PD & High ED
Profile 3 Low PD & Low ED	Profile 4 Low PD & High ED

- Profile 1: Schools with low economic disadvantage and high utilization of MNPS professional development
- Profile 2: Schools with high economic disadvantage and high utilization of professional MNPS development
- Profile 3: Schools with low economic disadvantage and low utilization of MNPS professional development
- Profile 4: Schools with high economic disadvantage and low utilization of MNPS professional development

For example, Profile 1 has elementary and secondary schools that have low economic disadvantage and high utilization of MNPS professional development. It would include hypothetical elementary School A, in which

8% of students are economically disadvantaged. For every student enrolled in the 2015-2016 and 2016-2017 school years, teachers took up about 62 minutes of MNPS professional development.

We used this matrix of engagement by poverty status to identify an elementary and secondary school in each category, after excluding schools with non-traditional programs (e.g., alternative and adult high schools). Within each of the selected schools, we asked principals to help us to recruit a sample group of teachers by convenience who were willing to participate voluntarily and had common planning time (Appendix A). Eventually, we scheduled focus groups at seven schools, but one principal cancelled upon our arrival due to a scheduling conflict. In the end, we conducted teacher focus groups at six schools using a focus group guide (Appendix B):

- Profile 1: One elementary school and one secondary school
- Profile 2: One elementary school
- Profile 3: One elementary school and one secondary school
- Profile 4: One secondary school

A potential limitation of this project is that we were not able to have teacher focus groups at as many schools with higher levels of poverty, so conclusions drawn from these qualitative data may be not represent a complete picture.

Data Analysis & Findings

How are Patterns of Teacher Engagement in Professional Development Related to Professional Contexts and District Policies?

We began to explore patterns of teacher engagement in professional development by framing our thinking about engagement in terms of antecedents: what teacher, school, and district contextual factors were related to teachers' engagement in MNPS professional development? To what extent did intrinsic and extrinsic motivations relate to teachers' engagement in district-level professional development?

To answer these questions, we analyzed three different data sets. First, we analyzed data provided by MNPS for the 2015-2016 school year, Summer 2016, the 2016-2017 school year, and Summer 2017 regarding hours of district-level professional development attended by school. Next, we asked survey respondents specific questions regarding their own teaching experience, teacher preparation, school organization, faculty culture, and the motivating factors that went into their decision-making regarding professional development. We asked similar questions in our teacher focus groups to gain more insight.

We began by analyzing the data from MNPS regarding utilization of MNPS professional development to determine how many

professional development days were used during the last two years. The district has allotted five professional days which teachers are encouraged to use to engage in professional development throughout the school year. However, district policy allows teachers to use these days to fulfill a variety of professional obligations that includes but is not limited to professional learning. In the summer, MNPS has provided stipends of \$80 per day to further support the teachers who choose to engage in district-level professional development. We have summarized the number of professional days taken in the past two years (Table 3). It is noteworthy that 76% of teachers used three or less of their allotted days, suggesting that some other contextual or motivational factors that may have inhibited teachers' engagement in professional development at the district level.

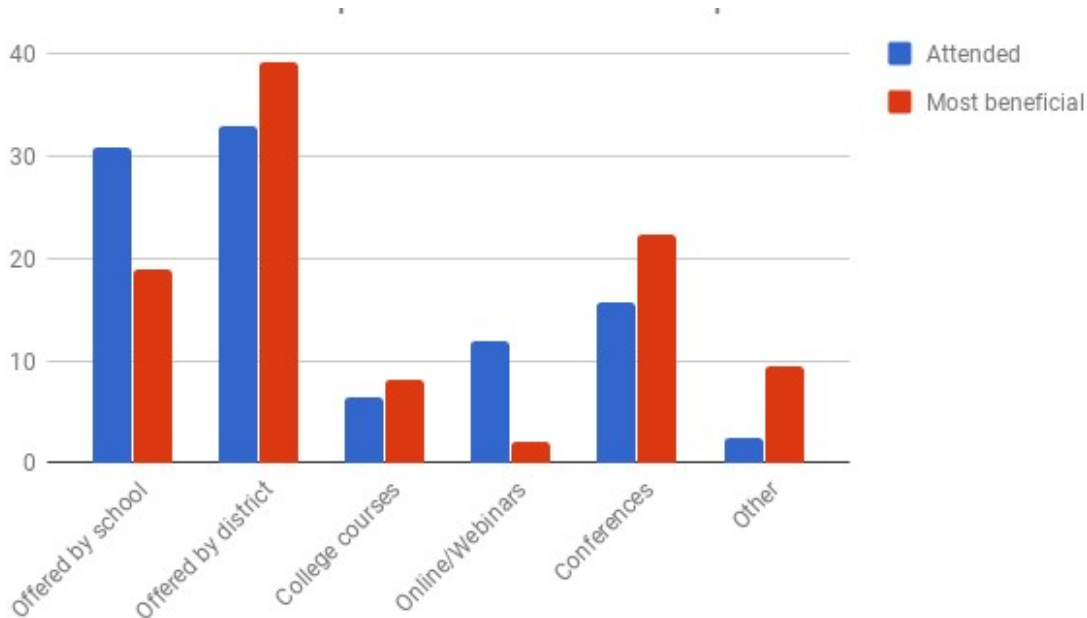
In the same data, 2,781 district-level professional development sessions were listed. During this time, we found that the average teacher attendance or occupied seats per session was 39.2%, which indicated that most seats were unoccupied. In comparison, the teachers in our survey sample attended an average of 25.62 hours of professional development offered by MNPS over the last 12 months ($sd=24.18$).

In the survey, we asked teachers to describe their professional development experiences for the past two years and which modalities they found to be most beneficial (Figure 4).

Table 3. Professional Days Used in MNPS				
Days Used	2015-2016		2016-2017	
	Count of Teachers	Percent of Teachers	Count of Teachers	Percent of Teachers
1	1030	31	1006	30
2	854	25	849	25
3	672	20	641	19
4	453	13	445	13
5	249	7	268	8
6	55	2	67	2
7	37	1	46	1
8	7	0	17	1
9	6	0	3	0
10	1	0	4	0
11	1	0	0	0
Total	3365	100	3346	100

Source: MNPS Professional Development Utilization

Figure 4. Engagement in Professional Development and Perceived Instructional Impact



We found that teachers attended professional development offered by their schools and offered by the district in rates that were almost equal. College courses, online professional development (i.e., webinars), conferences, and other types of professional development were used less often over the past two years according to our data. However, teachers reported that they found professional development offered by the district to be the most beneficial and most likely to improve their instructional teaching practices. Notably, teachers reported that they perceived conferences that they attended to be more beneficial than school-level professional development.

Antecedents: Context

We examined the antecedents to teacher engagement in district-level professional development by first analyzing their professional contexts, including teacher

characteristics and school/district characteristics.

What teacher characteristics predicted engagement in professional development offered by MNPS?

We explored this question by examining teacher-level differences. These included:

- Gender
- Race
- Content Area
- Certification
- Grade Tier

We chose these variables because they represent important proxies for our antecedents. For example, certification speaks to prior training and knowledge, which could relate to the degree to which teachers enroll in and attend professional development sessions.

Engagement in District-Level Professional Development and Gender

Table 4. Engagement: Female Teachers			
	N	Mean	Std. Deviation
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolNet)?	95	26.27	19.276
Total hours of MNPS professional development (2015-2016 & 2016-2017)*	454	55.8	39

* Source: MNPS Professional Development Utilization, not teacher survey

Table 5. Engagement: Male Teachers			
	N	Mean	Std. Deviation
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolNet)?	25	25.80	39.532
Total hours of MNPS professional development (2015-2016 & 2016-2017)*	125	59.3	51.2

* Source: MNPS Professional Development Utilization, not teacher survey

The differences in the means between the hours of district-level professional development attended by female and male teachers was very small and not statistically significant at conventional levels. For our

survey sample, the results of an unpaired t test comparing the means produced a t-value of 0.0826 with a two tailed p-value of 0.9343. For the MNPS data, $t=0.826$ and $p=0.41$.

Engagement in District-Level Professional Development and Race

Table 6. Engagement: Black Teachers			
	N	Mean	Std. Deviation
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolNet)?	22	29.05	40.195
Total hours of MNPS professional development (2015-2016 & 2016-2017)*	159	58.4	41.8

* Source: MNPS Professional Development Utilization, not teacher survey

Table 7. Engagement: White Teachers			
	N	Mean	Std. Deviation
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolInNet)?	93	28.32	26.747
Total hours of MNPS professional development (2015-2016 & 2016-2017)*	411	55.9	42.3

* Source: MNPS Professional Development Utilization, not teacher survey

We found that the differences in the means between district-level professional development attended by Black and White teachers was very small and not statistically significant at conventional levels. For our survey sample, the results of an unpaired t-

test comparing the means produced a t-value of 0.104 with a two tailed p- value of 0.9176. For the MNPS data, $t=0.635$ and $p=0.526$.

Engagement in District-Level Professional Development and Grade Tier

	N	Mean	Std. Deviation
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolNet)?	64	25.91	17.656
Total hours of MNPS professional development (2015-2016 & 2016-2017)*	167	21.4	22.77

* Source: MNPS Professional Development Utilization, not teacher survey

	N	Mean	Std. Deviation
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolNet)?	77	25.99	28.137
Total hours of MNPS professional development (2015-2016 & 2016-2017)*	147	22.23	22.82

* Source: MNPS Professional Development Utilization, not teacher survey

These results indicate that the hours of professional development are very similar for elementary and secondary level teachers.

Engagement in District-Level Professional Development and Content Area

	N	Mean	Std. Deviation
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolNet)?			
Mathematics and Science Teachers	34	25.21	22.302
English Language Arts Teachers	25	17.84	16.286
Humanities Teachers	20	31.75	41.525
Elementary Teachers (All Subjects)	16	29.75	18.043
Exceptional Education Teachers	16	31.5	21.802

We found that the differences in means between district-level professional development attended by teachers of different content areas was very small and not statistically significant at conventional levels for the most part. The largest difference was the lower mean of hours of

MNPS professional development attended by English Language Arts teachers at 17.84 hours. However, when compared to the entire sample, the difference was not statistically significant at conventional levels ($t= 1.56, p =0.121$).

Engagement in District-Level Professional Development and Certification

Table 11. Engagement: Certification			
Considering the total hours of professional development that you attended in the last 12 months, how many of those hours were offered by MNPS district office (available in the PD catalog or on SchoolNet)?	N	Mean	Std. Deviation
Teachers with Traditional Certification	105	26.46	25.221
Teachers with Alternative Certification	17	20.24	22.289

We found that the mean hours of MNPS professional development attended by teachers with alternative certification was considerably lower than that of traditionally certified teachers. However, the low

number of respondents and large standard deviations make the findings not statistically significant at conventional levels ($t=0.957, p=0.34$).

Teacher Career Stage

The teams of teachers in our focus groups varied in terms of career stage, so their knowledge of the logistical considerations around engaging in professional development opportunities varied by experience level. Novice teachers deferred to experienced and veteran teachers in describing various processes, saying that they were unclear on some aspects. Experienced and veteran teachers said that most teachers had difficulty navigating the complicated processes of requesting a substitute teacher, creating lesson plans for the day they would be out of school, and getting administrative approval. Experienced and veteran teachers, in particular, took the time to explain the

differences between various “code days” and the corresponding funding sources that allocated days per person at each school.

What school/district characteristics were related to teachers’ engagement in professional development offered by MNPS?

We explored this question by examining school and district factors related to the extent to which teachers experienced a culture of collaboration within the school and district, as well as school organization as related to administrator support, job-embedded professional development opportunities, and logistics.

School Organization

Given that only 27.1% of teachers surveyed reported no significant barriers to attending professional development, we sought to better understand the role of the school organization (e.g., getting a substitute, lesson planning, administrator helping to support professional development) as antecedents to engagement. After choosing the six variables pertaining to school organization, we did a principal component analysis. Two components had Eigenvalues greater than one, so the decision was made to move forward with the five variables that made up component 1 (Eigenvalue 2.021). The Cronbach's Alpha for these five variables was 0.029, so one more was removed to increase the value to 0.533. It was not possible to get this value any higher by eliminating any of these 5 variables. The internal reliability here is questionable, but the wording of the questions support moving forward with creating the index variable. There were 167 data points with a minimum value of 1.25 and a maximum of 5. The mean was 2.99 and the standard deviation is 0.77.

Next, we performed a regression analysis with hours of MNPS professional development as the dependent variable and the school organization scale as the independent variable. The regression coefficient is -5.466 and is statistically significant at conventional levels ($p < 0.05$), indicating that the more inhibiting the elements of the school organization were, the fewer hours of professional development teachers pursued.

In our survey, we asked teachers who had signed up for MNPS professional development but not attended to write in

an explanation. We found that the top three responses given were:

1. Something came up
2. Sick/sick child
3. Could not get a substitute teacher

A close fourth was "administrator denied request." These responses gave us preliminary ideas to explore in our focus group conversations. To that end, we asked questions to help us to get a more complete picture of the school and district factors that teachers described as related to their engagement in MNPS professional development.

Administrator Support

Teachers in both elementary and secondary focus groups overwhelmingly described their administrators as being supportive of their engagement in professional development. Administrators demonstrated this support by approving requests to use the allotted five days for district-level professional development and by sharing and recommending opportunities that they believed teachers would find valuable. However, elementary teachers reported that administrators unintentionally conveyed mixed messages by lending vocal support to their engagement in professional development, while also implying or directly stating their desire for teachers to be in class every day. We found that this represented a possible constraint for engaging in professional development consistently.

Teachers in our secondary focus groups, though, reported that their requests to take professional days were almost always approved. They also mentioned that their administrators encouraged their efforts to share their professional learning. For

example, one group praised their principal for encouraging them to take professional days to plan collaboratively, while another group talked about how they are encouraged to summarize their learning during “pd share,” a regular, brief segment of each faculty meeting. They characterized themselves as being “pro-pd” and good at responding to the instructional needs of teachers. A high school teacher said that “because the content offerings aren’t necessarily what [they] want, [their] school is really good at creating what [they] want,” even if it is specific to their faculty.

Job-Embedded Professional Development

We have our Literacy whatever she’s called now....LTDS. She’s amazing. I don’t feel like I have to go outside of the building to get that.

- High School English Teacher

In each of the focus groups, teachers reported some form of job-embedded professional development taking place. When asked about their motivation for choosing to attend professional development offered by the district, teachers returned to the idea that they already benefited from rich, specific, and relevant opportunities to regularly engage in school-level professional development. With formal structures in place for teachers to receive professional development (e.g., professional learning communities, weekly collaborative planning), often facilitated by the Literacy Teacher Development Specialists, taking days to go to district-level opportunities was described as being unnecessarily burdensome. Many teachers, too, commented that MNPS professional development was often identical to the

topics explored in their school-level professional development facilitated by teacher leaders, coaches, and outside consultants. In short, many teachers in our focus groups said that individuals who were intimately familiar with their own school contexts were already meeting their needs.

Logistics

Signing up for district-level professional development seemed to be a somewhat involved task, with teachers mentioning the initial hurdle to be finding out about professional development offered by the district. Teachers said that they were often unaware of the district-level offerings since they were not advertised through social media or interoffice mail.

Additionally, teachers were unsure about the navigating the sign up process since MNPS has recently moved their management system from SchoolNet to Performance Matters; at the time of the focus groups, the migration of data from one system to the next was still in progress. For first year teachers, in particular, the *how* regarding taking advantage of professional development from MNPS remained a daunting task. They also expressed marked dissatisfaction with the faulty recommendations from the SchoolNet system. Although teachers said that they actively sought out professional development opportunities to enrich their practice, one summed it up by saying, “the awareness of what’s available is a big factor... if we’re not aware of a pd, we’re not able to go to it.”

District Policies

Next, teachers reported having difficulty with navigating the byzantine system of

policies associated with taking a professional day. Without sufficient support or knowledge of the system's inner workings at this stage, teachers explained that they easily lose momentum. At one school, teachers expressed gratitude that the school's parent teacher association routinely helped to pay for professional development and conferences from outside of the district, but teachers from the other schools described the lack of funding as a barrier. Because of the lack of funding support, they said that they were less likely to be able to access high quality professional development, whether from inside or outside of the district.

Although they overwhelmingly asserted that seeking out and engaging in professional development is a part of their professional obligation, teachers faced considerable competition for their time. The five professional days per school year that teachers receive as professional days were often used for other purposes. Kindergarten teachers, for example, administer extensive, individualized text-level assessments and the Kindergarten Entry Inventories, which for classes of 20 or more students could take weeks to complete. Rather than surrender so much of their normal class time to assessments, teachers at our focus group schools chose to take professional days and use the substitute teachers to supervise the rest of the class while they are assessing students one by one. While they are not required to do this, teachers want "to do what's best for kids."

Secondary teachers reported similar challenges to using professional days for engaging in district-level professional development. At one middle school,

teachers who were a part of the district's STEAM initiative regretted that they did not get a chance to engage in professional development sessions with their school colleagues; they missed the opportunity for collaboration because they said that all of their allotted professional days were used for mandatory STEAM meetings. High school teachers said that at the end of some years, the five allotted days were insufficient to meet their need for professional development since they often have to use these days for planning, chaperoning field trips, or proctoring tests. In other years, however, teachers said that have days left over because of that they called the "ordeal" of being out or the perceived lack of relevant opportunities within the district.

Substitute Teachers: Lost Instructional Time

In my professional opinion, taking those days off is the hardest thing to do. You plan more for that than a regular classroom setting...because no one can teach it the way you teach it.
- High School Science Teacher

When elementary teachers described the process of securing a substitute teacher for professional development days, they revealed some key difficulties. First, teachers mentioned students' needs for consistency and routines, especially as these missed days may potentially impact student outcomes. One teacher summed it up by saying that "a day without a teacher is not lost instruction, but it's hard on the kids." Additionally, teachers mentioned negative experiences that have made them decide to save their professional development for summer unless otherwise

required by the district; some of these experiences include negative student behavior, substitute no-shows, having to impose on colleagues to divide and care for the students in their classes, and the high opportunity cost associated with preparing sub plans. Teachers, especially novices, indicated that they need support navigating such a complicated landscape.

Secondary teachers offered a nuanced perspective on the effects of missing school for professional development. Like elementary teachers, they did mention the difficulty that they faced in recovering from lost instructional time, especially since they operate on block schedules. In addition, however, they talked about the impact of their absence on the class community. A high school teacher described his decision to miss school as a violation of the class's implicit expectation that they "show up for each other;" substitute teachers, while well intentioned, were not a part of their community. They had limited knowledge of the content and were unable to answer students' questions about the assignments. For him and for other teachers in the secondary focus groups, taking professional development days did not always seem to be worth the effort.

Faculty Culture

To gain insight into the impact of faculty cultures on teachers' engagement in MNPS professional development, we created a new a scale. The scale included the degree to which teachers considered their school to be a learning community, colleagues observing each other, time set aside for collaboration, leaders encourage collaboration, leaders communicate that they value collaboration, and leaders encouraging mentor-type relationships. We

entered all seven into a principal components analysis, and two components had Eigenvalues greater than 1. The first component included all seven variables and had an Eigenvalue of 3.659. The Cronbach's Alpha for these seven variables was 0.807; therefore, the variables were combined into an averaged index. The index included data points with a minimum value of 1.00 and a maximum of 5.43. The mean was 2.699 and the standard deviation 1.03. As a reminder, the lower the value, the more strongly the teacher agreed that the culture of their school was collaborative.

Next, we ran a regression analysis using hours of professional development attended (engagement) as the dependent variable and the faculty culture scale scores as the independent variable. The regression coefficient was $B=0.579$, but the finding is not statistically significant at conventional levels ($p>0.05$). Therefore, we are unable to establish the effect of faculty culture on engagement using this data.

Antecedents: Motivation

To understand the factors that motivated teachers' choices to engage in district-level professional development, we asked teachers to describe their decision making process quantitatively and qualitatively. We began by asking teachers to list their top three priorities that they considered when selecting professional development. We found that the teachers mentioned reasons that fit into the categories of fit, relevance, and alignment most often. We coded responses that were related to teachers' desire to find professional development that fit with their own professional goals as fit. We coded responses in which teachers indicated that they sought out professional development that would be relevant to the

needs of their specific students as relevance. We coded responses that related to teachers’ desire to find professional learning experiences that were aligned with the requirements and expectations for teachers in the district as alignment.

We also asked teachers to rate the importance of various motivators for professional development, based on our conversations with key district leaders during the initial stages of our project and some indicators of high quality professional development.

Table 12. Teachers’ Motivations for Signing up for MNPS Professional Development

During the last two years, how important were each of these to you personally when signing up for professional development? (1-Extremely important to 5-not at all important)	Mean	Std. Deviation
Content-specific instruction (e.g., reading, biology, math, etc.)	1.91	1.118
Meeting the needs of all learners (e.g., English learners and students with disabilities)	1.94	1.046
Instructional strategies and practices (e.g., questioning, wait-time, differentiation)	2.05	1.202
Addressing students’ non-academic needs (e.g., social-emotional development)	2.14	1.106
Creating positive classroom environments (e.g., establishing respectful culture)	2.16	1.173
Aligning standards, curriculum, and student learning outcomes	2.39	1.180
Preparing students for post-secondary education	2.84	1.346
Creating student assessments	2.87	1.237
Preparing students to take state assessments (e.g., TNReady, End of Course Assessments. etc.)	3.22	1.455

We found that teachers reported that content-specific instruction and meeting the needs of all learners as relatively important. On the other hand, preparing students for state assessments was not rated as being as important of a motivator

for signing up for district-level professional development. A comparison test of these means for content specific instruction and assessment preparation confirmed a statistically significant difference at conventional levels ($t=8.617, p<0.0001$).

Table 13. Motivation: Professional Development as a Professional Responsibility		
	Strongly agree	Somewhat agree
I believe that it is a professional responsibility to engage in professional learning activities.	70.24%	24.40%
The administration at my school believes that it is a professional responsibility to engage in professional learning activities.	49.10%	34.13%
Fellow teachers at my school believe that it is a professional responsibility to engage in professional learning activities.	30.95%	43.45%

To understand the role of intrinsic motivation in teachers’ engagement, we asked whether teachers considered professional development to be a professional obligation for teachers in our survey. We found that a very large portion of them (94.6%) agreed or strongly agreed from their own perspective. However,

teachers were less sure that their colleagues were motivated to engage in professional development experiences as a matter of professional obligation. We found that teachers do overwhelmingly view professional development as central to the work of educating children.

“I can’t speak for anyone else, but for myself, I think that you’re always supposed to be growing and learning and honing your craft and making yourself the best that you can be...as a teacher, it’s your responsibility to do that.”
 - First Grade Teacher

In our focus groups, teachers at the elementary tier often mentioned that they were motivated to seek out professional development because of their desire to address their own gaps in knowledge or to hone their craft as educators. In other cases, teachers said that they were motivated by new mandates, priorities, or innovations from the district.

to take advantage of or pursue opportunities for professional development. On the most basic level, teachers in these groups described professional development as being central to their identities as teachers and the search for quality, relevant experiences as one of their responsibilities.

In our secondary focus groups, teachers indicated that motivation, both intrinsic and extrinsic factors played a role in their choice

Furthermore, teachers in each of the secondary focus groups noted the roles that they play as contributing members of larger communities of practice (e.g., the Science,

Technology, Engineering, Arts, and Math (STEAM) Team, industry partner memberships, and national teaching associations) and the professional development opportunities that they have access to as members. Thus, they expressed frustration with the constraints they faced because of the high personal cost they assume when trying to access academic research and content-specific enrichment to improve their instruction. Teachers explained that some of colleagues were “wired” to look for professional learning experiences. Other colleagues were simply uninterested and attended summer sessions without true engagement just for the stipend. One teacher characterized the motivation for engaging in professional development as an internal one, saying that “people enjoy being competent.”

Additionally, teachers in these groups discussed several sources of extrinsic motivation. First, they talked about the requirements for licensure. They said that aside from their desire for self-improvement and for fresh ideas, they looked for professional development that would provide enough hours to qualify for renewal of their teaching licenses. They connected professional development to license renewal because of the link they described between the learning in the session and their application to teacher practice. They explained that they could possibly be earning a TEAM score of four or five if they were able to apply their learning

from professional development in a meaningful way during an observation. Additionally, they said that actively seeking out and participating in professional development has positively affected their professionalism scores.

Next, they considered the needs of their students. These teachers pointed out that their students’ scores on high-stakes tests (e.g., ACT, TNReady, End of Course Exams) motivated them and gave them direction for choosing content-specific professional development. More specifically, they called for the district to be intentional in offering literacy and numeracy development targeted for their own content areas rather than general in focus. This was connected to the idea of differentiation and relevance. One teacher said, “I like it to be specific to my professional needs, which I know is hard for a huge system to do. I think a lot of times, we kind of blanket that. And you know while literacy and reading are important, do the math and science teachers really need it as much as the ELA/Social Studies folks?” However, content-specific professional development was described as a challenge since teachers at one school were never quite sure which courses they would teach the following year or if other teachers would be leaving the school. They said, “...it might not help you next year” and the opportunity to develop innovate units in those sessions has been wasted effort.

How do Teachers in MNPS Perceive the Quality of Professional Development?

In our teacher survey and focus groups, we explored teachers’ perceptions of professional development, and in doing so, they referenced the seven characteristics of high quality professional development (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017; Desimone, 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001; Darling-Hammond, Hyler, Gardner, & Espinoza, 2017):

- Is content-focused
- Incorporates active learning
- Supports collaboration
- Uses models of effective practice
- Provides coaching and expert support

- Provides feedback and reflection
- Is of sustained duration

We began by establishing a benchmark for teachers in MNPS concerning their general perceptions of effective professional development. Survey questions (Table 14) were framed in terms of professional development activities in which they had participated during the last two years. These sessions were not necessarily ones offered by the district but provided a nuanced view of the extent to which teachers in MNPS value the same characteristics of professional development as those outlined in the extant literature (Darling-Hammond, Hyler, Gardner, & Espinoza, 2017; Desimone, 2009; Garet, Porter, Desimone, Birman, & Yoon, 2001; Darling-Hammond, Hyler, Gardner, & Espinoza, 2017).

Question Stem: Thinking about the most effective professional learning activity you have participated in during the last two years, please indicate to what extent each of these statements is true or false. (1-5, definitely true – definitely false)	Mean	Std. Deviation
It encouraged collaboration among participants. (supports collaboration)	1.65	.770
It helped me network with other teachers. (support collaboration)	1.69	.829
It used modeling to help reinforce ideas and strategies. (models effective practice)	1.76	.788
It focused primarily on one specific practice/content area. (content-focused)	2.15	1.117
It was ongoing and occurred frequently. (sustained duration)	2.72	1.149

Teachers’ perceptions of the quality of professional development that they had attended in the last two years were generally positive. The higher the mean reported, the less the teacher agreed with

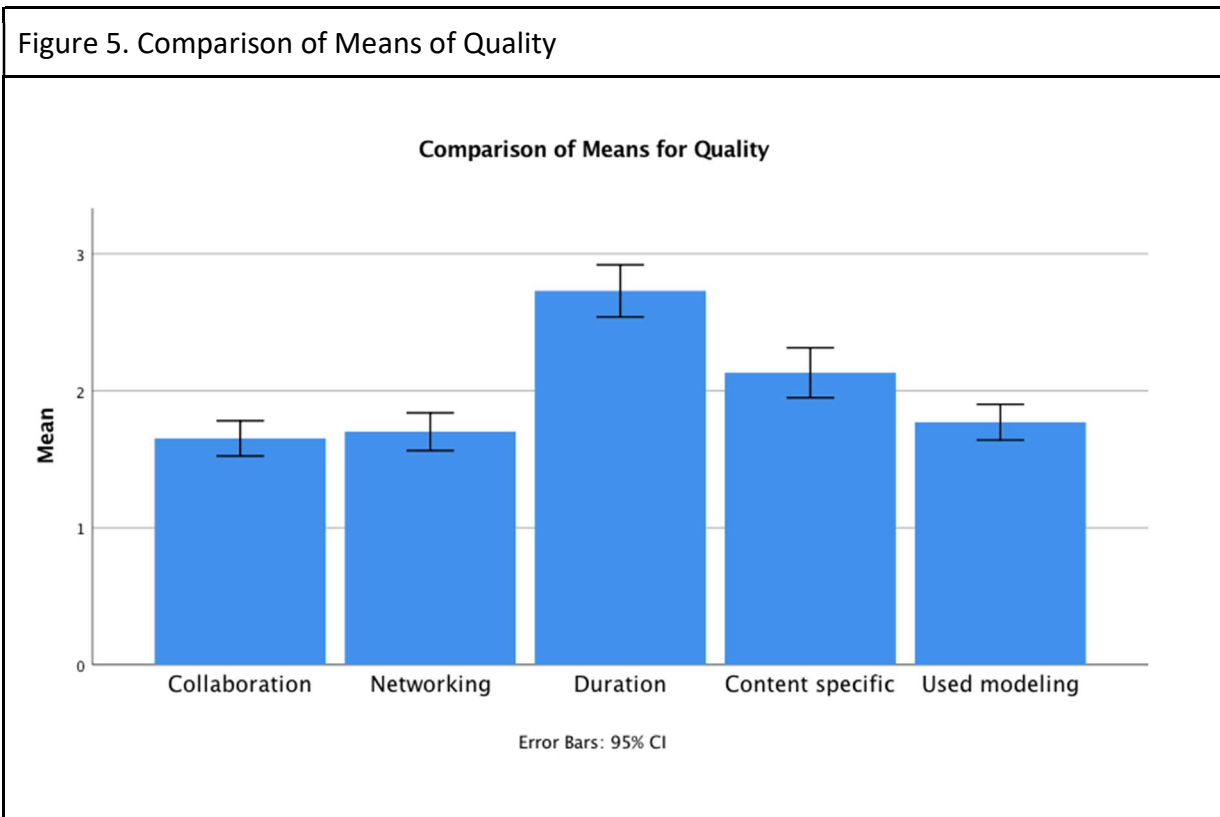
the statement. For example, with a mean of 1.76, teachers were relatively strong in their agreement that the professional development that they attended used

modeling to help reinforce ideas and strategies (models of effective practice).

	Mean	Std. Deviation
It encouraged collaboration among participants.	1.65	.770
It was ongoing and occurred frequently. (duration)	2.72	1.149

A few findings seemed noteworthy due to their within group comparisons. Teachers said that it was less true that the professional development they attended during the last two years was of sustained duration and ongoing, with a mean response of 2.72. In comparison, the mean response of 1.65 for the question regarding whether the most effective professional

learning activity they participated in during the last two years encouraged collaboration among participants indicates that they very much value collaboration when assessing professional development. The statistical significance of these differences in means was verified by unpaired t-tests ($t=9.36$, $p<0.001$) and were presented with 95% confidence intervals (Figure 5).



Next, we asked questions that specifically referred to teachers’ perceptions of professional development offered by MNPS. We found that teachers mostly perceived district-level experiences to be aligned with district and/or school

expectations for their teaching (Table 16). Here, we provide an overview of our findings regarding teachers’ perceptions of professional development offered by MNPS and go into further detail.

If you attended professional development offered by the MNPS district office during the last two years, how often were the following statements true? (1-5, always – never)	Mean	Std. Deviation
The session(s) were focused on practices that aligned with district and/or school expectations for my teaching.	2.26	1.089
Your experience was focused on practices that district or school leaders expect you to demonstrate in your classroom	2.43	1.084
The session(s) were clear about how I could apply the learning in my own classroom.	2.49	1.109
The session(s) were related to the content I taught. (content specific)	2.57	1.202
The session(s) were consistent with my own instructional or professional goals.	2.71	1.154
The session(s) were logically connected from one session to the next. (sustained duration)	2.73	1.137
Professional development opportunities offered by the district are worth my effort.	2.79	1.154
The session(s) helped me to use district-adopted curricular materials.	3.14	1.299

These data do not stand out in any significant way, other than to indicate that teachers at MNPS mostly perceive that the professional development offerings are in

line with district and school expectations (2.26 and 2.43) related to the work they are doing in their classrooms.

Professional Development is Content-Focused

Elementary teachers reported their perceptions of professional development in such a way that suggests that the degree to which sessions are content-specific in focus matters greatly. One part of the decision-making process to sign up was the intentional search for sessions that were targeted specifically to their own grade levels and subjects that they described as being “afterthought[s]” with the current emphasis on literacy within the district. Teachers at one school, for example, specifically looked for professional development opportunities from MNPS that provide evidence-based research and practices related to response to intervention and writing, and teachers at another school were focused on mathematics professional development.

“In the catalog for high school, I’ve never found anything applicable. There’s nothing for high school curriculum.”

- High School Science Teacher

Teachers in our secondary focus groups, too, prioritized the degree to which professional development sessions were content-focused. They said that they wanted literacy and numeracy training that was targeted toward their own specific content areas and courses. They were often frustrated by what they say is the district’s neglect of their own content areas in light of the focus on literacy and mathematics. Science teachers, particularly, said that their subject is consistently undervalued and this neglect was reflected in the lack of opportunities for them to receive specific

professional development within the district.

On the other hand, very specific professional development has been a challenge in the past because teachers at one school mentioned that they have not been able to predict their teaching assignments for the following year. Because of this uncertainty, teachers said that sessions intended to facilitate the development of innovative units were often a waste of time. This call for relevance was also framed in terms of the differences between general curriculum focus and those targeted for high school teachers. Sessions that were K-12 were described as being too general, and teachers expressed doubt that participating in such sessions would actually help them to be stronger in their content knowledge or instruction.

At each school, teachers expressed frustration with what they saw as a lack of options in the professional development catalogs from MNPS for teachers of content areas other than English Language Arts. A high school teacher said that “in the catalog for high school, I have never found anything applicable...except literally COMP and PBL. It’s all geared towards [science] kits and elementary schools. There’s nothing for high school curriculum.” In response to these perceptions, secondary teachers, both at the middle and high school levels, reported that they often search outside of MNPS for professional development.

Mandatory professional development experiences from the district, too, were described as being too general after teachers have chosen to do more specific professional development outside of the MNPS. For example, the mandatory content

in-service days in August 2017 were described as being particularly problematic in terms of content-focus for secondary teachers. They noted that when they did find sessions that were specific to high

school curriculum during those MNPS content in-service days, overcrowding and poor planning caused them to be unable to fully participate because of limited space and supplies.

Table 17. Perceived Quality of District-Level Professional Development: Content-Focus

Question Stem: The session(s) were related to the content I taught.	All Teachers (%)	Elementary Teachers (%)	Secondary Teachers (%)
Always	17.1	14.8	19.6
Most of the time	20.2	29.5	18.7
About half the time	11.9	11.5	14.0
Sometimes	20.7	19.7	24.3
Never	1.6	3.3	0.9

Overall, we found teachers’ perceptions of content-focus in MNPS professional development was somewhat split, with 37.3% of teachers responding favorably and 34.2% responding unfavorably when asked about the extent to which they found MNPS professional development sessions were related to their content area(s). Although

more elementary school teachers responded favorably to this question (44.3%), it is difficult to determine any definite trends by grade tier as indicated by teacher focus groups. We are also aware that secondary teachers were overrepresented in our sample of teachers surveyed.

Professional Development Incorporates Active Learning

“Every time I go to a [lecture-based session], I feel like this is a waste of seven and a half hours of my time, and this is not bettering me as an educator. This is giving me time to like secretly enter my grades.”

- Middle School English Teacher

Both elementary and secondary teachers reported that sessions that were lecture only were not perceived as being of high quality. Instead, participants retained the most information from being given opportunities to “learn by doing,” to watch videos with teachers and students in action, and by being given time for actual practice.

Teachers in the secondary focus groups said they find the most value in professional development sessions that allow them time for hands-on practice with the content they are learning. They explained that this active learning could take many forms. Among the ones that mentioned were planning units with colleagues from their school, role-playing strategies with other participants, practice with new resources or technology provided, and other activities designed to help them to explore ideas related to the session content.

Although teachers said that they found professional development offerings grounded in research-based practices to be the most useful, they were careful to emphasize the importance of facilitators balancing the actual method of delivery. That is to say, when teachers described their favorite professional development experiences, they celebrated ones that

employed a variety of methods, not just lecture or PowerPoint presentations. For example, teachers at one school described a session presented by MNPS’s English Learners (EL) department in which the balance between active and receptive learning was particularly well done. They said that the session’s focus on supporting EL students with accessing complex text was intentionally specific. As a result, these teachers said that they were able to concentrate their effort on learning one manageable strategy, and they found it effective that the session was approximately 70% direct instruction and 30% facilitated practice with feedback. In reference to another session facilitated by the EL department, teachers at another school pointed out that they appreciated “not being lectured at” but were instead allowed time to experiment and practice the strategies over the course of the two-day session. With these sessions, as well as others both inside and outside of the district, teachers said that they appreciated having the “opportunity to do it,” not just hear about it. Quality professional development, according to the teachers in our secondary focus groups, supports active learning through a variety of activities (e.g., individual think time, group tasks, time to plan, and collective reflection).

Professional Development Supports Collaboration

“I get the most out of like talking to other educators, hearing what it is they’re doing, or if I’m struggling with something...I’m like let me take some of that!”

- Middle School Social Studies Teacher

Elementary teachers described professional development that found ways to support collaboration as being high quality. They expressed the desire to “talk with other professionals” and to work together to solve problem of practice with teachers from across the district. Summer sessions, in particular, were meaningful for teachers at one school where there was a soft expectation that they would not miss too much school for professional development. Teachers here said that they looked forward to the opportunity to exchange contact information and consult each other throughout the school year when confronted with new challenges.

Secondary teachers talked about collaboration as important driver for quality professional development less often than did their elementary counterparts. What is more, these teachers did not refer to the district level professional development sessions as being particularly supportive of collaboration. However, teachers at two schools did mention cluster-level professional development as being supportive of collaboration. More specifically, they emphasized the effectiveness of the Hillsboro Cluster Literacy Summit in February 2017 in supporting collaboration. Teachers at more than one school mentioned this particular professional development experience; they theorized that the collaboration was especially valuable because each teacher-led session provided time for collaborative planning with teachers at their own school or with those who worked with similar students within their same cluster.

One interesting note was that teachers who were a part of the district’s Science Technology Engineering Arts and Math

(STEAM) initiative expressed regret for what they perceived as a lack of opportunity for collaboration in MNPS professional development. Because all of their allotted professional development days were dedicated to STEAM training, they said that opportunities to attend district level professional development alongside their school colleagues was near impossible for them.

Professional Development Uses Models of Effective Practice

“This is stuff that we have been trained on over and over again. We’re not scared to learn new stuff.”

- Kindergarten Teacher

Elementary and secondary teachers said they found value in professional development experiences, both inside and outside the district, when the practices modeled therein were closely aligned to the policies, curriculum, and overall conditions present in their own school and classroom contexts. To that point, they expressed particular dissatisfaction with sessions in which the resources (e.g. supplies, schedules, etc.) were markedly different from what they could access at their own schools. Teachers said that in these situations they found professional development to be too idealistic; the presenters seemed to make assumptions about their students’ behavior and underlying social issues, like chronic absenteeism.

Because the presenters seemed uninformed, they seen as being unable to model effective practices for their students. Consequently, teachers questioned the presenters’ expertise since they were

unable to suggest “teaching strategies for these students...not for when the world [was] perfect.” Instead, they spoke highly of professional development experiences in which they were able to learn from teachers and coaches who were working in their own clusters.

We found some differences in how teachers at different career stages evaluated district-level professional development. Veteran and experienced teachers described what could best be characterized as a shifting emphasis on modeling within district level professional development opportunities over the past several years. At one high school, teachers with had more than 11 years of teaching experience in MNPS reflected that in the past, modeling and practice were standard features of district level sessions. More recently, though, they said that modeling of strategies occurred less often and this negatively affected the likelihood of their taking strategies back to their classrooms to apply them.

Furthermore, teachers in our elementary focus groups mentioned expressed dissatisfaction with seeing the same practices modeled under new names. Experienced and veteran teachers attributed this phenomenon to the cyclical nature of education by saying “it’s the renaming of things.” For example, they described their frustration with professional development for the district’s newly adopted curricular units from the Institute for Learning (IFL) as being the same as interactive close reading which they saw as the same as shared reading.

Additionally, other patterns emerged from the data. For example, the perceived quality of professional development seemed to be

related to the teachers’ career stage. More specifically, novice teachers were more likely to express that they found district-level professional development to be valuable, saying that they were grateful and happy to find out so much information to survive the school year. Experienced and veteran teachers, those with 11 or more years of experience, described quality professional development as those from which they were able to learn one new thing, a “single nugget” of an idea to take back and implement in their classrooms.

Teachers did mention that the most competent presenters were able to model effective practices for engaging students by their respectful interactions with teachers as participants. In other cases, presenters sometimes gave them the opportunity to play the role of students and modeled instructional strategies so that teachers were able to visualize the practices from both the teacher and student perspective. However, many of these district level experiences, while modeling best instructional practices, felt redundant because of their school-level professional learning experiences.

When teachers did experience MNPS professional development that modeled effective practices, they suggested that their most powerful examples of modeling were framed by stories of the presenter’s own personal classroom experiences. The presenters made statements like, “This is what I would do if...” but delivered these anecdotes with the knowledge that teachers would need to adapt the embedded practices and strategies to fit their own schema, personalities and contexts. For them, these real word examples of effective practices were ones

that they felt most confident about being able to apply in their own classrooms the next day.

Secondary teachers in our focus groups reported that modeling of effective practices happened less often than they desired in professional development

sessions offered by MNPS. They warned that lectures by university experts or purely theoretical knowledge was not nearly as meaningful as were strategies grounded in actual practice. In other words, for the practices modeled to be effective, one high school teacher said they “like to keep one foot in the real world.”

Table 18. Perceived Quality of District-Level Professional Development: Models Effective Practices

Question Stem: How often did you practice using a variety of strategies to illustrate thinking about a given concept?	All Teachers (%)	Elementary Teachers (%)	Secondary Teachers (%)
Always	13.5	16.4	14.0
Most of the time	21.2	21.3	23.4
About half the time	18.7	21.3	19.6
Sometimes	15.5	13.1	19.6
Never	3.6	6.6	2.8

Overall, we found teachers’ perceptions of the quality of district-level professional development as indicated by the modeling of effective practices to be somewhat split, with 34.7% of teachers responding positively (always or most of the time) and 37.8% of teachers responding neutrally or negatively (about half the time or less). Although slightly more elementary teachers

said that this modeling of effective practices occurred always or most of the time (37.7% as compared to 37.4% of secondary teachers), it is difficult to determine any definite trends by grade tier as indicated by teacher focus groups. We are also aware that secondary teachers were overrepresented in our sample of teachers surveyed.

Professional Development Provides Coaching and Expert Support

Since teachers perceived expert support and coaching to be rare in MNPS professional development, teachers said that they associated these characteristics with high quality session facilitators. Elementary and secondary teachers described their experiences with expert facilitators in slightly different ways.

Elementary teachers in our focus groups had strong opinions about how facilitators are instrumental in creating the conditions for high quality professional development. In describing “rock star presenters,” these teachers described these expert facilitators as having deep content knowledge and fresh perspective on common problems of practice.

Secondary teachers, similarly, said that the presenters from whom they received the most support were ones who were respected for their ability to leverage their deep content knowledge and rich, recent classroom experience to provide expert support for teachers. At one school, math teachers held up Jessica Slayton as an exemplar. They said that as classroom teacher and, more recently, Director of Mathematics, they trusted her to provide high quality professional development. They valued her ability to “go beyond the box” in providing them with ongoing support for applying their learning to their classroom instruction.

Teachers at both the elementary and secondary levels made distinctions concerning the facilitator’s knowledge of MNPS and their current role. Outsiders, or those facilitators who work in other districts

or work as professional consultants, were perceived as being less effective. Teachers said that these “experts” often presented idealized scenarios that do not match their actual school contexts or available resources. Non-teacher facilitators from within MNPS were reported to be better, but they tended to be so removed from engaging with actual children that they lacked a reference point for realistic implementation. They said that the best coaching came from facilitators whose daily work was still grounded in actual schools. These facilitators coached by acknowledging reality and redirected negativity from frustrated participants towards meaningful solutions.

Teachers in the secondary groups reported that coaching, expert support, or any kind of follow-up after professional development offered by MNPS is rare. One middle school teacher described a rewarding, professional relationship that she has developed with one of her session facilitators; she consults her when she runs into instructional challenges and the facilitator turned coach provides her with the necessary support. The teacher concluded, though, that this relationship developed because of the small number of participants (fewer than five) and because of her own initiative. This support was not a part of the session design.

Professional Development is of Sustained Duration

“I think that, in general, across the board – I don’t think it’s just this district, but I think PD is a one and done. There’s no follow-up.”

- Middle School Math Teacher

Teachers in our secondary focus groups mentioned the duration of professional development opportunities as being a factor contributing their perceptions of quality, but they mentioned it less often than teachers in the elementary groups did. They described these types of sustained experiences, meaning those that lasted more than one day, as rare but valuable for teachers. Teachers said that when they participated in sessions that lasted more than one day, they had to time to practice and to engage fully in the work. In some cases, teachers said that the follow-up that occurred on day two (weeks or months after initial implementation) was particularly useful for them; they were able to ask questions, get feedback, and reflect on their progress towards their goals defined in the initial session.

They were careful to clarify, however, that the timing of MNPS sessions was critical in determining the value of sustained duration. For example, teachers at two of the focus group schools indicated that the MNPS content in-service days in August 2017 actually needed to be shorter - more tailored to reflect the urgent demands of starting the school year. In this case, they conveyed the idea that sessions of sustained duration would not have been well-received. On the other hand, the same teachers agreed that, generally speaking, it is not enough for professional development to be a one-day experience. One middle school teacher hypothesized that sustained duration is difficult to achieve in our environment of high-stakes testing, but he was hopeful that things would improve because of the reauthorization of the Every Student Succeeds Act.

Table 19. Perceived Quality of District-Level Professional Development: Sustained Duration

Question Stem: The session(s) were logically connected from one session to the next.	All Teachers (%)	Elementary Teachers (%)	Secondary Teachers (%)
Always	10.9	8.2	13.1
Most of the time	23.3	32.8	21.5
About half the time	13.5	14.8	15.1
Sometimes	21.8	21.3	26.3
Never	2.1	1.6	2.9

Overall, we found teachers’ perceptions of the quality of district-level professional development as indicated by sustained duration to be somewhat split, with 34.2% of teachers responding positively (always or most of the time) and 37.4% of teachers responding neutrally or negatively (about half the time or less). More elementary teachers (41.0%) responded positively than did secondary teachers (34.6%), who said

that district-level professional development that they attended was of sustained duration half the time, sometimes, and never. Although these quantitative findings are in line with the qualitative findings from our teacher focus groups, it is difficult to draw definite conclusions since we are aware that secondary teachers were overrepresented in our survey sample.

To What Extent Does Professional Development Offered by MNPS Impact Teacher Practice?

We framed our thinking about impact on teacher practice in terms of outputs: to what degree did teachers find MNPS professional development to be applicable to their teaching practice? To answer this question, we analyzed three different sets of data. First, we analyzed data obtained from MNPS for the last two years regarding hours of district-level professional development attended and TEAM scores by gender, grade tier (elementary, middle, high), and years of teaching experience. Next, we asked survey respondents to answer questions about the professional development offered by MNPS that they attended and the perceived impact on their teaching practice and TEAM scores. Finally,

in our focus groups, we asked specific questions regarding impact on teaching practice.

MNPS Data: Professional Development Utilization and TEAM Level of Overall Effectiveness Scores

The data obtained from MNPS is summarized Table 20 To gain insight into the year over year trends, we created new variables that demonstrated growth, examining the difference in TEAM scores in 2015-2016 and 2014-2015, 2016-2017 and 2015-2016 school years, as well as total growth between 2014-2015 and 2016-2017 (Table 20). We found that there was growth in TEAM score in 2014-2015 to 2015-2016, as there was in 2014-2015 to 2016-2017 data. However, the 2015-2016 to 2016-2017 data show a slight decrease in TEAM score.

Table 20. Descriptive Summary of MNPS Professional Development Utilization and TEAM Level of Overall Effectiveness Scores 2014-2017

	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Std. Deviation</u>
PD1415	979	1.00	110.50	29.8407	16.06743
PD1516	777	1.00	240.50	29.3079	26.37757
PD1617	720	1.00	148.25	21.3578	21.53450
TEAM1415	2891	1	5	3.61	0.995
TEAM 1516	2891	1	5	4.09	0.756
TEAM 1617	2891	1	5	3.98	0.791

Table 21. Descriptive Statistics for MNPS TEAM Growth

	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Std. Deviation</u>
TEAM Growth 2014-15 to 2015-16	2891	-4.00	3.00	.4787	.94107
TEAM Growth 2015-16 to 2016-17	2891	-3.00	3.00	-.1072	.75118
TEAM Growth 2014-15 to 2016-17	2891	-3.00	3.00	.3715	1.05013

We then constructed a new variable for respondents who had a TEAM score of two or below, hypothesizing that teachers with low TEAM scores may have gotten more out of professional development than teachers

with higher scores. After analyses, we found, again, that there was no statistically significant relationship between TEAM scores and hours of professional development.

Table 22. Three-Year TEAM Growth and Three-Year Total Hours of Professional Development Utilized

	<u>Unstandardized Coefficients</u>				<u>R²</u>
	<u>B</u>	<u>Std. Error</u>	<u>Sig.</u>		
(Constant)	-.041	.225	.855		
Dummy variable for Females	.286	.113	.012		
Secondary Dummy	-.354	.094	.000		
Dummy variable Black	-.139	.101	.170		
Dummy variable all other races	-.822	.386	.034		
0-3 years of experience	.558	.277	.045		
4-10 years of experience	.623	.164	.000		
>10 years of experience	.411	.167	.014		
Three-Year Total Hours of Professional Development	-.001	.001	.259		0.320

In an attempt to determine if there were confounding demographic factors, we created dummy variables for gender, grade tier (primary/secondary), and race. We created a three-year TEAM growth variable and a three-year total hours of professional development variable. We did a regression

analysis using the dummy variables, hours of three-year total professional development as the independent variable, and three-year TEAM growth as the dependent variable. Again, the results were not statistically significant at conventional levels as evidenced by the p-value of 0.259.

Teacher Survey Data

As part of the survey instrument, we asked respondents to report the number of hours of district-level professional development they attended, as well as to answer a Likert-type scale question regarding the degree to which their participation in MNPS professional development helped improve their TEAM scores. We found that 32.86% of respondents said that the professional development helped improve their TEAM

scores by indicating that they agree or strongly agree. The mean response was 3.01 on a scale of 1 (strongly agree) to 5 (strongly disagree).

When asked if participating in professional development helped to improve evaluation scores in general, 56.4% agreed and 20.4% did not. When asked if professional development was important for the quality of student learning, an overwhelming 83.7% agreed and only 6% disagreed.

Table 23. Linear Regression: Hours of MNPS Professional Development and Perceived Impact

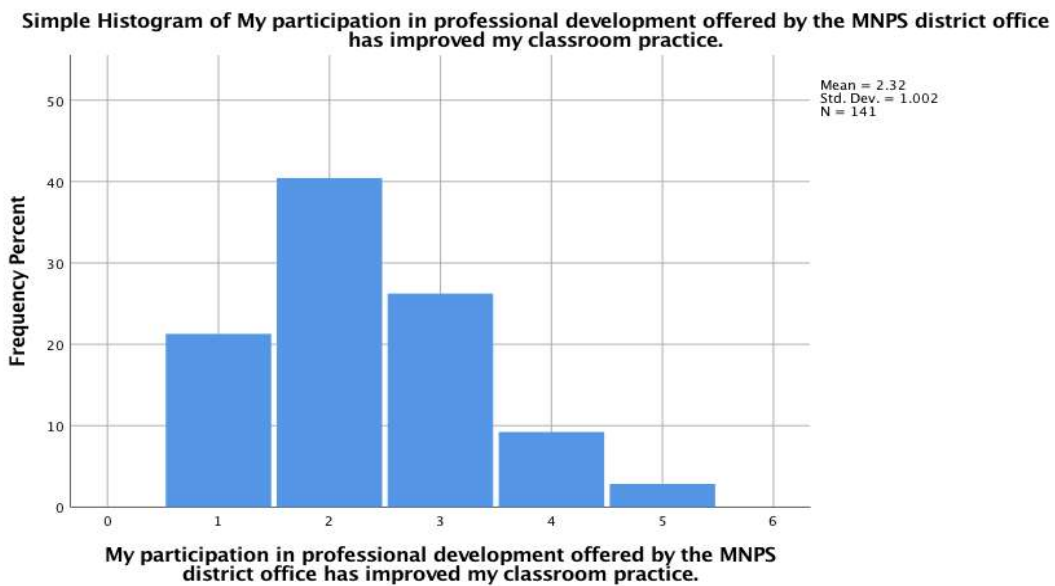
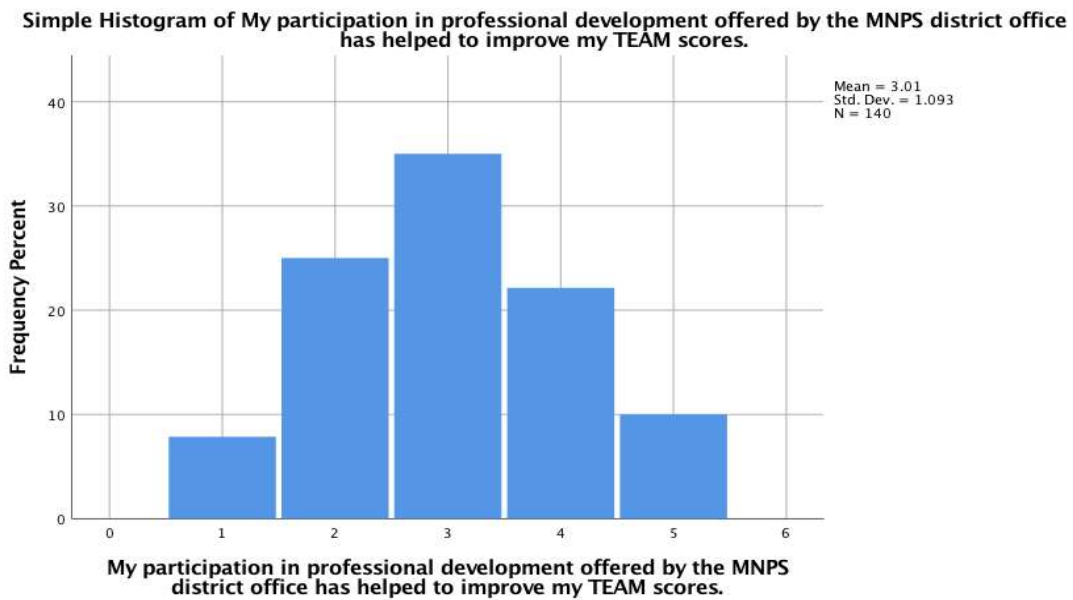
Model	Unstandardized Coefficients			R ²
	B	Std. Error	Sig.	
(Constant)	3.302	.853	.000	
Dummy Variable Female	-.031	.244	.900	
0-3 years of experience Dummy Variable	-.131	.832	.875	
4-10 years of experience Dummy Variable	-.128	.807	.875	
>10 years of experience Dummy Variable	-.001	.813	.999	
Dummy Variable Bachelor's Degree	-.344	.226	.131	
Dummy Variable Alternative Certification	-.127	.271	.640	
Hours of MNPS Professional Development	-.001	.004	.755	0.031

When we performed regression analysis using their reported hours of professional development as the independent variable and their response to the same impact question, the regression coefficient was - 0.001 and was not statistically significant at conventional levels.

Interestingly, when asked if their participation improved their classroom practice, the number of respondents that agreed or strongly agreed rose to 61.71% with a mean of 2.32 (1=strongly agree, 2=agree, 3=neither agree nor disagree,

4=disagree, 5=strongly disagree) (Figure 6). Only 17 respondents disagreed with this statement. A regression analysis with hours attended showed no statistically significant relationship indicating that respondents' opinions on the impact of professional development on teacher practice did not depend on hours attended (B=-0.002). The limit of this analysis, however, is the possibility of the social desirability bias present in because teachers were asked to self-report regarding the impact of district-level professional development on teacher practice.

Figure 6. Perceived Impact: MNPS Professional Development, TEAM Scores, and Teacher Practice



To summarize, we found that most teachers think that district level professional development helps them to improve their

instructional practices, but they see it as having little impact on their TEAM evaluation scores.

Teacher Focus Groups

We asked teachers to discuss the things that happened following their participation in professional development offered by MNPS. More specifically, we wanted to find out to what extent did MNPS professional development impact their classroom practice. In their focus group discussions, teachers talked about the applicability to practice, strategies and key takeaways, and coaching and follow-up.

A common refrain in our focus group discussions was the idea that professional development in MNPS “usually improves practice” and that most people generally look for a single significant idea to attempt to implement once they returned to their classrooms. Experienced and veteran teachers often referenced their participation in Classroom Organization and Management Program (COMP) Training earlier in their careers as being particularly impactful for their daily practice. Other teachers, on the contrary, indicated that they do not often get strategies that they can use because of the mismatch between resources used and their own. They reported that they found it frustrating when they wanted to implement lessons from district-led professional development, but the same resources were not available to them at their schools.

Applicable to Practice

“You take what you can, and you just let the rest go because you have to.”

- Veteran High School Teacher

Teachers in each of our focus groups said that they were searching for professional development experiences that gave them the opportunity to apply their learning to their own classroom practice. On one hand, most novice teachers said that the professional development offered by MNPS has had a strong impact on their teaching. They attributed this to their career stage, saying that because of their inexperience, these sessions often represented the first time being exposed to new curriculum or using particular instructional practices.

When the survey data was sorted into teachers with three or less years of experience and teachers with four or more, a difference in the average response to the practice question was observed (mean of 2.05 compared to 2.35) but the difference was not statistically significant at conventional levels ($t=1.20$ $p=0.2284$).

There was somewhat of a tension, however, for veteran teachers. One middle grades teacher with more than twenty years of experience exemplified this conflict when he said, “If I learn in the first 15 minutes I’m not gonna like this, I’m sitting in the group thinking this person [the facilitator] has 20 years less experience...I’m gonna listen, but I’m also gonna criticize more intently.” In this case, application to practice seemed to be unlikely. However, other veteran teachers at different schools echoed the idea that the impact of effective professional development was different for them at this stage of their careers. They said repeatedly that professional development was successful if they were able to glean and implement one idea or “a single nugget.”

In regression analysis, no statistically significant relationship was found when years of experience (independent variable) and perceptions of quality ($B=-0.304$) or improvement of practice were analyzed ($B=-0.002$).

Elementary and secondary teachers mentioned some specific MNPS professional development as having significant impact on teacher practice. Elementary teachers theorized that these experiences were particularly impactful for them because of the facilitators' modeling of novel teaching practices. This modeling allowed them to engage actively in the learning, and used resources that were aligned to those available in their own schools. Yet, secondary teachers said that content-specific takeaways that actually improved their teaching were rare. They reported that they did get general strategies (e.g., Cornell notes) and approaches to engaging students in classroom community, but they expressed doubt that MNPS professional development offerings have helped them to be stronger in content instruction.

"In Metro, someone out there comes up with some grand idea and just forgets what was so wonderful the past two years. We're gonna do this now, and it makes you crazy. You can't really get good at anything."

- Veteran Kindergarten Teacher

Elementary teachers in one group pointed out that mandatory professional development from the district carried a certain weight and was different from the ones that they chose to attend. They said

when participating in sessions concerning new curriculum, standards, or other district shifts, they approached the experience feeling as if they had no choice but to comply and change their teaching practices correspondingly. When they opted in, on the other hand, teachers indicated that they could be more critical and "decide what would be impactful for their kiddos."

Strategies & Key Takeaways

"We went and went away knowing the same as when we came. As a result, we still don't feel confident or prepared to implement [portfolios]."

- Kindergarten Teacher

One unifying idea that emerged from the focus group discussions was that teachers trusted facilitators who were able to explain strategies that they themselves had seen to be effective in their own classrooms. They suggested that they were more willing to try implementing these approaches and found them to have the most lasting influence their own teaching.

Finally, teachers reported a lack of concrete modeling to help their implementation. One group of teachers expressed their frustration with professional development sessions in which it seemed that they had more experience with implementing a new district mandate than the presenters did. In that case, the group of teachers said that presenters were unable to answer any questions or direct them to resources to guide their own independent efforts outside of YouTube. At another school, a teacher described an experience in which she did successfully implement practices that she learned at a MNPS professional

development session in such a successful manner that her principal requested that she lead her colleagues in their own in-house session(s).

Coaching & Follow-Up

“No. They just reteach it again. We just keep relearning the same things.”

- Kindergarten Teacher, on coaching

Teachers reported that when engaging in professional development, they were constantly assessing the content and trying to “decide what [would be] most impactful” for their students. However, teachers asserted that there was very little follow-up from presenters and limited opportunities for coaching after completing sessions with the district, leading to difficulty with improving their own practice. Veteran teachers recalled that sessions of sustained duration (i.e., sessions lasting two or more days) or with follow-up days built in to discuss implementation were more commonplace five years ago, but these were more rare in current times.

Because of their desire to collaborate or situate their learning within their own teaching contexts, some principals and teacher leaders have attempted to create their own follow-up, whether through brief reporting out at faculty meetings or more

structured team planning. However, teachers said that this task could be difficult unless everyone on the grade-level team attended the same session. Teachers said that there was a “soft understanding,” especially at smaller schools, that everyone on a grade-level should not try to be out for professional development at the same time. Instead, all teams mentioned trying to attend district level professional development together during the summer for this purpose.

What predicts perceptions of the impact of professional development in MNPS?

We chose to explore this question by examining teacher level differences. These include:

- Gender
- Race
- Content Area
- Certification
- Grade Tier

We chose these variables because they represent important proxies for our antecedents. For example, the type of teacher certification (i.e., traditional and alternative certification) speaks to prior training and knowledge, which could relate to the degree to which teachers perceived professional development to improve their classroom practice.

Perceived Impact of District-Level Professional Development and Gender

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	108	2.28	.975
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	108	3.00	1.094

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	27	2.59	1.118
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	26	3.04	1.113

While there was a slight indication that female teachers viewed the district-level professional development opportunities in a more positive light, as indicated by a

lower mean score, the difference was quite small and was not statistically significant at conventional levels ($t=1.43$, $p=0.1539$).

Perceived Impact of District-Level Professional Development and Race

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	25	2.56	1.121
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	24	3.04	1.334

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	106	2.32	.991
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	106	3.03	1.028

We found that the differences in Black and White teachers’ perceptions of their improved classroom practice after participation in district-level professional

development was very minimal and not statistically significant at conventional levels (t=1.06, p=0.28).

Perceived Impact of District-Level Professional Development and Content Area

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	37	2.16	.928
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	37	2.81	1.050

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	26	2.31	.928
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	25	2.92	1.115

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	20	2.55	1.146
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	20	3.15	.988

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	20	2.30	1.081
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	20	2.95	1.099

We found that Science and Mathematics teachers perceived that their participation in professional development offered by MNPS improved their classroom practice more than did other groups included in our analyses, with a mean response of 2.16.

However, this difference was not statistically significant at conventional levels (Mathematics and Science: Elementary $t=0.51$, $p=0.61$; English Language Arts $t=0.58$, $p=0.56$; Humanities $t=1.39$, $p=0.17$).

Perceived Impact of District-Level Professional Development and Certification

Table 32. Perceived Impact: Teachers with Traditional Certification

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	117	2.31	1.038
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	116	3.03	1.149

Table 33. Perceived Impact: Teachers with Alternative Certification

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	17	2.41	1.121
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	17	3.00	1.118

We found that teachers who came to be certified through alternative paths perceived that their participation in professional development offered by MNPS improved their classroom practice less than

did those teachers who were certified through traditional means. However, these differences were not statistically significant at conventional levels ($t=0.957$, $p=0.34$).

Perceived Impact of District-Level Professional Development and Educational Attainment

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	45	2.11	.859
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	45	2.76	1.090

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	78	2.41	1.050
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	77	3.17	1.081

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	17	2.41	1.121
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	17	3.00	1.118

We found that teachers whose highest level of education was at the bachelor's level of perceived improvement in classroom practice because of their participation in professional development offered by MNPS, with a mean response of 2.11.

However, none of these differences were statistically significant at conventional levels (Bachelor's to Master's practice $t=1.6$ $p=0.106$; Bachelor's to Doctorate practice $t=1.13$ $p=0.26$).

Perceived Impact of District-Level Professional Development and Grade Tier

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	49	2.43	1.061
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	49	3.20	1.060

	N	Mean	Std. Deviation
My participation in professional development offered by the MNPS district office has improved my classroom practice. (1=strongly agree to 5=strongly disagree)	86	2.27	.975
My participation in professional development offered by the MNPS district office has helped to improve my TEAM scores. (1=strongly agree to 5=strongly disagree)	85	2.99	1.086

We found that secondary teachers more strongly agreed with the statement that their participation in professional development offered by MNPS has improved their classroom practice, with a mean response of 2.27. However, these findings were not statistically significant at conventional levels ($t=0.888$ $p=0.376$).

Perceived Impact and Perceived Quality of District-Level Professional Development

With a clearer understanding of perceived quality and a thorough investigation of impact on teacher practice, we decided to study the relationship between quality of professional development and impact on practice. To begin, we chose eight variable that focuses specifically on our 7 elements of high quality professional development: content focus, active learning, collaborative,

models effective practice, coaching and support, feedback and reflection, and sustained duration. Eight variables were chosen and principal component analysis was performed. Two components had eigenvalues greater than 1, but the first component (eigenvalue of 2.926) with seven of the eight variables included. The rotated component matrix likewise pointed to this conclusion. The Cronbach's Alpha for these seven variables was 0.815, indicating very good internal reliability. We made the decision to use those seven to create a quality index variable. The averaged value ranged from 1 to 4.71, with a mean of 2.21 and a standard deviation of 0.651. As a reminder, the lower the value, the higher the perceived quality of the professional development sessions attended. (N=133).

We performed a regression analyses with the quality index as the independent variable and the perception of MNPS professional development improving classroom practice and TEAM scores as the dependent variables and found a relationship that was positive and statistically significant at conventional levels

($B=1.068$ and 0.873 , respectively, $p<0.05$ on both). These findings strongly indicate that as teachers' perceptions of the quality of MNPS professional development increased, so did the likelihood that they would perceive that their professional development improved both their classroom practice and TEAM score.

5

Discussion & Interpretation

How are Patterns of Teacher Engagement in Professional Development Related to Professional Contexts and District Policies?

Finding 1: Teachers saw professional development as a responsibility and important for improving instruction.

In the survey, 94.6% of teachers agreed or strongly agreed that pursuing professional development opportunities was a professional responsibility. When asked if their peers viewed professional development similarly, however, only 31% strongly agreed, a 40% drop from their own view. This finding, accounting for social desirability, suggests that maybe not everyone in MNPS school buildings views professional development as a professional responsibility.

When asked about their motivations for pursuing professional development opportunities during the focus groups, teachers spoke about wanting to fill gaps in their knowledge, responding to changes in expectations, and helping students perform on high stakes tests.

A first-grade teacher summed the idea up by saying, "...I think that you're always supposed to be growing and learning and honing your craft and making yourself the

best that you can be...as a teacher, it's your responsibility to do that."

Finding 2: MNPS professional development was under-utilized.

An analysis of data provided to us by the district office indicated that 60.8% of seats were unoccupied during academic year 2016-2017. We found this statistic surprising since teachers in our focus groups spoke often of not being able to get the sessions they wanted because they were "full." In our survey, we asked why teachers sign up but do not attend and they replied that "something came up" or that they were sick or could not get a sub. A few also stated that their administrator denied their request.

In addition, 76% of teachers used three or fewer of their five allotted professional development days. When asked why during focus groups, they talked about having to use their professional development days for proctoring assessments or field trips.

Finding 3: It was unclear which elements of school organization were related to teachers' engagement in MNPS professional development.

As previously described, we created a scale for the school organization that took into account various logistical challenges and aspects of school context (e.g., getting a substitute teacher, lesson planning, and administrator support). It was our prediction that these inhibiting structures

would interfere with the teachers' ability to pursue professional development. In the survey, only 27.1% of teachers reported no significant barriers to attending professional development. Regression analysis with this index variable and hours of professional development produced a statistically significant result but with a small and negative regression coefficient, which is the opposite of what was expected. A quote from a high school science teacher, though, is more in-line with what we expected, "In my professional opinion, taking those days off is the hardest thing to do. You plan more for that than a regular classroom setting...because no one can teach it the way you teach it."

Finding 4: Faculty culture was related to teachers' engagement in MNPS professional development.

To better understand faculty culture, or what could also be thought of as culture of collaboration, we created a scale and did a regression analysis with engagement as the dependent variable. The faculty culture scale includes constructs related to learning communities, colleagues observing each other, time set aside for collaboration, leaders encouraging mentor relationships, leaders encouraging collaboration, and leaders communicating that they value collaboration. Although the regression produced a positive regression coefficient, the finding was not statistically significant at conventional levels. This finding can be interpreted in two ways. One, if the teacher's school is highly collaborative they may feel less inclined to pursue professional development opportunities outside of the building as it is less of a felt need. Alternatively, if the school is not collaborative in nature, teachers may have

less desire or interest in professional development. These assertions together could account for the inconclusive result of the regression. One high school English teacher makes the second point this way: "We have our Literacy...whatever she's called now...LTDS. She's amazing. I don't feel like I have to go outside of the building to get that."

Finding 5: There were interesting distinctions by teacher characteristics as related to engagement in MNPS professional development.

When engagement was analyzed by gender, race, grade tier, content area, and type of certification, no statistically significant differences were discovered. In focus groups, however, teachers stated that experience and veteran teachers get different things out of professional development than do novice teachers. Experienced teachers were better able to figure out how and what to sign up for while novice teachers shared that they often had no idea how to sign up, although a few shared that more experienced teachers were happy to help.

How do Teachers in MNPS Perceive the Quality of Professional Development?

Figure 7. Key Elements of High Quality Professional Development	
Leading Indicators	Lagging Indicators
Content-Focused	Sustained duration
Supports collaboration	Coaching
Modeling of effective practice	Feedback and Reflection
Active Learning	

Finding 1: Overall, teachers saw MNPS professional development as having many indicators of quality.

The quality index variable that was created had a Cronbach’s Alpha of 0.815 and a mean value of 2.21, where 1 is strongly agree and 5 is strongly disagree. These data tell us that overall, teachers in our survey perceive the professional development offered through the district office of MNPS as having many of the characteristics of high quality professional development. Our focus groups teachers spoke about a balance of method of delivery and highlighted active learning as common. They said that they received opportunities for collaboration but wanted more. They also spoke of some of the presenters modelling effective practice, but

elementary teachers felt that they were seeing the same methods repeatedly.

Finding 2: There were interesting distinctions by teacher characteristics as related to perceptions of quality of district-level professional development.

An analysis of the survey data did not indicate any statistically significant differences in demographic data (e.g., gender, race, grade tier, content area, and certification) in terms of their view of quality. Regression analysis of teacher experience and perceived quality likewise did not demonstrate a statistically significant result. Focus group teachers, on the other hand, spoke about differences based on career stages; it seemed that new teachers could not get enough and more experienced teachers simply look for one thing that they can take out of the session. A high school science teacher said, “In the catalog for high school, I’ve never found anything applicable. There’s nothing for high school curriculum.” A kindergarten teacher put it this way, “This is stuff that we have been trained on over and over again. We’re not scared to learn new stuff.”

To What Extent Does Professional Development Offered by MNPS Impact Teacher Practice?

Finding 1: In general, teachers believe that MNPS professional development has some impact on classroom practice.

About 61% of teachers surveyed indicated that they agreed or strongly agreed that their participation in district-level professional development has improved their classroom practice. In our focus groups, novice teachers said that professional development had a significant impact on their teacher practices. More experienced teachers demonstrated a more critical lens speaking often of having to actively search for something and maybe just taking a “single nugget.” A veteran high school teacher said it this way: “You take what you can, and you just let the rest go because you have to.” Novice teachers perhaps have a different view owing to their lack of experience and increased likelihood of interacting with new ideas and strategies. Teachers also spoke of the difference between mandatory professional development sessions and the ones they can choose for themselves, preferring the latter.

Finding 2: Teachers saw MNPS professional development as having little direct impact on TEAM scores.

When asked if their participation in district-level professional development impacted their TEAM scores, only about 32% affirmed this statement. Focus group teachers spoke of a connection that may be indirect. Each of the high impact professional development experiences reflect the indicators on the TEAM general educator instruction rubric (lesson structure, pacing, presenting content, and motivating students), but perhaps the connection was not as obvious to teachers in our study. It is difficult in the context of this study to say if

the lack of relationship between TEAM and engagement is due to the quality of TEAM as a proxy or the quality of the professional development.

Finding 3: Teachers saw duration of sessions offered by MNPS as being related to improved classroom practice.

While all seven indicators of high quality professional development are important and research has shown that all elements should be present, duration seems to have a more significant impact in our research. When survey data was sorted by teachers who indicated that the professional development they received was of high quality, their perception of impact on both classroom participation and TEAM score improved (mean of 2.05 and 2.75 respectively). When the data was sorted into respondents who disagreed or strongly disagreed that their professional development was of sustained duration, the numbers rose to 2.76 and 3.51 (the lower the score, the more the teacher agreed with the statement). These differences are statistically significant at conventional levels ($t=3.42$, $p<0.05$). Literature and the strategic plan of MNPS are in line with the idea that sustained duration is critically important.

After analyzing the Fall 2017 Professional Development Catalog, we found that the leading indicators of quality were disproportionately represented as very few of the 80 sessions indicated duration as summarized in Table 39.

Table 39. Quality: Fall 2017 MNPS Professional Development Catalog (n = 80 sessions)	
Leading Indicators	Lagging Indicators
69 were Content-Focused	9 were of Sustained Duration
28 indicated Active Learning	5 included Reflection & Follow-up
19 indicated Collaboration	2 included Coaching
	1 referenced Feedback

6

Recommendations & Conclusion

Crosscutting Themes

Differentiation in both Content and Context

Focus groups teachers shared a common refrain: please differentiate our professional development by cluster or quadrant. The spoke often about how, “our school is different,” or “what works for (insert other school name) will not work for our students.”

In addition to a call to differentiate by context, teachers call for differentiation by content: “I like it to be specific to my professional needs, which I know is hard for a huge system to do. I think a lot of times, we kind of blanket that.” In addition, there is a request to differentiate by level of expertise. For example, teachers requested specific content areas as well as the opportunity for teachers who already have some experience, knowledge, or established expertise (leveling) to be afforded separate, more advanced options. “So many times they talk about students’ IEPs and individualizing, but they don’t do so for the schools.”

Adult Learning Theory

Teachers asked for choice and self-determination. One teacher said, “To be forced to do it makes me feel like I’m not being treated as a professional.” It was clear from our research that true choice is limited

as both professional development days as well as offerings are often determined by school or district policies. One teacher said, “We want to have input concerning the duration, content of MNPS PD sessions, and we want to have the opportunity to have coaching and feedback built into structure of MNPS PD.” Understanding professional development in the context of adult learning theory will give the district greater insight into meeting the needs of their teachers.

Rock Star Presenters

A common mantra in our focus groups was referencing what we termed, “Rock star presenters.” These were the facilitators who could do all of the things that we have talked about as high quality professional development. Further, they had the ability to motivate teachers to be engaged both during and after the session.

Mixed Messages: Logistical Concerns and Administrative Support

Supportive principals and school leaders with a collaborative culture was often undercut by structures that make it difficult to pursue PD offerings. Logistical concerns are evidenced in the quotation, “I mean, it’s a lot of work to miss a day of school. You have to make a plan for a sub who has never been in your classroom, making sure that for 70 minutes your kids have stuff to do. Print it off, put it all together, make sure

that the office has it. It's a lot of effort." If teachers see it as being prohibitively difficult to miss a day of school, they will not pursue district level professional development on their own volition, regardless of how collaborative the culture is at their schools.

Recommendations

Given the findings in this research project, as well as the literature that formed the basis of our conceptual framework, it is our recommendation that MNPS pursue the following suggestions to meet their goals of offering professional development.

Address School and District Policy Concerns

Strategize with principals and teachers to circumvent school and district level logistical constraints to engaging in district professional development.

Leverage Existing Job-Embedded Professional Development Structures

Combine high quality, district-level professional development sessions with effective job-embedded instructional coaching that are intentionally linked to promote sustained duration.

Gather Data on Teachers' Perceptions of Quality

Consistently gather and use post-session evaluations to determine perceived quality and support for planning future professional learning opportunities.

Seek out the Non-Choosers

Intentionally seek out the opinions of teachers who do not engage in MNPS professional development. Consider leveraging alternative models of professional learning.

Prioritize Differentiation

Differentiate professional learning experiences by teachers' level of experience with a topic, course content, or even by geographic cluster/quadrant. Consider a variety of professional development models and methods of delivery to be responsive to teacher and student data.

Shift Focus to Implementation

Develop a mechanism for supporting teachers in successful implementation of professional learning by concentrating on lagging indicators of high quality professional development in workshop design (i.e., coaching, feedback, and reflection).

- Allen, H., & McElroy, K. (2016). *Education Report Card 2016: Nashville, Tennessee* (No. 25). Chamber Education report Card Committee. Retrieved from https://s3.amazonaws.com/nashvillechamber.com/PDFs/education_report_card_2016__web.pdf
- American Institutes for Research. (2013, December 24). A New Two-Year Study of Professional Development for Math Teachers Finds No Statistically Significant Impact on Teacher Knowledge or Student Achievement. Retrieved March 26, 2018, from <https://www.air.org/news/press-release/new-two-year-study-professional-development-math-teachers-finds-no-statistically>
- Borko, H. (2004). Professional Development and Teacher Learning: Mapping the Terrain. *Educational Researcher*, 33(8), 3–15.
- Darling-Hammond, L., Hyler, M. E., Gardner, M., & Espinoza, D. (2017). *Effective Teacher Professional Development*. Learning Policy Institute. Retrieved from https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT.pdf
- DeMonte, J. (2013). High-Quality Professional Development for Teachers: Supporting Teacher Training to Improve Student Learning. *Center for American Progress*.
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181–199.
- Desimone, Laura. (2014). Math Professional Development Study End-of-Year Teacher Survey. Unpublished survey instrument.
- Desimone, L. M., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of Professional Development on Teachers' Instruction: Results from a Three-year Longitudinal Study. *Educational Evaluation and Policy Analysis*, 24(2), 81–112.
- Diamond, J. B. (2012). Accountability policy, school organization, and classroom practice: Partial recoupling and educational opportunity. *Education and Urban Society*, 0013124511431569.
- Elmore, R. F. (2000). Building a new structure for school leadership. *Albert Shanker Institute*. Retrieved from <http://eric.ed.gov/?id=ED546618>

- Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record*. Retrieved from <http://bir.brandeis.edu/handle/10192/33196>
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What Makes Professional Development Effective? Results From a National Sample of Teachers. *American Educational Research Journal*, 38(4), 915–945.
- Glazer, J. L., & Peurach, D. J. (2015). Occupational Control in Education: The Logic and Leverage of Epistemic Communities. *Harvard Educational Review*, 85(2), 172–202.
- Hightower, A. M., Delgado, R. C., Lloyd, S. C., Wittenstein, R., Sellers, K., & Swanson, C. B. (2011). Improving student learning by supporting quality teaching. Retrieved on, 3, 14.
- Jensen, B., Sonnemann, J., Roberts-Hull, K., & Hunter, A. (2016). Beyond PD: Teacher professional learning in high-performing systems. *Washington, DC: National Center on Education and the Economy*, 28.
- Kennedy, M. M. (2016). How Does Professional Development Improve Teaching? *Review of Educational Research*, 86(4), 945–980.
- Kraft, M. A., Blazar, D., & Hogan, D. (2016). The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research*.
- Kyndt, E., Gijbels, D., Grosemans, I., & Donche, V. (2016). Teachers' everyday professional development: mapping informal learning activities, antecedents, and learning outcomes. *Review of Educational Research*, 86(4), 1111–1150.
- Little, J. W. (2002). Locating learning in teachers' communities of practice: Opening up problems of analysis in records of everyday work. *Teaching and Teacher Education*, 18(8), 917–946.
- Metropolitan Nashville Public Schools. (2017). *Exceeding Great Expectations: MNPS Strategic Framework* (Vol. 284, p. 2545). <https://doi.org/10.1111/febs.13874>
- Teachers Know Best: Making Data Work for Teachers and Students. (2015). *Bill & Melinda Gates Foundation*. Retrieved from <http://files.eric.ed.gov/fulltext/ED557084.pdf>
- Williams, D. (2017, June 18). Request for Assistance Memo: MNPS Professional Development and Learning. Unpublished memo.
- Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement. Issues & Answers. REL 2007-No. 033. *Regional Educational Laboratory Southwest (NJ1)*.



Appendices

Appendix A: Principal Recruitment Letter

December 4, 2017

Good morning, Principals -

With permission from the Research, Assessment, and Evaluation office, your school has been selected to take part in a research study of professional development in MNPS. This project is being conducted by two doctoral students (LaToya Anderson, an MNPS LTDS, and Brian Polk) from Vanderbilt.

Only a select number of MNPS schools were selected to take part in this study and thus represent the views of all certificated teachers in the district. While participation is voluntary, it will ensure that the voices of MNPS teachers are heard so we can improve our professional development experiences for teachers. The focus groups should take approximately 50 minutes of teachers' time. The groups will be 6-10 teachers in size and will be audio-recorded. They will be conducted during common plan times. Compensation is not offered for participation.

Please work to accommodate the research of LaToya and Brian. If you have any questions, please do not hesitate to contact me or Tina Stenson.

Brian and LaToya will follow up with more details. We want to be sure we work with each school to work around your schedules. The visits will not take place until late January.

Sincerely,

Dr. David Williams and Dr. Tina Stenson

Appendix B: Focus Group Guide

Introduction

Professional development refers to a variety of activities intended to enhance your professional knowledge and skills, including workshops, seminars, institutes, college courses, coaching, mentoring, teacher networks, getting observed and receiving feedback on your teaching, and committee work.

However, this study focuses exclusively on professional development offerings from MNPS, which can be found in the Professional Development Catalog published each semester by the Department of Curriculum and Instruction.

Ice Breaker

- How long have you been teaching? How much of that has been in MNPS? (ANTCONEXP)
- What was the best PD session you have ever attended? Why? (QUAL)

Antecedents

- How do you decide if/when you will attend professional development sessions outside of your school building? (ANTCONORG) (ANTMOTEXT)
- How many PD sessions have you attended in the last two years?
 - What are some reasons you did not attend more often? (ANTMOTEXT)
 - Why did you choose the sessions you chose? (ANTMOTEXT)
 - If you chose to attend PD outside of the district, (college courses, webinars), why?
- To what degree is your school leadership (principal, AP, deans, team leaders) supportive of your attending PD? In what ways do they help make that happen or make it difficult? (ANTMOTEXT)
- Do you think professional development is a part of your professional obligation as a teacher?

Why or why not?

- How do you go about fulfilling that obligation?

Now, let's talk about how you think about the quality of PD sessions in MNPS.

- How would you describe the quality of the sessions you attended?
 - In what ways did the sessions align with the work you do at your school? (QUALPER)
 - What instructional practices or teaching strategies, if any, have you been able to learn by watching the people leading the sessions? (OPTPAPP, OPTTRANS)
 - What things did the presenters say or do that increased/decreased your engagement? What stood out (highs and lows)? (OUTPUT)

Finally, we'd like to ask you some questions about the things that happened after pd.

- What kinds of follow up or coaching was there after the sessions, if any? For example, are you usually able to work with anyone back at your school to think further or apply the things that you learned? (QUALACTCOACH)
- In what ways, if any, have the professional development offerings that you have attended changed your teaching practice? (OPTPAPP)
- Is there anything else you'd like for us to know regarding PD?

Appendix C: Conceptual Framework Linked to Data Collection Strategy

Construct	Sub-construct (CODEBOOK) <i>and data collection strategy</i>
Antecedents	<p>Context</p> <ul style="list-style-type: none"> ● Teacher Characteristics- <i>MNPS data, survey</i> <ul style="list-style-type: none"> ○ Content area (ANTCONDISC) ○ Grade level (ANTCONGL) ○ Educational attainment ○ Career stage (years of experience) ○ Teacher preparation (ANTCONPREP) ● School Characteristics- <i>MNPS data, survey, focus groups</i> <ul style="list-style-type: none"> ○ School Organization (ANTCONORG) <ul style="list-style-type: none"> ▪ Getting a substitute teacher ▪ Creating lesson plans for substitutes ▪ Administrator helping support professional development ▪ Logistical concerns ○ Faculty Culture <i>Focus groups</i> <ul style="list-style-type: none"> ▪ Learning community ▪ Colleagues observe each other ▪ Collaboration encouraged ▪ Set aside time for collaboration ▪ Leaders communicate their value of collaboration ▪ Mentor-type relationships ● Motivation - <i>Survey, focus groups</i> <ul style="list-style-type: none"> ○ Intrinsic <ul style="list-style-type: none"> ▪ Professionalism ▪ Feelings of efficacy ○ Extrinsic <ul style="list-style-type: none"> ▪ Student needs ▪ Requirements for licensure or evaluations ▪ Policy demands <p>Motivation Intrinsic (ANTMOTINT) – <i>Survey, focus groups</i></p>

Teaching Teachers: Perceptions of District-Level Professional Development in MNPS

	<ul style="list-style-type: none"> o Professionalism o Efficacy ● Extrinsic (ANTMOTEXT) - <i>Survey, focus group, MNPS data</i> <ul style="list-style-type: none"> o Student needs o Requirements for licensure or evaluations o Policy demands o Incentives
Quality	<p>Perceived Value - <i>Survey, focus groups</i></p> <ul style="list-style-type: none"> ● Utility/value (QUALPERUT) ● Alignment (QUALPERAL) <p>Perceived Quality – <i>Survey, focus groups</i></p> <ul style="list-style-type: none"> ● Duration (QUALACTDUR) ● Interactive/Active (QUALACTINT) ● Content focus (QUALACTCON) ● Support and collaboration (QUALACTSUPP) ● Model effective practice (QUALACTMOD) ● Coaching (QUALACTCOACH) ● Feedback (QUALACTFB)
Output	<p>Teacher Practice - <i>MNPS data, TEAM scores, focus groups, survey</i></p> <ul style="list-style-type: none"> ● Applicable to practice (OPTPAPP) ● Transfers to others (OPTPTRANS) <p>Engagement</p> <ul style="list-style-type: none"> ● Actual attendance (OPTPUT) <i>MNPS data, survey</i>

