ADVANCING IMPACT AND PERCEPTION OF LITERACY PROFESSIONAL DEVELOPMENT

Quality Improvement for Literacy Professional Development Organization (LPD)

In fulfillment of the requirements for the degree of Doctor of Education in Leadership and Learning in Organizations

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Acknowledgements and Gratitude

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Executive Summary

Context

A literacy professional development program, LPD, is a start-up educational organization whose mission is to develop teachers, school, and system leaders to effectively use evidence-based literacy materials and practices for the benefit of student learning. LPD provides two types of services—consultant work (school support) and professional development—to execute their mission. Formed in 2019 with six employees, the work of LPD is national in scope, though LPD's consultant services in the first year focused primarily on partnerships with networks in Indianapolis, Memphis, New Orleans, New York City, and San Antonio. Seeking to address a national crisis around early literacy instruction, LPD imagines a world where all children receive high-quality reading instruction powered by the science of reading.

LPD engaged me in a quality improvement project to increase their market and measure effectiveness of services. In this work, we explored how can they define their impact on student learning, how can they increase their impact on student learning, and how can they define, deepen, and widen their client base.

Initial research demonstrated the difficulty in tying the efficacy of their professional learning services directly to student-outcomes, which led us to seek proxies to measure impact and perception of their services. The literature informed the conceptual framework built on self-efficacy theory, self-directed learning theory, and customer growth research. From this framework we arrived at three goals for the quality improvement project: 1) learning more about LPD's impact on the self-efficacy of clients, 2) improving the client self-efficacy, and 3) increasing the number of client promoters of their work. The assumptions underlying these goals are that 1) by increasing self-efficacy of their clients, their clients will then be able to increase student outcomes, and 2) by increasing the number of promoters of their work, LPD can expand its client base to impact more leaders, teachers, and, therefore, students.

Research Approach and Methodology

The following research questions framed LPD's context, their problem of practice, literature, and goals for quality improvement:

1. How does LPD impact the self-efficacy of their professional development participants?
2. How does LPD impact the self-efficacy of educators in the schools of their consultant services?
3. How can LPD improve perception of its services with current stakeholders?

To interrogate these research questions, I utilized an exploratory mixed-method approach. I developed and worked with LPD's Director of Special Projects to survey clients. We collected both qualitative and quantitative data, centering around tested instruments the Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS) and questions measuring the Net Promoter Score (NPS). I included several open-ended to expand and complement these findings. Additionally, I conducted convenience sample interviews of participants of LPD services. I encountered several limitations to the data collection, including a sharp change in services due to the pandemic, a reduced number of post-tests, and lack of a representative sample of interviews.

Summary of Findings

Despite these limitations, the data did reveal six notable findings:

1. LPD did not consistently impact self-efficacy.
2. The bright spots in self-efficacy demonstrated by traditional districts and independent charter schools suggest a broader audience could be an attractive long-term option for a client base.
3. Teachers and school leaders showed the most promising potential impact from LPD Services, suggesting that LPD services align most closely with those working in the classroom.
4. Perception of services was largely positive and did not differ much amongst school-based participants.
5. LPD clients desire discrete products, not continuous services.
6. There was a strong positive correlation amongst self-efficacy measures and the likelihood to recommend LPD, indicating that the more efficacy a participant felt, the higher perception they had, and vice-versa.

Recommendations

Considering these findings, I made three recommendations to LPD to advance their impact and perception of their professional learning services, all built around the *Switch* framework of change management and suggesting self-efficacy improvements proposed in Bandura's work on improving self-efficacy in performance-based professions (Bandura, 1997; Bandura, 2001). The recommendations are as follow:

1. **"Direct the Rider" by scripting the playbook for implementing science of reading strategies for audiences.** LPD should showcase the best examples of the science of reading in a variety of contexts in order to promote transfer to individual settings. LPD should script the moves for each literacy strategy to best enable enactive mastery experiences. LPD should explicitly connect student outcomes to their services.
2. **"Motivate the Elephant" by engaging audiences outside LPD's traditional client base to evangelize the science of reading and create proof points.** LPD should allow more practical and realistic opportunities for participants to practice and feel the effectiveness of strategies in their sessions. LPD should create tiered, differentiated implementation plans to shrink the change needed with a variety of audiences.
3. **"Shape the Path" by creating an inclusive, nurturing internal environment, and building vulnerable, solutions-based networks.** LPD should take initiative to cultivate networks of amongst their participants. LPD should more intentionally build inclusive, vulnerable environments in services to cultivate a culture of progress, not perfection.

By implementing these recommendations, the literature suggests that LPD will see improvements and clarity in their impact on student learning through the improvement of its participants and will chart a course to deepening and widening their client base through the improved perception of its services by current clients.

Introduction and Organizational Context

The 2019 National Assessment of Educational Progress (NAEP) reading scores provides a picture of how students are doing in fourth and eighth-grade reading. The scores do not provide a happy story. Since the last administration of NAEP in 2017, reading scores are down nationally in fourth and eighth grades. Across all racial demographics, there is a decrease in the percentage of students who are considered proficient readers, and there is a decrease in the percentage of students who are considered basic readers (NAEP Nation's Report Card, 2018). Actions that educators are taking to help children become skilled readers are not working.

Schools in the United States have spent billions of dollars over the last few decades trying to improve reading, and test scores are not much higher than they were in 1992 (NAEP Nation's Report Card, 2018). The lack of growth is also reflected in the most recent scores on PISA (Program for International Student Assessment). Not only do the performance results show that American 15-year-olds have been stagnant in reading since 2000, but also a fifth of American 15-year-olds scored so low on the 2019 PISA reading test that it appeared they had not mastered reading skills expected of a 10-year-old (Programme for International Student Assessment Results, 2019). According to Andreas Schleicher, director of education and skills at the Organization for Economic Cooperation and Development, which administers the exam, those students will face "pretty grim prospects" when they enter the job market (Balinget and Van Dam, 2019).

A Literacy Professional Development Organization (LPD) was founded to help schools across the country address the reading achievement problem at scale. While some organizations may offer professional development, some may sell a curriculum, and others may provide assessment tools and resources, LPD sets out to build coherence and mastery amongst all facets of reading instruction to seek strong reading outcomes for all kids.

Formed in 2019, LPD has six employees, all former teachers and school leaders who have a track record of success in strong literacy teaching from early childhood through middle school grades. In 2018, two of these former teachers were asked by two different school districts to help facilitate professional development and curate their curriculum, assessment, and professional development. In 2019, these two brought on three others (with specialties in middle school and early childhood) to assist in this consultancy. Through that work, the group decided to try and spin off into a separate organization, outside of the current schools they worked in, to work full time. While national in scope, LPD's services have been grounded in school partners in Indianapolis, Memphis, New Orleans, New York City, and San Antonio.

LPD's key activities are driven by two research-supported representations of how reading comprehension develops: 1) the Simple View of Reading (Gough and Tumner, 1986) and 2) Scarborough's Rope (Scarborough, 2001). LPD provides two types of services to achieve their mission of leading educators to effectively use evidence-based literacy teaching: consulting and professional development. Due to disruptions from COVID-19, LPD's services have sharply changed several times in 2020, and, while LPD's menu of services for clients has been fluid in terms of names and intended audiences, this paper will categorize all services as consulting or professional development. For the purpose of this project, LPD's consulting services will be defined as any service tailored for a specific client and built for multiple touchpoints, and includes services that LPD defines as Working Groups, Literacy Quality Reviews, and Coaching. LPD's professional development services will be defined as any service intended for a broad audience and built for one touchpoint. This includes services that LPD defines as Literacy Institutes and a selection of topical Professional Development sessions.

Problem of Practice

        The challenge facing LPD is determining how to market and measure the services that drive the execution of their mission. While the LPD team has a very clear vision of how reading instruction should look at a classroom level, LPD has struggled to turn that granular vision into a concrete theory of action and business plan for a sustainable organization. There is a need to define and align around a client base, determine the target audience for services, and prioritize the services that will be deemed most effective. The initial partnerships were focused on the district level of charter management organizations, but much of the planned professional development sessions were focused directly on individual teachers. The market base is also limited by districts that implement the rigorous literacy curricula that is endorsed by LPD. Working with districts, schools, and teachers depends on their adoption of specific curricula, and they might have varying ideas about how to implement with fidelity. Clients also will need financial resources- both for the short-term adoption of techniques as well as the long-term sustaining of said techniques. Clients will also need to culturally embrace, or at least accept, external contractors' support and intervention.

        Building off the need to define and align a client base, LPD is struggling with a concrete theory of action that connects inputs to established return on investment and/or results for student achievement. With so many other factors involved with student achievement and reading growth, it is difficult to tie LPD services directly to student achievement gains, so LPD faces a challenge in explicating concrete measures of success.

        With challenges as wide and deep as those above that would affect any new business regardless of mission, LPD and I landed on three guiding questions and three goals for the quality improvement project that would inform the literature review, research questions, and forthcoming data collection. Please note that self-efficacy is the proxy we landed on for impact, and explanation for this will be detailed in the conceptual framework section.

Table 1

Guiding Questions	Goals for Quality Improvement
How can LPD define its impact on student learning?	LPD will learn about their effect on the self-efficacy of their clients.
How can LPD increase their impact on student learning?	LPD will identify means to improve the self-efficacy of their clients.
How can LPD define, deepen, and increase their client base?	LPD will increase the number of "promoters" of their services amongst their clients.

These guiding questions and goals were consistently revisited throughout the project, led to the research questions and conceptual framework, and brought focus to the recommendations.

Conceptual Framework and Research Questions

LPD was very interested in positively impacting outcomes at the student level. With the issue of defining and tying impact on student outcomes to LPD's professional services, I pursued the academic literature around the impact of professional learning and literacy programs. Multiple explanations have been offered to explain the benefit and value add of literacy programs and professional development programs. However, there were no cases where professional development services could be tethered to student outcomes. Multiple studies have shown the difficulty in tying professional development directly to student outcomes (Bhola, 1990; Gamse, 2008; Mascia Reed, 2012; Lin, 2003; Marzano, Waters, & McNulty, 2005). These cited studies attempted to tie professional development to student outcomes, and while student-level outcomes can sometimes be tied to the increase in teacher efficacy, the leap to tying the increase in teacher efficacy that was specifically causing student-level outcomes to a particular professional development has not been conclusive. A deeper investigation into the isolation of professional development on student outcomes did not fit the constraints of this project.

However, several pieces of literature suggest intermediary effects that show professional development's indirect impacts on student outcomes (Guskey, 2012; Darling-Hammond, 2005; Byrk et al, 2010). The key lever is that professional development impacts the teacher, who can then, in turn, impact students. Through the research on ways that professional learning can impact teachers, self-efficacy theory, as well as the related self-directed learning theory, appeared particularly resonant for this problem of practice. Teachers' self-efficacy has been repeatedly demonstrated to be a relevant factor for the effectiveness of the teaching activity, as it is a powerful drive influencing the behavior of teachers in the classroom and the effort put in the endeavor (Klassen et al., 2009; Klassen and Tze, 2014). Therefore, improved teacher self-efficacy can result in improved teacher mental health and job satisfaction, and students' academic performance (Bandura, 1977).
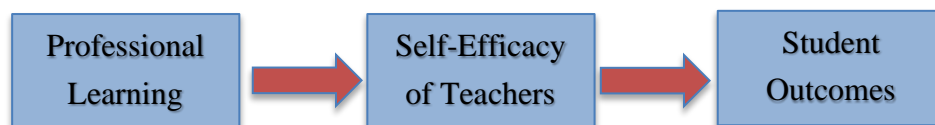
Both self-directed learning and self-efficacy have been shown to be increased by engaging in professional learning communities (Gammill, 2013) and are aligned with the goals of LPD. For the purpose of this study, self-directed learning is "a process in which the learner takes primary responsibility for learning experience" (Brockett & Hanna, 1991), and self-efficacy is "a person's belief in his or her ability to successfully complete a particular task" (Bandura, 1986). Inevitably, teacher identity is tied into efficacy and implementation and can be explored best in qualitative methods (Gammill, 2013).

Pervasive findings in the literature suggest that people with strong self-efficacy are likely to be more motivated to pursue action, contribute more effort towards those actions, and persevere to a greater degree in the face of obstacles (Bandura, 1991, 1997; Gist & Mitchell, 1992). Applying these findings to educators, I propose that educators with higher self-efficacy to enact key skills (such as those taught by LPD) will engage those activities more often and with greater effectiveness than those lower in self-efficacy. This proposition is supported by past

meta-analyses connecting self-efficacy to general work performance (Stajkovic & Luthans, 1998). To tie in LPD's support for school leaders, research also specifically links self-efficacy to effective leadership (Paglis & Green, 2002; Prussia, Anderson, & Manz, 1998).

> **Self-Efficacy: "A person's belief in his or her ability to successfully complete a particular task." (Bandura, 1986)**
>
> **Self-Directed Learning: "A process in which the learner takes primary responsibility for learning experience." (Brockett & Hanna, 1991)**

Studies of effective professional development have frequently focused on the implementation of strategies, whether in instruction (Lin, 2013), in higher education culture (Gardner, 1990), leader training (Hutton, 2013), or even health care (Macpherson, 2013). LPD already relies on a firm foundation of research for their curricula and instructional strategies, so implementing the strategies would be a key factor in linking to the ultimate goal for all parties: student outcomes. The implementation of strategies themselves will be challenging to measure longitudinally with the time and access constraints of this project, and, beyond the implementation of strategies, the identified self-efficacy of the teacher can have a positive impact on implementation (Lin, 2013).

Bandura found that "When performance determines outcome, efficacy beliefs account for most of the variance in expected outcomes. When differences in efficacy beliefs are controlled, the outcomes expected for given performances make little or no independent contribution to prediction of behavior" (Bandura, 2001, p.24). With teaching being a profession that embodies the need to tie outcomes to performance, self-efficacy is a promising measure to focus on in achieving their mission. It is impossible to divorce PK-12 students from the learning of teachers themselves, and teacher perception of their own ability and improvement can be a key factor in classroom implementation of evidence-based strategies (Gammill, 2013). Based on the desire of LPD's team and the proximity of definitions of self-efficacy and self-directed learning, this study will primarily be on self-efficacy in and of itself as well as a proxy for self-directed learning.

This led us to the first two research questions: **1) How does LPD impact the self-efficacy of their professional development participants?** 2) **How does LPD impact the self-efficacy of the instructors in the schools of their consultant services?** While setting out to answer these questions can help provide insight into recommendations for the first two goals of the quality improvement study, an additional layer is needed to address LPD's desire to define, deepen, and increase their client base. Due to the pandemic, the focus of this project was forced to shift mid-way. Initially, there was a more specific focus on the Institutes, but because only one could be observed before the pandemic, the first research question was modified to include a wider suite of professional development activities.

In seeking to help LPD grow their client base, I was drawn to customer growth research. Business researchers have sought out correlations between quantitative and qualitative metrics, and actual behavior (e.g. repeat purchases, recommendations to peers) that ultimately lead to profitable growth. The most resonant research is around the Net Promoter Score, a measure of customer loyalty widely used in the business community (Reicheld, 2003). Survey participants are asked to rate on a scale of one to ten, "How likely is it that you would recommend LPD to a

friend or colleague?" Those scoring 9 or 10 are considered "promoters"; those scoring 7 or 8 are considered "passives"; those scoring 6 or below are considered "detractors". The Net Promoter Score is equal to the percentage of promoters minus the percentage of detractors, with the goal of optimizing this score. As reference points, Apple laptops earn customer NPSs of 76, and Harvard Business School has a student NPS of 41.

This led to our final research question: **How can LPD improve the perception of its services with current stakeholders?** By seeking to answer this question, LPD can look for recommendations on how to increase the number of "promoters" of its services, the third goal in the quality improvement project.

Table 2

Executive Road Map					
LPD wants to be able to…	**Define their impact on student learning**		**Increase their impact on student learning**		**Define, deepen, and increase their client base**
Research Questions	**How does LPD impact the self-efficacy of their professional development participants?**		**How does LPD impact the self-efficacy of the instructors in the schools of their consultant services?**		**How can LPD improve perception of its services with current stakeholders?**
Frameworks	**Self-Efficacy Theory and Self-Directed Learning Theory**				**Customer Growth Theory**
Methods	**PRO-SDLS Survey**	**Qualitative and Quantitative Survey**	**Interviews**	**Observations**	**Qualitative and Quantitative Survey- grounded in Net Promoter Score**	**Interviews**

Methods

  The methods of data collection were structured in a way to glean the information needed to answer the research questions above. I utilized a mixed methods approach with a mixture of qualitative and quantitative data collection. The quantitative approach was grounded in novel surveys to LPD clients and the tools highlighted by the conceptual framework. The qualitative data collection was designed to expand on and deliver more depth to the quantitative data, which is especially helpful in a new organization trying to make meaning of their efficacy and perception.

  There is no perfect method for capturing the elusive construct of teacher self-efficacy (Tschannen-Moran & Hoy, 2000). As a widely used and validated proxy of teacher self-efficacy, Stockdale and Brockett (2011) built the Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS), which synthesizes the constructs of self-efficacy (Bandura, 1997), motivation, control, and initiative in order to measure both the act of self-direction in the learning process and the characteristics of a self-directed learner. When combining these four constructs, one can measure a professional learner's self-directedness, which can be used as a proxy for general self-efficacy (Gamill, 2013).

  By looking at self-directed learning and self-efficacy, the Personal Learning Orientation to Self Direction in Learning Scale (PRO-SDLS) can glean valuable information from participants (Stockdale & Brockett, 2011) on both surveys and interviews. This instrument has been tested as a measure of self-directedness in learning among college students and professionals and used to measure self-efficacy (Stockdale & Brockett, 2011). The PRO-SDLS consists of 25 Likert-type questions that best reflect a participant's degree of agreement or disagreement with statements pertaining to self-perceptions of their actions and beliefs in self-directed learning opportunities. An example: from Strongly Disagree (1) to Strongly Agree (6)- "I am confident in my ability to consistently motivate myself in my classroom, school, or system" measures.

  Two limitations of the PRO-SDLS are necessary to mention here, which informed the rest of the methods. First, LPD wished to cap the number of PRO-SDLS questions at ten, and the original, validated survey contains 25 questions. Together, we included the ten questions that aligned best to the internal goals of improving teacher efficacy of LPD, which included one question on general self-efficacy, three on motivation, four on initiative, and two on control (more details are included in Appendix A and the table below). Second, the PRO-SDLS, as a measure of self-directed learning, is a proxy for "general" self-efficacy of a professional (Bandura, 2001), unrelated to a specific domain. The PRO-SDLS instrument does not give domain-specific self-efficacy measures. In the instance of tackling LPD's problem of practice, they were particularly interested in improving the self-efficacy of teachers specifically in the domain of implementing literacy strategies offered by LPD's services.

  No validated measure was found that specifically addressed domain-specific self-efficacy in the literature, so I added a question to surveys that directly asked participants to rate their level of agreement with their confidence in implementing LPD-specific strategies after their engagement with LPD (either consulting or Professional Development). This question stemmed from the following "To what extent do you agree or disagree with the following statement: 'I am confident in implementing what I learned in {insert LPD service} in my school or work setting." Participants were asked to rate their level of agreement on a scale from one to six. This direct question filled in the missing piece of the PRO-SDLS survey by focusing on the self-efficacy of

implementing strategies, which best ties to LPD's goals. These methods are summarized in Table 3.

Table 3

Self-Efficacy Survey Questions			
Research Question Connection	**Component of Self-Directed Learning**	**PRO-SDLS Construct**	**Questions Included**
General Self-Efficacy (proxied by Self-Directedness of Learner)	The Learning Process (The Teaching-Learning Transaction)	Initiative	PRO-SDLS questions 2, 9, 10, and 15
		Control	PRO-SDLS questions 13 and 19
	The Learner Identity	Self-Efficacy	PRO-SDLS question 1
		Motivation	PRO-SDLS questions 8, 14, and 18
Domain-Specific Self-Efficacy	N/A	N/A	Researcher created question: "I am confident in implementing what I learned."

Surveys:

Execution: Surveys were sent to participants after 22 different LPD services, categorized as consulting or professional development. I sent 36 surveys to LPD consultant clients and 480 LPD professional development clients, and I received 18 responses (50% response rate) from consultant clients and 345 responses (72% response rate) from professional development clients. Surveys for consultant clients were emailed to clients by the LPD team as part of a "summary" email that LPD sent to client point persons within 24 hours each day of each consulting engagement. Surveys for professional development sessions were included as part of an "exit ticket" procedure and completed in the last 10 minutes of professional development sessions, where participants were both sent an email and provided with a link to the Google form. The fact that professional development participants had a fixed time and space to complete their surveys likely contributed to a higher response rate.

Materials: The surveys varied in length and slightly in content due to the variety of services and some slight changes in project design attributed to COVID-19. More is described in the limitations section and the notes below, but each survey included the following constants:

- **Demographic Questions:** Each survey asked several questions to gather information about the educator, including role (teacher, principal, etc.), organization (school, non-profit, etc.), and years in role.

- **Quantitative Items:**
  - **PRO-SDLS questions:** LPD and I chose 10 of the 25 PRO-SDLS questions to gauge self-efficacy. As described above, participants were asked to rate their degree of agreement or disagreement with statements on a scale of 1 (Strongly Disagree) to 6 (Strongly Agree).
    - **Consolidated Self-Efficacy:** These were combined together for a consolidated general self-efficacy score, which was used as proxy for general self-efficacy.
  - **Net Promoter Score question:** Participants were asked to score, on a scale of 1-10, "How likely is it that you would recommend LPD to a friend or colleague?"
  - **Questions around facilitator effectiveness:** While these questions were formulated based on a prior version of this research design and no longer core to answering the research questions, I decided to keep these questions for the extent of the study. Participants were asked to rate, on a scale of 1 (Strongly Disagree) to 6 (Strongly Agree), their degree of agreement or disagreement with three statements around facilitators:
    1) "The facilitator has deep knowledge about the material they are presenting."
    2) "The facilitator was clear and confident in delivering material."
    3) "The facilitator created a positive and collaborative culture among participants in the session."
    - **Modifications:** In engagements where there were multiple facilitators, each facilitator had a set of questions specific to them. Also, the question stem was modified to different engagements, so in most PD sessions, it was "the facilitator has…", but in consulting services, the stem started with "the coach has…" or "the working group coordinator has…".
  - **Domain-Specific Self-Efficacy/Confidence:** Clients were asked to rate, from 1 (Strongly Disagree) to 6 (Strongly Agree) their level of agreement or disagreement with "I am confident in implementing what I learned from LPD in my classroom, school, or system."
- **Qualitative Items:**
  - **PRO-SDLS explanation:** After the PRO-SDLS questions, an open-response item asked participants, "Please explain your ratings."
  - **NPS explanation:** After the NPS questions, an open-response item asked participants, "Please explain your rating."
  - **Open-Ended Questions about Strengths and Areas of Growth.** Open-ended questions were added for every survey, inquiring about general strengths of the services and areas of growth. These survey questions varied as the project design shifted to accommodate COVID-19 disruptions, but the questions included the following:
    - "What is one way LPD can improve?"
    - "What is one item from today's learning that you will take back to your school site?"
    - "What support do you need after today's session?"
    - "What was the most challenging concept you grappled with today with LPD?"

Participants: Please see Table 4 for the makeup of the 363 survey responses:

Table 4

Survey Participant Information		
Role Type:	**Organization Type:**	**Years of Experience in Current Role:**
•163 teachers •94 aspiring or intermediate leaders (Assistant Principals, Teacher Leaders, etc.) •100 school or systems leaders (Principals, Chief Academic Officers, etc.) •6 "other": (Consultants, Publishers, Curriculum Product Managers, etc.)	•110 from large Charter Management Organizations (CMOs) •155 from independent public charter schools •47 from traditional public districts •6 from other education organizations •45 left this blank	•172 in first or second year in role •53 in year 3 or 4 •79 five years or more

Interviews (see Appendix A):

Execution: I conducted 31 interviews with LPD clients. LPD asked to reach out to individuals to set up these interviews for me, so I do not know how many were contacted. While LPD connected me to the participants via email, they were not included in the actual interview nor given access to interview responses afterward. LPD and the interview participants agreed that individual responses would be kept confidential but that findings and trends generally would be shared with LPD after completing the project. All interviews were conducted via Zoom, and all were one on one.

Materials: Interview protocols were built off of 13 core questions, categorized by research questions. An additional 10-12 were used depending on the context and the service provided to the client. Several introductory questions were asked to build rapport and gather contextual information at the beginning of each interview.

Participants: Of the 31 interviews, 10 were systems or school leaders, and 21 intermediate or aspiring leaders. All were from independent charters or charter management organizations.

Observations:

I observed two professional development sessions: "The Literacy Institute", Jan. 23-24, 2020, San Antonio, TX and "Knowledge For Meaning Professional Development", May 7, 2020, Virtual (Zoom). In the original conception of this research project, the observations played a

central role. However, with the dissolution of Literacy Institutes as primary focus, the observation notes were only tangentially helpful and not central to any of the findings, but are included in the methods for background context.

Execution: In the original program design, I planned on attending two Literacy Institutes, one toward the beginning of my data collection (January) and one near the end of data collection (August or September). With the ramifications of COVID-19 and the shift to both LPD's services (including the sunsetting of Literacy Institutes), I attended one more Professional Development online. For the first Literacy Institute, I observed 8 of the 14 hours of programming over two days. There were 104 total participants over the two days, though that number fluctuated over the Institute (e.g., some participants came only for Day 2; some participants left after Day 1). I observed in-person from the back of the large classroom-like setup and walked around during breakout groups to listen to conversations and exercises. On May 7, I attended a virtual professional development titled "Knowledge for Meaning", which was four hours and included 24 principals, aspiring principals, and intermediate school leaders (Deans of Instruction, Content Leads, Curriculum Specialists, etc.) from across the country. This was conducted via Zoom, and I attended the session in its entirety. Both observed the whole-group and joined breakout rooms to listen in on small group discussions and activities.

Materials: I used a note-taking protocol which centered note-taking around four areas: 1) indicators of self-efficacy, 2) indicators of perception of LPD, 3) indicators of facilitation, and 4) focus on the implementation of strategies. While the latter two areas were more focused on a prior research design most focused on the Literacy Institutes, I kept this protocol for the May 7 session for the purposes of continuity. The facilitation section can still be tangentially helpful for Research Questions 1 and 3, and the implementation section is also tangentially helpful to Research Questions 1 and 3.

Participants: I was not able to procure a full list of participants for either session. The Literacy Institute had 104 total participants, and the Institute was targeted broadly from teachers to systems leaders and included participants from all types of schools, districts, and education organizations across the country, from New York to Texas to California. Of the 104, 59 took the survey described above, including 11 district/systems leaders, 7 school leaders, 21 intermediate leaders, 14 teachers, and 6 "other roles", which included curriculum editors, education consultants, and literacy product developers. For the May 7 Professional Development, 17 of the 24 participants completed the survey, including 8 aspiring or intermediate leaders, 8 school leaders, and one systems leader (a superintendent of an independent charter network). The organizations represented included three charter management organizations (CMOs), five independent charter networks, and nine traditional districts, geographically ranging from South Texas to Indianapolis to New York City.

Qualitative Analysis: Appendix C includes a matrix which summarizes data collected from interviews and open-response surveys. The analysis was completed by reviewing interview notes and survey responses and categorizing the responses into three categories of "impact" (Research Questions 1 and 2) and "perception" (Research Question 3). Since many participants participated in both professional development services and consulting services, Research Questions and 1 and 2 are combined in the 'impact' columns. Some statements appear within multiple areas. In the

initial analysis of responses, a "culture of learning" code was included. However, due to repetitiveness of the answer and overlap of categories, this category was collapsed in the summary and the "culture of learning" analyses are largely included in "learning process" and "perception of LPD experience." Due to the volume of responses, Appendix C is a summary of the themes for each role type and organization type.

Findings

<u>**Research Questions 1 and 2:**</u>

Answering the first two research questions about how LPD impacts the self-efficacy of professional development participants and consulting clients will help LPD reach their first two goals of the quality improvement project: defining and increasing LPD's impact on student learning. Because of the fluidity of professional development and consulting services, as discussed above and further in limitations, it makes sense to group findings to LPD's impact on self-efficacy from *both* their professional development sessions and consulting services in this section.

<u>**Finding 1:**</u> **LPD did not consistently impact self-efficacy**

Across all services, LPD did not see a consistent positive impact on general self-efficacy. In fact, the impact of LPD services leaned negative, as the average change amongst self-efficacy indicators for consulting clients was -.30, and for professional development clients -.03. There was no statistically significant difference, however, in these changes, nor was there a statistically significant difference in any category.

Table 5

Service	Average Change in General Self-Efficacy (1-6)	Average Change in Domain-Specific Self-Efficacy/Confidence (1-6)
Consulting	-.30	.8
Professional Development	-.03	.4

> **"If I didn't have a sense of self-efficacy, I don't know if I'd sign up for this work. How will this translate to student outcomes?"** *-School leader*

While there was no statistical significance to the slight increase (or decrease) in scores based on pre and posttest data, it is worth noting the limited impact across services This might speak to the length and the consistency of services- it would be hard to see a change in self-efficacy after a two-day training or consulting a client who has had to react to remote learning almost overnight.

Qualitative analysis did not reveal any trends that linked LPD services to an increase in self-efficacy. In free response survey questions, participants rarely brought up generally self-efficacy directly, and often focused on domain specific efficacy which will be explained in further findings below. In interviews, where general self-efficacy was interrogated more directly, participants either did not see the direct link between self-efficacy and performance in their roles,

or dismissed the idea of needing to improve their self-efficacy. As an example, one school leader noted "If I didn't have a sense of self-efficacy, I don't know if I'd sign up for this work. How will this translate to student outcomes?" This suggests that participants might be coming in already with a strong sense of self-efficacy, and also do not see the link to the ultimate goal of student outcomes.

It is worth noting that the pandemic of 2020 might also contribute to the slow impact on self-efficacy. While much more research and study are necessary to better generalize any impact based on a worldwide pandemic, it is worth noting the difference in average self-efficacy levels in services performed before the pandemic and after the pandemic. For the purposes of this bifurcation, the date of March 16th was selected, which was the date that most schools in New York State and Texas were closed to in-person instruction. Thus, any data collected on services before March 16th, 2020 is referred to as "Pre-Pandemic", and anything after March 16th, 2020 will be categorized as "Pandemic":

Table 6

Service	Pandemic Status	General Self-Efficacy	Domain-Specific Self Efficacy
Consulting	**Pre**	5.0	5.5
Consulting	**Pandemic**	4.2	4.9
Professional Development	**Pre**	5.2	5.0
Professional Development	**Pandemic**	5.1	4.8

While none of these differences are statistically significant, there was a slight dip in all areas in both service levels after March 16th, 2020. Despite the lack of change, the following findings will be more informative to LPD regarding the impact of their services.

While there is no clear answer to research questions 1 and 2, Bandura consistently states that improvement of self-efficacy is a time-consuming endeavor that is more incremental than event-based (Bandura, 1986; Bandura, 1997). With the added context of the pandemic, and the detrimental consequences COVID-19 had on the continuity of services, it is consistent with the literature that LPD would not see dramatic, generalized increase in self-efficacy in a matter of months. That said, recommendations for LPD will need to be gleaned from a more nuanced and granular look at audiences and specific components of self-efficacy, which follows in the next five findings.

<u>Finding 2</u>: The bright spots in self-efficacy demonstrated by traditional districts and independent charter schools suggest a broader audience could be an attractive long-term option for a client base.

In reviewing the impact of self-efficacy from Professional Development and Consulting Services, the dependent variable of most interest to LPD was the organization type. LPD's initial partnerships consisted of large charter management organizations (CMOs) and a very small group of independent charter schools. However, in endeavoring to build an audience for their Literacy Institutes in late 2019, their outreach strategy included casting a wider net in the charter

world and including large urban traditional school districts. Per the design of the PRO-SDLS survey (Stockdale & Brockett, 2011), I consolidated the survey questions into an average score out of six potential points and examined self-efficacy scores in PD and Consulting Services across the four organizational types served. When available, I also looked at pre- and post-surveys to assess positive or negative growth by organization type. The pre- and post-surveys often transcended consulting and professional development (i.e. a CMO school leader can take the pre-survey at a Professional Development and the post-survey through a Consulting Service), but could still receive a relevant self-efficacy growth score since the PRO-SDLS questions are identical and measure LPD's impact, regardless of service type. However, this does impact the generalizability of the growth data, as the LPD service was often mixed from pre to post survey. Still, due to the variety of shifts in LPD services over the course of 2020, the growth data is still valuable to inform future interventions. The results are included in the table below:

Table 7

Organization Type	Self-Efficacy from Professional Development (average of consolidated PRO-SDLS scores)	Self-Efficacy from Consulting (average of consolidated PRO-SDLS scores)	Self-Efficacy Growth (difference in pre-posttests, converging consulting, and PD)
Charter Management Organization (CMO)	4.4	4.7	-.13
District (Traditional)	4.7	N/A	.02
Education Organization (Non-School Based)	4.4	4.2	N/A
Independent Charter (School or Network)	4.4	N/A	.05

The data reveals that CMO participants, while overall showing a high degree of self-efficacy, saw a decline from pre to post surveys. Traditional district participants, while not receiving any consulting services, showed the highest degree of self-efficacy amongst all organization types in PD and showed a minor increase in self-efficacy from pre- and post-surveys (.02). Independent charter participants showed the highest growth in self-efficacy (though still a modest .05). The six "other" education organizations showed the lowest amount of self-efficacy.

While the self-efficacy numbers by organization type are still lean, LPD should consider continuing to widen their audience to more independent charters and traditional districts. These two audiences were passively targeted (nowhere near as aggressively marketed to as CMOs), and don't appear to have a measurably worse self-efficacy score. There could be a large return of impact based on the work put into professional development for these organizations.

To further analyze quantitative data, a series of two-way ANOVAs were run, with dependent variables of the Net Promoter Score ("likely to recommend", scale of 1 through 10) and PRO-SDLS measure of Self-Efficacy (consolidated general Self-Efficacy score, scale of 1 through 6), examining the independent variables role type and organization type. A between-subjects test was run for all participants who did not receive a post-survey, and a within-subjects test was run for all participants who took both a pre-and-post survey.

In looking at PRO-SDLS as a means of self-efficacy by organization type, there was a significant difference based on organization type, $F = 2.93$, $p = .02$. See below for a table of descriptive statistics:

Table 8

General Self-Efficacy Consolidated (1-6)			
Organization Type	Mean	Std. Deviation	N
Not Reported	4.77	.64	37
CMO	4.47	.69	95
District	4.75	.57	40
Education Organization	4.43	.70	7
Independent Charter	4.41	.56	33
Total	4.57	.65	212

There were several significant differences amongst organization types. First, CMOs had a significantly lower mean difference of -.29 from traditional districts, $p = .018$. This was surprising to see; qualitative data seemed to indicate CMOs saw more of a resonance with LPD materials than other participants, suggesting more of an impact with this audience. As one school leader from a large, national CMO stated, "The thing I love about LPD is how aligned they are with <their CMO's> training- it fits right in with our culture, values, and lexicon." However, there might be a lack of buy-in to the importance of self-efficacy, as it was also a school leader from a CMO who questioned in an interview, "If I didn't have a sense of self-efficacy, I don't know if I'd sign up for this work. How will this translate to student outcomes?"

Districts also saw a significantly higher sense of self-efficacy than independent charter school participants, with a mean difference of .35 and a p-value of .023. Unfortunately, no interviews were conducted with district participants to dig deeper into the meaning of their self-efficacy scores. More qualitative data will be necessary to move forward, but this further reveals the value in pursuing a broader base of clients, especially from districts.

While a within-subjects ANOVA was run for self-efficacy based on organization type for those with pre- and post-survey data, no statistically significant differences emerged based on organization type.

To further analyze quantitative data on domain-specific self-efficacy, a series of two-way ANOVAs were run, with independent variables of the "Confidence" indicator (level of agreement with, "I am confident in implementing X literacy strategy", scale of 1 through 6) examining the dependent variables role type and organization type. A between-subjects test was run for all participants, and a within-subjects test was run for all participants who took both a pre-and-post survey.

In looking at confidence as a means of domain-specific self-efficacy by organization type, there was a significant difference based on organization type, $F=2.70$, $p= .031$. See below for a table of descriptive statistics:

Table 9

Domain-Specific Self-Efficacy/Confidence (1-6)				
			95% Confidence Interval	
Organization Type	Mean	Std. Error	Lower Bound	Upper Bound
Not Reported	4.80	.15	4.50	5.09
CMO	5.19	.11	4.97	5.39
District	4.93	.17	4.58	5.27
Education Organization	4.20	.42	3.36	5.03
Independent Charter	4.84	.08	4.67	5.00

There were several significant differences amongst organization types. First, CMOs had a significantly higher mean difference of .99 than education organizations, with a p-value of .025. Districts also saw a significantly higher sense of self-efficacy than independent charter school participants, with a mean difference of .35 and p-value of .010.

While a within-subjects ANOVA was run based on organization type for those with pre- and post-survey data, no statistically significant differences emerged based on organization type. In looking at the Learning Process, there was also a significant difference based on role type, $F=3.39$, $p=.011$.

Table 10

Learning Process (1-6)				
			95% Confidence Interval	
Organization Type	Mean	Std. Error	Lower Bound	Upper Bound
Not reported	4.47	.13	4.20	4.74
CMO	4.06	.09	3.87	4.24
District	4.08	.15	3.78	4.38
Education Organization	3.64	.31	3.01	4.27
Independent Charter	3.73	.18	3.37	4.10

The only statistically significantly different category was those that did not report their organization type, which were higher than CMOs (.42 at p=.014), Education Organizations (.83 at p=.017), and independent charters (.74, at p=.002).

There was one statistically significant difference between the means of learner identity indicators based on organization type: Traditional districts had a higher mean by .38 (p=.006) than CMOs.

Ultimately, LPD's initial impetus for this project was marketing and measuring its services. This finding demonstrates that initial assumptions around "high fit" organizations, such as CMOs that were most familiar with LPD executives would see the greatest impact. On the other hand, traditional districts and independent charters show a lot of potential, especially regarding domain-specific self-efficacy and self-directed learning. To broaden out to the indirect, yet positive, potential impacts on professional learning on student outcomes, the effects are agnostic to and representative of several education settings (Guskey, 2012; Darling-Hammond, 2005; Byrk et al, 2010), a research lesson that LPD should spotlight as it approaches client engagement in the future.

Finding 3: Teachers and school leaders showed the most promising potential impact from LPD Services, suggesting that LPD services align most closely with those closest to the classroom.

A dependent variable of most interest to LPD in all three research questions was the role type of the participants. In a similar vein as organization type, I took consolidated scores for the PRO-SDLS survey for PD, consulting services, and pre/post surveys and examined them by the type of role the participant held at the time: from teachers (which included teacher residents), intermediate leaders (Deans of Instruction, Curriculum Specialist, etc.), aspiring leaders (principals-in-residence, Principal Fellows), school leaders (principals, Heads of Schools), systems leaders (CAOs, district curriculum leads, etc.), and "other" (education consultants, curriculum publishers, etc.). The data is presented in the table below:

Table 11

Role Type	Self-Efficacy from Professional Development (average of consolidated PRO-SDLS scores)	Self-Efficacy from Consulting (average of consolidated PRO-SDLS scores)	Self-Efficacy Growth (difference in pre-posttests, converging consulting and PD)
Systems Leader	4.6	3.7	-.28
School Leader	4.6	4.7	.11
Aspiring Leader	5.0	5.0	-.32
Intermediate Leader	4.6	4.3	-.09
Teacher	4.3	N/A	.24
Other	4.2	N/A	N/A

Systems Leaders reported a middle of the road self-efficacy score for PD, but by far the lowest score from consulting services and more than a quarter of a point decrease in self-efficacy from pre to post surveys. These latter two data points might be attributed to the fact that systems leaders are far away from the actual practice of reading strategies in classrooms or might be years removed from classroom teaching. Of systems leaders that were interviewed or filled out the open-response sections of their surveys, 10 (45%) gave a response around "more practical takeaways" in questions around "how can LPD get better" or "what are you taking back to your school." As one Managing Director from a large traditional district implored, "please align better around takeaways that participants should walk away with, specific to each role of the team implementing the literacy systems." While there seems to be a general appreciation of the reading strategies presented, Systems Leaders did not seem to identify their clear role in execution, leading some to question their ability to implement with efficacy.

On the other hand, while almost identical PD self-efficacy scores, school leaders saw one-point larger self-efficacy scores after consulting services (4.7 compared to 3.7) and showed a nominal growth from pre to post surveys (.11). School leaders, who are largely principals with the most accountability for reading achievement scores and implementing the strategies with teachers, might see the most value and practicality of the sessions. One independent charter principal stated, "I can see ten ways where I can use this new lens of text complexity to refine our intellectual preparation protocols." A traditional district principal stated, "I enjoyed reading through the text, 'Baseball Saved Us' and having a deep discussion about building background knowledge for students- I can't wait to do this exact protocol with my teachers." Not only were school leaders much more positive about their confidence in implementing the strategies, but their qualitative responses also included much more specific and practical explanations of how they will explicitly use these strategies in their school contexts, which is an attribute of enactive mastery experiences (Bandura, 1997), one of the pillars of growing self-efficacy. Enactive mastery experiences are defined as "psychological states through which a learner organizes his or her own set of beliefs regarding ability from a variety of sources" (Bandura, 2001, p.80) and are expanded further in the recommendations section.

While Aspiring School Leaders had the highest sense of self-efficacy across both PD and Consulting, they also saw the most dramatic drop in self-efficacy, with a -.32 reduction from pre to post surveys. This might be related to the role of aspiring leaders, who are frequently praised for their effectiveness early on (from interviews, it appears that most of the principal fellowship and principal residency positions were part of a prestigious application process), but the actual roles of aspiring leaders were muddied throughout the year, and it was unclear where they fit in the implementation process. There aren't as much qualitative data as other roles as, surprisingly, the 18 aspiring leaders who filled out the quantitative survey, only five completed more than a cursory open-ended response. A trend in interviews and the qualitative surveys were leaders who felt they already knew the information. As expressed by one principal-in-residence from a CMO: "I had a session like this last year. I thought this would be more grounded in the phonological awareness work and ended up being stuff I already do." A Principal Fellow from another CMO stated, "I got lost in the planning piece. I wanted to dig deeper with more complex texts or more about the controversies around the teaching strategies." The overall impression was that the content did not satisfy aspiring leaders to the extent it satisfied other role types, despite a large sense of self-efficacy already from this group.

Intermediate leaders mirrored aspiring leaders in many senses around the lack of satisfaction or alignment with session goals, though their degrees of self-efficacy were lower (4.6 in PD, 4.3 in consulting) and showed less of a drop between pre and posttests (-.09). Of the 74 intermediate leaders who were either interviewed or completed the open-ended responses on the survey, 51 (69%) noted a specific document, exemplar, or plan that they would use in coming weeks in their work, also an indicator of an enactive mastery experience (Bandura, 1997). Still, the trend of not seeing exactly where they fit in the implementation process continued with this group. As a Director of Academics from an independent charter stated, "I would have appreciated a bit more direction in the independent work bursts; I wasn't clear on how to roll out the literacy scorecard with my team." Intermediate leaders often raised some of the more basic content area questions that were representative of teachers but were not seen much in school

leaders. A representative of this is an assistant principal from a large CMO: "I am still grappling with the tension between building background knowledge, comprehension skills and standards; I think I need some more work there before I can move forward," This suggests that intermediate leaders might not be the most directly impacted audience member for LPD services.

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"Phonics is crazy important. It's science. Do it. Do it every day." -1st Grade Teacher

</div>

On the other hand, teachers are directly aligned to the target audience that LPD created its services for: concrete, research-based strategies for use with kids. Teachers showed the lowest self-efficacy for school-based participants for Professional Development sessions. While no teachers were surveyed for consulting services, they did show promising growth (.24 points) on self-efficacy. With the low base number and highest growth, teachers might represent the most potential for self-efficacy impact. The average years of experience for teachers was about 2.1 years, with 64 of the 124 surveyed (52%) in their first-year teaching. Those earliest in their tenure in a performance-based profession are most ripe for growing their self-efficacy (Bandura, 1997). Teachers are primed for showing student outcomes by being the ones directly implementing strategies. While no teachers were interviewed for this project, a staggering 111 of 124 teachers surveyed (90%) indicated a specific strategy that they would implement and how they would implement it, showing a high level of enactive mastery experience (Bandura, 2001) that indicates a high potential of efficacy in the future. As a 4th grade teacher from an independent charter school explained: "When we were shown all of the other texts/videos etc. on the Reading Rope, I got excited about wanting to do that for my students as well. I think it was helpful to see how finding other sources can truly impact comprehension of a text." A 1st-grade teacher at a CMO concisely explained her most useful take away from her PD session: "Phonics is crazy important. It's science. Do it. Do it every day." The positivity and solutions-oriented nature of teacher responses reveal that, while teachers might not have the highest sense of self-efficacy, they have the highest potential trajectory.

The lowest reported self-efficacy data was linked to the six "other" participants from PD sessions. None of these participants participated in consulting nor the pre and post surveys, but the low score of on self-efficacy reinforces the overall finding that the highest potential for self-efficacy impact of LPD services appears to be in those whose roles are closest to the actual implementation of the literacy strategies (teachers and school leaders), have a clear alignment with roles (i.e. not aspiring leaders), and a clear alignment with schools' literacy ecosystems (i.e. not education organizations who are not based in a school).

Like organization type, ANOVAs based on role type showed a statistically significant difference in self-efficacy scores based on role type, at a p-value of .004.

Table 12

General Self-Efficacy Consolidated (1-6)			
Role Type	**Mean**	**Std. Deviation**	**N**
Aspiring Leader	5.02	.53	15
Intermediate Leader	4.65	.60	51
Other	4.22	.45	6
School Leader	4.63	.57	63
Systems Leader	4.49	.72	18
Teacher	4.33	.72	57
Teacher Leader	4.86	.81	2
Total	4.56	.65	212

There were a handful of statistically significant differences. First, aspiring leaders differed from school leaders (.38, p=.036), systems leaders (.53, p=.018), teachers (.69, p<.001), and other roles (.80, p=.009). The statistical difference from most other role types further supports aspiring leaders as a group that comes in with a higher sense of self-efficacy than others, with the qualitative data pointing to their assumption of knowing most of the material already. This might also speak to the context of an aspiring leader, as they also receive a lot of professional development in their particular roles. As one Principal Fellow explained in an interview, "this year is pretty much a full slate of PDs from all over the place." To that end, this data point might suggest that aspiring leaders might not have a lot of room to grow with self-efficacy in their current contexts. It might not be worthwhile for LPD to try and distinguish themselves amongst many other sources of PD when they can move the needle a lot further with those currently doing the work, such as school leaders and teachers.

Teachers also demonstrated a statistically significant difference from several other role types, including, again, aspiring leaders (-.69, p=.000), intermediate leaders (-.32, p=.008), and school leaders (-.30, p=.009). This lower degree of self-efficacy again backs up the nature of the novice work of those who haven't progressed in their careers (Bandura, 1997) and their potential for growth and need to focus on self-efficacy.

While a within-subjects ANOVA was run for self-efficacy based on role type for those that had pre- and post-survey data, only one statistically significant difference emerged. Aspiring Leaders had a higher mean difference on pre- and post-surveys than teachers by .94, at a p-value of .009. This again speaks to differences in context of aspiring leaders and teachers, even as the year goes on, with aspiring leaders with a built-in higher sense of self-efficacy and teachers with the most room to grow.

To further dig into the constructs of the PRO-SDLS data, I analyzed the questions based on two broad categories: the learner identity category (which is the pooled questions including the self-efficacy and motivation constructs) and the learning process (which is the pooled questions including the initiative and control constructs). A series of two-way ANOVA analyses were run, with independent variables of the Learner Identity results and the Learning Process results, examining the dependent variables role type and organization type. A between-subjects test was run for all participants, and a within-subjects test was run for all participants who took both a pre-and-post survey.

In looking at Learner Identity, there was a significant difference based on role type, $F=4.14$, $p= .001$. See below for a table of statistics on means:

Table 13

Learner Identity (1-6)				
			95% Confidence Interval	
Role Type	Mean	Std. Error	Lower Bound	Upper Bound
Aspiring Leader	5.5	.18	5.16	5.89
Intermediate Leader	5.19	.09	5.00	5.38
Other	4.93	.25	4.43	5.43
School Leader	5.02	.08	4.86	5.19
Systems Leader	4.91	.16	4.58	5.24
Teacher	4.70	.08	4.53	4.87
Teacher Leader	5.40	.43	4.53	6.26

Aspiring leaders had a statistically significantly higher mean than several other role types, including school leaders (.50, at p=.016), systems leaders (.610, at p=.015), and teachers (.82, at p=.0001).

School leaders had a statistically significantly higher mean than teachers of .32, at a p-value of .08.

In looking at the Learning Process, there was also a significant difference based on role type, $F=2.96$, $p= .009$. Again, aspiring leaders had a statistically significantly higher mean than several other role types, including school leaders (.86, at p=.002), systems leaders (1.14, at p=.001), and teachers (.79, at p=.005). This time, aspiring leaders were also significantly higher than intermediate leaders (.83, at p=.004).

To further analyze quantitative data on domain-specific self-efficacy, a series of two-way ANOVA analyses were run, with independent variables of the "Confidence" indicator (level of agreement with "I am confident in implementing X literacy strategy", scale of 1 through 6) examining the dependent variables role type and organization type. A between-subjects test was run for all participants, and a within-subjects test was run for all participants who took both a pre-and-post survey. After analyses, no statistically significant differences were found by role type.

To connect back to the initial purpose, LPD sought to define and increase their impact. Their clarity of vision was largely on their research-base and confidence in the classroom-level implementation of literacy strategies. It is clear that the highest potential of self-efficacy revolves around the instructional core (Elmore, 2001), which includes the closest proximate level to students and teachers. This also should elicit the research around the potential of self-efficacy on a leadership level (Paglis & Green, 2002; Prussia, Anderson, & Manz, 1998), and the importance of focusing in on school leaders as the highest leverage leader in effectively impacting outcomes for students.

Research Question 3:

The following findings relate to the third research question: How can LPD improve the perception of its services with current stakeholders? Answering this question will help LPD achieve its third goal of quality improvement, which is defining, deepening, and increasing their client base.

<u>Finding 4</u>: Perception of services was largely positive and did not differ much amongst school-based participants.

To analyze quantitative data, a series of two-way ANOVAs, with independent variables of the Net Promoter Score ("likely to recommend", scale of 1 through 10) and PRO-SDLS measure of Self-Efficacy (consolidated score, scale of 1 through 6), were examined through the dependent variables' role type and organization type. A between-subjects test was run for all participants who did not receive a post-survey, and a within-subjects test was run for all participants who took both a pre-and-post survey.

In looking at NPS as a means of perception by role-type, there was a significant difference based on role type, $F=2.78$, $p=.012$. See below for a table of descriptive statistics for NPS based on role type:

Table 14

Likely to Recommend (1-10)			
Role Type	**Mean**	**Std. Deviation**	**N**
Aspiring Leader	9.00	1.195	15
Intermediate Leader	9.08	1.261	63
Other	6.50	3.317	4
School Leader	8.81	1.512	63
Systems Leader	8.29	2.114	17
Teacher	8.98	1.351	156
Teacher Leader	8.00	1.414	2
Total	8.89	1.465	320

While the "other" role type is by far the lowest, as described above, this group is a small number and also not exactly the target audience for LPD training. As seen in the multiple comparisons table in the appendix, this group was significantly lower than every other role, with a mean difference of -2.58 from its furthest comparison (intermediate leader) and -1.50 from its closest comparison (teacher leader).

Other statistically significant differences include a .79 difference between intermediate leaders and systems leaders, at a .047 p-value. This indicates that intermediate school leaders are more likely to recommend LPD services than systems leaders. While not meeting the .05 threshold, the .69 difference between teachers and systems leaders saw a p-value of .06, indicating that with a larger sample size, there might be a trend towards a significant difference. These differences between the highest-scoring participants and systems leaders, again point to finding 3, where systems leaders did not see precisely where they fit in the implementation of LPD strategies. In contrast, teachers and intermediate leaders could repeatedly describe how they saw LPD strategies playing out in their roles.

Similarly, ANOVA analysis based on organization type showed a statistically significant difference in the NPS score based on organization type, at a p-value of .002.

Table 15

Likely to Recommend (1-10)			
Organization Type	**Mean**	**Std. Deviation**	**N**
Not Reported	8.37	1.353	40
CMO	9.18	1.235	94
District	8.97	1.646	39
Education Organization	7.00	3.082	5
Independent Charter	8.89	1.443	142
Total	8.89	1.465	320

As with role type, there was an outlier dependent variable, this time with "education organization." These all included the "other" role types and include participants who did not see their role reflected in the sessions. They had a significant mean difference of almost two points with all other organizations (-1.89 from independent charter, -1.97 from district, and -2.18 from CMO). Those who did not report their organization type differed significantly, as well, from the other organization types, with -.52, -.60, and -.81 mean differences from independent charters, districts, and CMOs, respectively. Unfortunately, without knowing their organizations, we cannot generalize what this means but this should be of interest to LPD that an unidentified group did have a significantly lower perception than other organizations (though they were significantly higher than education organizations by 1.37).

Additionally, I looked at two contributors to the perception of LPD: confidence after engagement and quality of facilitation. Confidence after engagement and quality of facilitation were originally collected as components of perception. These indicators were collected in each

survey across all engagements and are contributing to both self-efficacy and perception, while not the central metrics of NPS or PRO-SDLS. Data by organization type follows:

Table 16

Organization Type	Confidence After Engagement (out of 6)	Quality of Facilitation (out of 6)
Charter Management Organization (CMO)	5.1	5.6
District (Traditional)	5.0	5.7
Education Organization (Non-School Based)	4.2	5.0
Independent Charter (School or Network)	4.9	5.6

The levels of confidence and quality of facilitation are almost identical for the three primary audiences: CMOs, traditional districts, and independent charters. While CMOs and independent charters were much more effusive in their praise in the qualitative data, it is heartening for LPD to see traditional districts mirroring the numbers of their charter peers. In fact, a regular trend in qualitative data indicated a power in learning common content alongside team members and across different school contexts. As one intermediate leader of an independent charter raved, "My favorite part of the Literacy Institute was bouncing implementation ideas off of other educators from all over the country." This also speaks to Finding 2 and the importance of broadening out the target audience beyond charters.

Moreover, the trend of similar scores for school-based participants (excluding the consultants and publishers of the "other" group) continued when looking at role type.

Table 17

Role Type	Confidence After Engagement (out of 6)	Quality of Facilitation (out of 6)
Systems Leader	5.0	5.3
School Leader	4.8	5.5
Aspiring Leader	5.1	5.6
Intermediate Leader	5.0	5.7
Teacher	4.9	5.7
Other	4.3	5.0

Overall, school-based participants cluster around a 5.0 out of 6, or "agree that they are confident in implementing LPD strategies in their school settings." They also cluster around 5.5, or on the way to "agree/strongly agree that the facilitation was of high quality" based on a composite of facilitation scores.

Ultimately, LPD sought to undertake this project as a means of determining their most effective market base. Similar to finding two, this finding should compel LPD to expand their market base, as perception is generally high and, outside of non-school-based personnel, including a large number of "promoters", a promising sign for long-term client loyalty. (Reicheld, 2003)

Finding 5: LPD clients desire discrete products, not continuous services.

Most responses to open-ended survey questions of "what was the best part of <insert LPD service>?" included the word "plan," "resource," "template," or "document." The desire for a practical, concrete deliverable was also expressed in most of the interviews. A sample of quotes to this effect:

- "What does version 2.0 of our engagement look like? I really like them as people– but hard to see what the next step looks like." -*Intermediate Leader*
- "This kind of thing is so hard to pay for!" -*Systems Leader*
- "My definition of success with this relationship: we *own* the knowledge and tools from LPD. We can do it on our own eventually." -*School Leader*

In examining the interviews and free response surveys (see Appendix C for details), this desire came across as a significant factor in both the impact of efficacy from services and on the perception of LPD. At the highest level, systems leaders did not feel empowered to coach and execute sessions. They perceived that the knowledge and power to execute were not transferred to the systems but were held with the facilitators of LPD, which hamstrung them from implementing. At the school leadership level, leaders wanted more resources to work with and did not wish to invest more time in LPD engagements, though their appreciation of the content was strong. Teachers often noted that they did not see their context represented in the professional development sessions and desired more resources, artifacts, and documents that resonated with their content, grade level, or school type.

Ultimately, this finding indirectly answers the question about how clients perceive LPD: they are perceived as strong content developers, and that might paradoxically disrupt their ability for continuous services. Instead of wishing to continuously engage LPD, educators seem to want to "duplicate" LPD members, and an often-cited way to do this is to use their products, not services. LPD should take this finding and analyze the ramifications on impact to determine the best steps forward.

Finding 6: There was a strong positive correlation amongst self-efficacy measures and the likelihood to recommend LPD. Meaning that the more efficacy a participant felt, the higher perception they had, and vice-versa.

There were statistically significant positive correlations amongst Learner Identity, Learning Process, and Domain-specific Self-Efficacy. There was also a strong correlation between domain-specific self-efficacy and the likelihood to recommend LPD:

Table 18

Correlations			
	Likely to Recommend	**Learner Identity**	**Learning Process**
Domain-Specific Self-Efficacy	.469**	.329**	.234**
Likely to Recommend		.195*	.226**
Learner Identity			.478**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Ultimately, this finding resonates with two of the four primary components of promoting self-efficacy: the enactive mastery experience and emotional and psychological safety (Bandura, 2001). Enactive mastery experiences are "psychological states through which a learner organizes his or her own set of beliefs regarding ability from a variety of sources" (Bandura, 2001, p. 80), and inherently create a positive perspective of the learning experience. Flipping perception and efficacy around, cultivating positive emotional and psychological safety are often accelerators of self-efficacy (Bandura, 2001). The research and the above findings suggest that LPD should continue to investigate the interplay between positive experiences and mastery experiences and keep both of these at the front of mind when designing a go-forward strategy.

Limitations

While the net was cast broadly for self-efficacy and perception data from participants of LPD services and professional development from a variety of role types and organizations, a representative sample from both a demographic nor an engagement type was not gathered. Explanations of circumstantial and research limitations are necessary to provide context to the findings before connecting to recommendations.

First, LPD services changed sharply with the pandemic, which altered both the initial project aims as well as the context of LPD offerings. For example, the original research question explored "The Literacy Institute", which was an in-person, multi-day flagship program. This was abandoned in March, and I substituted "professional development" in the research question to gather data around one-time sessions like the Institute. While the initial Literacy Institute that was observed and discussed was in-person, including many formal and informal touchpoints with staff, all future professional development sessions were delivered online, which introduced many different elements to the experience which are difficult to calculate.

Additionally, while initially intending to do mostly pre-and-post tests, the shifting of clientele, LPD services, and turnover of clients reduced the number of post-tests available. Up through April, all surveys were communicated to be "pre-tests", but when it became infeasible to do as frequent pre-and-posttests, the pre-surveys were communicated to be simply "surveys."

Similarly, the intended purpose and context around interviews limited the generalizability of the interview data. I designed the interview questions initially for focus groups to gauge the impact across school teams. Due to the pandemic, no focus groups were conducted. They were replaced with more qualitative survey questions and one-on-one Zoom interviews. Most of the interviews and qualitative surveys were with clients who had multiple intersections with LPD (Literacy Institute and recipient of coaching; PD participant and member of Literacy Quality Review session), so it was difficult to isolate the impact of one particular service. Since LPD chose the interview participants, there is no representative sample of all current clients and a potential bias in the sample. For example, there is a large underrepresentation of teachers in general (no teachers were interviewed) and educators overall from traditional districts.

Finally, while the Net Promoter Score has been used broadly in the business world, there are limitations and some controversy to the validity of NPS as a true predictor of client satisfaction (Cooil, Andreassen, Aksoy, and Keiningham, 2015). Primarily, there is a lack of ability to identify and act upon factors behind the customers' responses. Attempts to mitigate this clarity were made with the additional survey question asking for an explanation and a focus on perception in interviews, but there appears to be a need for additional research in order to buttress the validity of the score (Cooil, Andreassen, Aksoy, and Keiningham, 2015). Further, no research was found that used the Net Promoter Score to measure perception in a K-12 organization, so the generalizability is further in question.

Recommendations

LPD set out with three goals for their quality improvement project: to define their impact on student learning, to increase their impact on student learning, and to define, deepen, and increase their client base. The research questions, informed by the conceptual framework and data methods, attempted to glean findings around how LPD can achieve the three original improvement goals.

As described in the findings from interrogating these research questions, there still are many open questions about the definitions and isolation of the impact of LPD services around student outcomes. As described in the problem of the practice section, a root issue in the stagnancy of reading outcomes for students is the lack of necessary behavior change of educators, specifically in overcoming roadblocks to implementing the science of reading. With the ever-changing dynamics presented by the pandemic, and the behavior change that LPD seeks to accelerate, an overarching theme of the recommendations to tie the project findings to LPD's quality improvement goals will be informed by change management.

A seminal text in Vanderbilt's change management curriculum is "Switch", by Chip and Dan Health (Heath, C. & Heath, D., 2010). Coincidentally, this is also a core text in LPD's organizational structure and is included in many of LPD's services. The evidence-base and relevance to the research provides an appropriate foundation for recommendations. Further, because of the familiarity with this framework, recommendations will be framed under the Heath brothers' three levers to change management, which can then be easily transferred to LPD's strategic plan. The Heath brothers use the analogy of coaching, "a rider guiding an elephant on a path through the jungle" (Heath.C & Heath.D, 2010, p.7) to explain the motivation of change management. The rider and the elephant represent two sides of the brain: one is the emotional side (the elephant), the other the rational side (the rider). Both the elephant and the rider need to be on the same page in order for change to take place, and shaping the path is an effective way to accelerate this change (Heath, C. & Heath, D., 2010).

A recent mantra from the Texas Education Agency is that, "Student outcomes don't change until adult behaviors change" (Crabill, 2017, para. 1). By following these recommendations to direct the rider, motivate the elephant, and shape the path of the educators they serve, LPD should make progress in changing the educator's behavior in order to ultimately improve outcomes for students.

> **Recommendation 1: "Direct the Rider" by scripting the playbook for implementing science of reading strategies for audiences.**

Connections to Findings 1, 2, 3, and 5

Much of LPD's programming is centered not on practical application of strategies, but around the philosophy, research, and rationale for the science of reading. However, the data reveals that many participants do not need to be persuaded to use the science of reading; they desire the coaching and tools to implement strategies in their educational settings. To most effectively show impact LPD should:

1. **Showcase the best examples of science of reading in a variety of contexts.**

Many participants, and most classroom teachers, expressed a desire to see the implementation of the literacy strategies in classrooms like their own. LPD should prioritize finding the strongest exemplars of their literacy techniques in a variety of settings: from Kindergarten to 8th grade, from a small, independent school to large CMO, from rural Texas to New York City. By providing multiple, varied, and frequent showcases of the strategies in action, LPD can combat the frequent pushback from participants in the vein of "I don't see this working in my classroom." Studies support that "training with relatively diverse examples leads to superior transfer performance" (Gick & Holyoak, 1983, p. 21), and LPD should draw on its diversity of examples to facilitate participants transferring one skill to their setting. By deeply analyzing the execution of a strategy in multiple settings, and most importantly, witnessing the strategy working effectively with students that vary in geography, personality, class size, etc., there is a higher likelihood that a teacher can create an analogous connection to their classroom (or, for leaders, their coaching situation) (Gick & Holyoak, 1983). Purposefully exhibiting different examples gives educators a chance to look for similarities, not differences.

LPD should do this by creating a catalog of artifacts for each strategy that can represent as broad an array of texts, lesson plans, and assessment tools as possible. In most professional development sessions, an exemplar artifact or video only represents one classroom- by providing extra opportunities for teachers to see themselves in the example provided, teachers can have a more compelling entry point into the strategy.

2. **Script the critical moves for each literacy strategy.**

The most powerful source of self-efficacy described in the literature is the enactive mastery experience (Bandura, 1997), a sensation when one notices the system they are using and becomes empowered by having a firm grasp on the meta-aspects of a strategy. LPD can brighten the lines on their systems and induce enactive mastery experiences by creating specific scripts that teachers can use and assess their own implementation of the strategies. These scripts are not only instructive in how to implement the strategy but can become a record of accomplishment as the teacher successfully performs. Reviewing these records of accomplishment can also dramatically increase the sense of self-efficacy (Bandura, 1997).

LPD can accelerate enactive mastery experiences by crafting checklists and road map documents or one-pagers for each strategy that is taught. LPD can also create tools where instructional leaders can aggregate these across teams and LPD should consider even creating scripts specifically for the coaching of the literacy strategies.

3. **Explicitly point to the destination of student outcomes by transparently explaining LPD's theory of change.**

Currently, LPD does not have a defined theory of change in their organizational model, despite having a clear mission, strong research base, and large suite of services. By clearly and logically mapping out how LPD's services will affect the actions of educators, which will, in turn, impact the outcomes of students, LPD can provide a stronger foundation and clearer value proposition for its clients.

LPD can first embark on this by describing to its school partners the importance of self-efficacy, showing that "teachers with a high sense of efficacy create mastery experiences for their students whereas teachers with low instructional self-efficacy undermine students' cognitive development as well as students' judgements of their own capabilities" (Pajares, 2002). LPD can then tie its actions and services to the improvement of teachers' self-efficacy and describe the strategy of moving in a forward direction with LPD can ultimately lead to stronger readers in clients' schools.

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Recommendation 2: "Motivate the Elephant" by engaging audiences outside LPD's traditional client base to evangelize the science of reading and create proof points

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Connections to Findings 2, 3, 4, and 6

Strikingly, some of the most positive proponents of LPD's services and events, targeted primarily to New York City CMOs and facilitated by LPD's team with exclusively New York City CMO experience, were independent charters and traditional public districts. For these audiences, a key theme from the qualitative data was the importance of authentically engaging with the strategies and collaborating with other educators. Beyond simply broadening their client base to more districts and independent schools, LPD should also capitalize on what worked well with those audiences in the following ways:

1. **Allow participants to practice and feel the experience:**

The second most powerful source of self-efficacy cited in the literature is engaging in a vicarious experience (Bandura, 1997). Watching other talented people work can help individuals visualize themselves as effective and provide an effective model for what efficacy looks like (Bandura, 1997). Instead of simply telling participants the strategy that works, LPD should model the strategies more frequently and allow participants to see, in real-time, the application. Beyond visualizing the model, by giving participants the opportunity to actually practice, simulate, and rehearse the strategies, with opportunities for feedback, LPD can transform the bulk of their services into vicarious experiences *before* asking educators to use these strategies in their classrooms. The look and feel of the experiences compound the positive effects of the enactive mastery experiences in the first recommendation, as the tight feedback loops to enactive experiences can be accelerated with the identification of bite-sized components to practice (Bandura, 1997). Research shows that corrective feedback is most durable and sustaining when the learner commits the error with a high degree of confidence (Metcalfe, 2017), so providing real-world experiences that give educators a chance to make high-confidence errors, along with quick feedback, stack the deck for LPD to make lasting change. In the performance-driven nature of the teaching profession, where the stakes are incredibly high and teaching mistakes are not best for kids *in* the classroom, "it may be worthwhile to allow and even encourage <learners> to commit and correct errors while they are in low-stakes learning situations (Metcalfe, 2017, p. 465)." As a through line to all three recommendations, LPD should nurture an environment where educators can make the necessary mistakes in practice sessions *so that* they don't make the mistakes with children.

LPD can provide vicarious experiences well in several ways. First, related to the prior recommendation, LPD can create a video library of the strategies in action. This will allow for a variety of contexts to be represented and give educators a chance to have these resources as a reference as they continue to implement in their own settings. In professional development sessions, facilitators should use much more modeling of strategies to not only demonstrate the activities but put educators in the seat of the learner, so they can also feel the impact of them as a "student."

2. Shrink the change with tiered, differentiated implementation plans.

Many in traditional districts, while effusive in their praise of the science of reading material, lamented that they could not implement everything all at once in their contexts. Limitations included curriculum, assessments, schedules, leadership, time, and, after the pandemic, delivering content online. Much of LPD's coaching and professional development is relatively inflexible: there is one way that works, and if participants stray from that, it's not scientifically backed. LPD can set up "training wheels" for participants who are logistically unable to implement their strategies by crafting step-by-step action plans that can progress. This can offer an attainable goal for educators who want to make a beginning in the science of reading but can't tackle the magnitude of an overhaul to their literacy structures. This can also be a useful resource for systems leaders, who might be in a better position to influence the structures that impact implementation.

LPD should push toward the zone of proximal development for all participants, both in terms of process and ability. Vygotsky defined the zone of proximal development as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). This can apply to the systemic level: a systems leader might not have buy-in for a new curricular or assessment model conducive to the literacy ecosystem work that LPD promotes but might need a smaller entry point to start having teachers examine text complexity. This can apply to on a skills level, as a young teacher might not have the experience necessary to implement ten strategies, but can be pushed by the LPD team to do four high-leverage strategies. The critical point is that LPD gives each participant an entry point where they can be assisted, and structuring PD so LPD is "controlling those elements of the task that are initially beyond the learner's capability, thus permitting him to concentrate upon and complete only those elements that are within his range of competence" (Wood, Bruner and Ross, 1976, p. 90).

Connection to Findings 1, 2, 3, 4, and 6

1. **Intentionally building an inclusive and vulnerable environment in LPD engagements**

A key variable in all sources of self-efficacy is the sense of emotional and psychological safety a performer feels when practicing their craft (Bandura, 1997). Feelings and moods matter to perceiving how effective one is. While the LPD team has been reluctant to include team-builders in their sessions, qualitative data reflects the desire of LPD participants to get to know each other on a human level and regularly cited their facilitator's genuine concerns for them.

An additional needed layer to address in the realm of emotional safety is the fact that many LPD services include teachers and their managers. LPD can address this and make the space safer by explicitly creating spaces that normalize errors and expressing a desire for progress, not perfection. Learning that includes a multitude of errors, along with quick correction, accelerates the progress of the learner (Metcalfe, 2017). LPD can also make this a priority to tie into Recommendation 1, the enactive mastery experiences, by giving ample opportunities for coaching and feedback, with feedback loops being an accelerant to positive impacts of mastery experiences (Bandura, 1997).

"My favorite part of the Literacy Institute was bouncing implementation ideas off of other educators from all over the country." -Intermediate Leader

2. **Cultivate networks of improvement amongst participants.**

The third most powerful source of self-efficacy is that of social persuasion (Bandura, 1997), including the support and encouragement from peers. LPD should prioritize this in sessions (whether consulting services or professional development), by mixing up the groupings so educators can get exposure to other ideas and opinions, by creating more time for school-teams to action-plan for how to implement in their own settings, and by creating opportunities for content-aligned and role-aligned participants to give each other feedback.

LPD can also play a pivotal role in linking best practices and feedback beyond LPD engagements. LPD can leverage its strong perception amongst schools from coast to coast in order to create opportunities for these educators to connect, collaborate, and encourage each other. This can have a beneficial role, as well, to Recommendation 1, by continuing to spotlight best practices in a wide variety of contexts.

Conclusion

This quality improvement project sought to help LPD define and improve their impact on student learning, and define, deepen, and widen their client base. Self-efficacy and the net promoter score were selected as the most evidence-based and organizationally relevant proxies for impact and client growth. Findings of and limitations to the study provide mixed conclusions as to the quality of these proxies but suggest insightful recommendations that are likely to help LPD achieve their ultimate goals.

In terms of client impact, general self-efficacy did not appear to grow based on LPD services. Qualitative findings showed a weak link amongst participants to self-efficacy and student-level outcomes. However, looking closer at domain-specific self-efficacy and individual components of self-efficacy reveal promising insights into potential future impact. LPD should consider broadening its audience, as some of the bright spots came from unexpected audiences such as traditional school districts. LPD should also investigate the promising impact on those closest to the actual student-teacher relationship (teachers, school leaders) as they engage in future strategic planning.

In terms of client perception, quantitative and qualitative data both revealed a positive trend of promoters of their work and, similarly to impact, LPD should continue to explore their potential market more broadly. LPD should also pay close attention the qualitative trends towards a desire for more discrete products, not the current services they provide.

As LPD enters a critical next stage in its organizational planning, both as they attempt to grow from start-up to sustaining organization and re-assess what services are most feasible in an education setting dealing with a pandemic, more research should be collected to examine the most effective measures that resonate with the impact goals embedded in their theory of change. LPD should also closely evaluate their implementation of recommendations and engage in rigorous, disciplined practice to see where their deepest and most sustaining improvement changes are taking hold.

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Appendices

Appendix A: Interview Questions:

Question	Research Category Addressed
How would you describe yourself as a teacher? A professional? A life-long learner?	Self-Efficacy
What types of professional development do you most enjoy? What part of LPD's services/LPD Institute did you most enjoy?	Perception
What specific types of professional development do you find most useful and applicable to your teaching practice? What part of LPD's services/LPD Institute did you find most useful and applicable to your teaching practice?	Perception
What do you see as the ultimate purpose of professional development for teachers? Professional identity/growth? Student outcomes? A combination of both? What was your ultimate purpose for engaging in LPD's services/LPD Institute?	Self-Efficacy
What role, in general, does collaborating with other teachers play in improving teaching? What role did collaborating with other teachers in LPD's services/LPD Institute play in improving your teaching?	Self-Efficacy
Overall, what has been the most effective technique you have gleaned from LPD training? On a scale of 1 to 5, how confident are you in implementing this technique in your school? Why did you score that rating? Will you try to transfer these techniques to your teaching colleagues? Why or why not?	Both
How would you describe your LPD facilitators? How would you describe their knowledge of the material? How would you describe their clarity and confidence in delivering material? How would you describe their ability to build a positive rapport with you?	Perception
Would you recommend LPD's services/LPD Institute to a colleague? Why or why not?	Perception
What would you recommend LPD eliminate from its services/LPD Institute?	Self-Efficacy/Perception
What would you recommend adding to LPD's services/LPD Institute?	No research question, just good info for LPD
How can LPD improve?	Self-Efficacy/Perception
How can LPD better prepare you to implement your learning?	Self-Efficacy

Appendix B: PRO-SDLS Survey Questions: Those highlighted were included in all surveys:

Item	PRO-SDLS Category
1. I am confident in my ability to consistently motivate myself.	Self-Efficacy
2. I frequently do extra study of a topic after I participate in work-related professional development just because I am interested.	Initiative
3. I don't see any connection between the work I do for my work-related professional development and my personal goals and interests.	Motivation
4. If I am not doing as well as I would like in my subject matter, I always independently make the changes necessary for improvement.	Control
5. I always effectively take responsibility for my own learning.	Control
6. I often have a problem motivating myself to learn.	Control
7. I am very confident in my ability to independently prioritize my learning goals.	Self-Efficacy
8. I participate in work-related professional development because I WANT to, not because I HAVE to.	Motivation
9. I would rather take the initiative to learn new things in a work-related professional development rather than wait for the instructor to foster new learning.	Initiative
10. I often use materials I've found on my own to help me create lessons and classroom activities.	Initiative
11. For most of my work-related professional development, I really don't know why I am required to complete the material or participate in the activity.	Motivation
12. I am very convinced I have the ability to take personal control of my learning.	Self-Efficacy
13. I usually struggle in work-related professional development if my school leader does not require that I submit any type of evidence of my learning of the new material.	Control
14. Most of the work I do in my work-related professional development is personally enjoyable or seems relevant to the work I do in the classroom.	Motivation
15. Even after a work-related professional development is over, I continue to spend time learning about the topic.	Initiative
16. The primary reason I complete work-related professional development requirements is to fulfill a job-related obligation that is required of me.	Motivation
17. I often collect additional information about interesting topics even after the work-related professional development has ended.	Initiative

18. The main reason I do the work-related professional development activities is to avoid feeling guilty or receiving a bad evaluation from my school leader.	Motivation
19. I am very successful at prioritizing my learning goals.	Control
20. Most of the activities I complete for my work-related professional development are NOT really personally useful or interesting.	Motivation
21. I am really uncertain about my capacity to take primary responsibility for my learning.	Self-Efficacy
22. I am unsure about my ability to independently find needed outside materials for my professional learning.	Self-Efficacy
23. I always effectively organize my professional learning time.	Control
24. I don't have much confidence in my ability to independently carry out my own student learning.	Self-Efficacy
25. I always rely on the facilitator to tell me what I need to do in a work-related professional development in order to successfully use the new material.	Initiative

Appendix C: Matrix Summary of Qualitative Data

This matrix includes a summary of data collected from interviews and open-response surveys. The analysis was completed by reviewing interview notes and survey responses and categorizing the responses into three categories of "impact" (Research Questions 1 and 2) and "perception" (Research Question 3). Since many participants participated in both professional development services and consulting services, Research Questions and 1 and 2 are combined in the 'impact' columns. Some statements appear within multiple areas. In the initial analysis of responses, a "culture of learning" code was included. However, due to repetitiveness of the answer and overlap of categories, this category was collapsed in the summary and the "culture of learning" analyses are largely included in "learning process" and "perception of LPD experience." Due to the volume of responses, this is a summary of the themes for each role type and organization type.

Role Type *Due to limited response from "other" category, summary not included for them	IMPACT			PERCEPTION		
	Domain Specific Self-Efficacy	**Learning Process**	**Learner Identity**	**Perception of LPD people**	**Perception of LPD content**	**Perception of LPD experience**
Systems Leaders	I have the same knowledge as my teachers but lack the clarity in implementing literacy ecosystems and need more resources.	The team building and authentic practice of the learning of implementation strategies helped show how teachers can transfer knowledge to classroom.	While being able to see the impact on students, it is hard to see the impact of my role in the process.	Incredibly strong facilitators- I want my leadership teams to be able to do this.	Implementation of these strategies will lead to better outcomes for students.	The services are immersive and authentic.

School Leaders	The impact of side-by-side lesson planning and model teaching with my teachers is essential.	Sparring with the exemplar content that LPD creates has made me a stronger educator.	I see vivid examples of how I can coach teachers and affect student outcomes.	I want to be like the LPD leaders, by mirroring their content knowledge and coaching methods.	This content is going to push my school forward. I need more, and different, examples of how this applies to different types of classrooms.	I wish I had this experience at the beginning of my leadership experience and wish I could have more of LPD's resources, less of their time.
Aspiring Leaders	I am very strong at this content already, and this is validating.	By creating actual artifacts I can use in my work, I found that I could transfer knowledge quickly and easily.	I have always been able to control outcomes and this is more evidence of what I can do as a leader.	I want to be like the LPD leaders, by mirroring their content knowledge and coaching methods.	Viewing the texts and works through the lens of a scholar was very important and I see potential in these strategies.	This is useful and applicable to my coaching work.
Intermediate Leaders and Teacher Leaders	Being able to practice allowed me to authentically see how I can use this is a teacher.	I was motivated to learn and work through challenges as I applied these to my own school settings.	I question my ability to coach this content, as I don't know much more than my teachers do.	I want to be like the LPD leaders, by mirroring their content knowledge and coaching methods.	I see so many ways in which I have taught in the past that are wrong- this has been revealing.	I need a lot more resources- I didn't have enough time.
Teachers	This is going to take me years and years to master, but I can see how the strategies work.	Learning this is some of the hardest work I have done as a teacher but the real-life examples helped.	I see glimpses of myself being able to do this, but wish I had more support.	The facilitators and coaches are extremely knowledgeable- but they don't know my context.	The most compelling part of the content was the bigger picture importance of early literacy.	I need more artifacts and examples that are about my specific grade-level, content, and kids.