A RECIPE FOR SUCCESS:

DESIGNING FLEXIBLE PROFESSIONAL LEARNING FOR

FOUNDATIONAL SKILLS

by

Kimberly S. Wheedleton

An education leadership portfolio submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership

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ACKNOWLEDGMENTS

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ABSTRACT

This Executive Leadership Portfolio (ELP) seeks to address the problem of how to design a flexible baseline professional learning architecture which both fits in the Professional Development Center for Educator's (PDCE) 1:1 preparation model and allows for specialist customization that maintains quality and meets the unique professional learning needs of PDCE's partners. To determine a potential solution to this problem, a professional learning design project was developed and built, along with accompanying implementation tools, to support teacher implementation of the differentiated instruction model as presented in *How to Plan Differentiated Reading Instruction: Resources for Grades K-3* (Walpole & McKenna, 2017). The professional learning design was informed through an iterative try/fail/redesign process within five successive professional learning partnerships. The final professional learning design and implementation tools were then tested to determine their feasibility for addressing the problem by implementing them in a sixth partnership.

Results from the sixth professional learning partnership suggest that, if implemented as designed, the flexible baseline professional learning architecture can feasibly allow PDCE's Literacy Instructional Specialists to provide synchronous, customized, differentiated professional learning sessions which fit the Center's 1:1 preparation model, maintain quality, and meet the unique professional learning needs of each partnership. An unforeseen outcome of the partnership was that with additional revisions, the professional learning architecture was also able to provide asynchronous professional learning support. While those initial revisions to the

professional learning architecture and accompanying implementation tools extended

the preparation time beyond the 1:1 ratio, once completed, feasibility for 1:1

preparation can likely be realized for asynchronous applications as well.

Chapter 1

INTRODUCTION

At the University of Delaware's Professional Development Center for Educators (PDCE), our Instructional Specialists partner with K-12 schools and districts, engaging with teachers and school leaders through coaching, training, and professional collaboration designed to support teachers in providing evidence-based instruction for their students. The purpose of this ELP is to design a flexible baseline professional learning architecture to support our Literacy Instructional Specialists in designing and implementing professional learning sessions for our partners. This architecture will align with the Center's financial model for our Instructional Specialists' planning and preparation time allotment. In addition, this architecture will enable customized design and delivery that both maintains quality and meets the unique professional learning needs of our partners.

In the Literacy Department at PDCE, the lion's share of our partnerships in K-5 schools have centered around implementation of the Bookworms K-5 Reading and Writing curriculum (Bookworms) (Figure 1).

Shared Reading	ELA (English Language Arts)	Differentiated Instruction
45 Minutes	45 Minutes	45 Minutes
Grade-level word study and vocabulary instruction Repeated readings of intact children's trade books (narrative and informative) Text-structure instruction Text-based discussion	Interactive read alouds of intact children's trade books (narrative and informative, to build vocabulary and comprehension) Standards-aligned grammar instruction through sentence composing Genre-based writing strategy instruction	Time for written responses to shared reading and wide self-selected reading Skills-based direct instruction in foundational skills, or extension of curriculum through additional teacher-selected reading

Figure 1   Overview of Bookworms K-5 Reading and Writing Curriculum. *Note:* Adapted from video slide: "Bookworms: Design Overview (Part 1 of 2)" (Walpole, 2017)

Bookworms is a comprehensive school reform curriculum whose design is consistent across grades K-5 and is built on a core set of evidence-based literacy instructional practices and routines that build fluency, support comprehension of complex text, increase vocabulary, and increase background knowledge. Bookworms also incorporates a curriculum-within-a-curriculum – the differentiated instruction model (Walpole & McKenna, 2017). The differentiated instruction model is a multiple-entry skills intervention which builds foundational skills and serves as "either a safety net or an acceleration opportunity" (Walpole et al., 2017, p. 260).

Many schools, including those with which we partner at PDCE, require the use of high-quality instructional materials (HQIM) to support student literacy learning.

Multiple tools exist for evaluating the quality and content of curricular instructional

design, such as Achieve the Core's EQuIP and IMET, or the Council of the Great City

Schools' GIMET-QR (Achieve the Core, n.d.a, n.d.b; Council of the Great City

Schools, n.d.). Yet finding a consistent definition of HQIM has proved difficult. I was

unable to find one unifying, standard definition of either HQIM generally or literacy

HQIM specifically. However, my search did yield some common definitional

parameters from which to construct a reasonable set of expectations for HQIM. For

example, the Delaware Department of Education (DDOE) describes HQIM as those

which "…support opportunities to strengthen standards-aligned instruction in

classrooms" (DDOE, 2018, p. 7). The Mississippi Department of Education (MDE)

expands this definition to include materials that are standards-aligned, "externally

validated, comprehensive, and [which] include engaging texts…, problems, and

assessments" (MDE, 2020, para. 1). Bookworms, a standards-aligned curriculum

which is (a) grounded in research, (b) employs evidence-based practices and engaging

texts to support student literacy learning, and (c) provides a series of assessments

aligned with instruction, fulfills the above-described requirements.

Prior to the COVID-19 pandemic, our specialists supported differentiated

instruction model implementation as part of the larger Bookworms Reading and

Writing K-5 literacy curriculum. Our differentiated instruction model trainings were

delivered prior to the start of the school year through a series of structured, school-

wide, full-day sessions, designed to align with adult learning theory (Darling-

Hammond et al., 2017) and effective professional learning design (Desimone, 2009;

Garet et al., 2001). Teachers in Delaware schools often have prior experience with the differentiated instruction model content. It is closely aligned with the undergraduate and M.Ed. programs at University of Delaware, and the DDOE has partnered with PDCE to make this content broadly accessible through hybrid courses and microcredentials supported through DDOE funding.

Since the COVID-19 pandemic, PDCE has experienced an increase in new partnerships, both inside and outside of the state of Delaware, to support increased understanding of research on foundational skills instruction in the differentiated instruction model. Two factors may have contributed to this increased demand for stand-alone support in teaching foundational literacy skills. First, as the COVID-19 pandemic has continued, students and teachers have had to shift to hybrid or virtual teaching and learning formats, instructional time has been lost due to school closures and illness, and concern for student literacy achievement has grown (e.g., Bao et al., 2020). Second, recent heightened attention in education journalism (e.g., Chenoweth & Marshall, 2021; Hanford, 2018a) has focused on the importance and impact of foundational skills instruction on student literacy achievement. Such heightened attention has led districts and educational organizations to seek the expertise of recognized experts in foundational literacy skills instruction and to endorse foundational skills texts which provide support for effective, evidence-based foundational skills instruction (e.g., Drake & Walsh, 2020). In response to this demand, the DI model has been specifically targeted in three recent large-scale professional learning series delivered by Dr. Sharon Walpole: a 9-session series

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sponsored by Open Up Resources©, a 10-session series sponsored by the Michigan Department of Education, and a 6-session series sponsored by the Reading League of Wisconsin©.

In addition to the increased demand for professional learning to support foundational skills curricula implementation, PDCE has also experienced a change in how our partners have requested our support delivery. The COVID-19 pandemic forced a significant change in the business-as-usual teaching and learning environment. Over the course of the COVID-19 pandemic, teaching and learning in either fully or partially virtual environments became the new normal not only for student learning but also for teacher learning. Prior to the COVID-19 pandemic, our professional learning support work was usually delivered in person via workshops, professional learning community (PLC) meetings, coaching, and training. Since the COVID-19 pandemic began, however, we, like our partners, initially needed to shift to fully virtual support. As vaccines became available and public health guidance changed such that hybrid instruction and a gradual move back to in-person instruction were now feasible instruction options, we found that we needed to pivot yet again, and determine how to provide varied combinations of in-person, virtual, and hybrid professional learning support for teachers who may be implementing foundational skills instruction in-person, virtually, or in a hybrid manner. But what happens once the COVID-19 pandemic ends? While the temptation may be to just "go back to normal," our experiences providing professional learning support to teachers during a global COVID-19 pandemic suggest it would be prudent to plan for flexible

professional learning options designed to meet an array of both content and delivery needs.

Regardless of whether differentiated instruction lessons are taught in-person, virtually, or in a hybrid manner, implementing Walpole & McKenna's (2017) differentiated instruction model often marks a significant shift for K-5 teachers in how they teach students foundational literacy skills. It requires teachers to embrace conceptual change, in that we ask them to let go of instructional practices which may be based on what is familiar, comfortable, or most convenient, and to instead implement instructional practices which may be new to them but have been associated or causally related to student achievement (Klingner, 2004). And now, the global COVID-19 pandemic has forced teachers to embrace situational change as well, in how, when, and where they teach and their students learn. To support teachers as they navigate each of these changes while working to implement Walpole and McKenna's (2017) differentiated instruction model, PDCE needs to ensure that all Literacy Instructional Specialists can deliver the same type and quality of professional learning services flexibly and in a manner specific to each partner's needs. This ELP was designed with the above elements of support in mind.

Description of Appendices

Appendix A: PDCE Literacy Department Professional Learning Partnerships Supporting DI Model Implementation

This appendix contains a brief historical description of PDCE's differentiated instruction partnerships and their scope, including how those partnerships have been impacted by the COVID-19 pandemic, from 2016-present. The purpose of this artifact is to frame the reasoning behind creating the flexible professional learning architecture that PDCE's Literacy Instructional Specialists will use to serve the specific learning and content needs of our partners implementing Walpole and McKenna's (2017) intervention.

Appendix B: Building a New Normal: Virtual and Hybrid Professional Learning Introduction

This systematic literature review examines the current literature to determine effective evidence-based practices in traditional, virtual, and hybrid professional learning. I used what I learned from writing this review to develop six design principals to guide the design of Appendix G: Multi-Use Canvas Differentiated Instruction Training Course and will inform PDCE literacy specialists of the research base supporting the course. Our Literacy Instructional Specialists can read this review to strengthen their understanding of the research base supporting the course.

Appendix C: Measuring the Effectiveness of Professional Learning

This white paper provides school leaders with evidence-based support for developing an actionable plan and set of tools that can be used to determine professional learning effectiveness. PDCE can offer these tools to school leaders as a way for them to independently assess whether the professional learning sessions we provided have effectively supported their teachers' literacy knowledge and

instructional practice. I used what I learned from this artifact to inform the design of the evaluation tools in Appendix G: Multi-Use Canvas Differentiated Instruction Training Course and the needs assessment tools in Appendix E: Evidence-Based Practices Needs Assessment and Appendix F: Teacher Needs Assessment Summary Tool.

Appendix D: Try/Fail/Redesign Process

This series of tables and narratives describes the try/fail/redesign process in which I engaged when designing, implementing, and evaluating differentiated instruction model professional learning sessions to serve five successive partners implementing Walpole and McKenna's (2017) differentiated instruction model: Ignite! Reading, KIPP North Carolina, Lake Forest East Elementary School, Thomas Edison Charter School, and New York City Schools. My and my colleagues' reflections from this process informed the structure and design of Appendix G: Multi-Use Canvas Differentiated Instruction Training Course.

Appendix E: Evidence-Based Practices Needs Assessment

I designed this two-page infographic needs assessment tool by using what I learned about professional learning evaluation from writing the white paper in Appendix C: Measuring the Effectiveness of Professional Learning. The first page is for school leaders, and the second for teachers. Each infographic briefly shows the relationship between the DI model and the science of reading and includes questions inviting school leaders and teachers to share their current literacy knowledge base and professional learning needs. Our Literacy Instructional Specialists will use data from

this tool to inform training content selections in the Multi-Use Canvas DITraining Course in Appendix G.

Appendix F: Teacher Needs Assessment Summary Tool

This Google Forms tool is linked in the teacher page of the Evidence-Based Practices Needs Assessment in Appendix E, and provides teachers with expanded and more detailed choice options for sharing their current literacy knowledge base and professional learning needs. It also allows our Literacy Instructional Specialists to aggregate and share the collected data in a simple way with school leaders. Our Literacy Instructional Specialists will use data from this tool to further refine training content selections in the Multi-Use Canvas Differentiated Instruction Training Course in Appendix G.

Appendix G: Multi-Use Canvas DI Training Course

This flexible professional learning architecture and accompanying implementation tools is housed in the University of Delaware's Canvas learning management system. The course was designed to enable customized, synchronous training to support effective implementation of the DI model, led and implemented by one or more PDCE Literacy Instructional Specialists. I developed a set of six design principles to guide the structure and design of this course, using what I learned about in-person, hybrid, and virtual learning from writing the literature review in Appendix B: Building a New Normal: Virtual and Hybrid Professional Learning Introduction. The design and structure of this training course was also informed by what I learned from writing the historical description in Appendix A: PDCE Literacy Department

Professional Learning Partnerships Supporting DI Model Implementation, what I learned about measuring the effectiveness of professional learning from writing the white paper in Appendix C: Measuring the Effectiveness of Professional Learning, and what I learned about professional learning content and design from analyzing my experiences planning, designing, and delivering five successive DI model (Walpole & McKenna, 2017) partnerships in Appendix D: Try/Fail/Redesign Process.

Appendix H: Evidence-Based Practices Design System

This is a user's guide I developed for our Literacy Instructional Specialists as a support when using the Multi-Use Canvas DI Training Course described in Appendix G. It is included as a page in the "Resources for PDCE Literacy Instructional Specialists" module of the Canvas course. Using this tool to guide their Canvas training course customization allows our Literacy Instructional Specialists to build DI model trainings which align with our partners' specified delivery preferences and support needs, and which use evidence-based practices for professional learning design, content, and delivery.

Chapter 2

PROBLEM ADDRESSED

Organizational Context

At PDCE, I am part of a team supporting teachers' implementation of HQIM to strengthen student literacy skills. I have worked under the direction of Dr. Sharon Walpole as part of the Bookworms Curriculum Team (2019-2022), while also serving on the Literacy Instructional Specialists team (2016-present), which is currently under the direction of Senior Associate Director in Literacy Dr. Jaime True Daley (Figure 2).
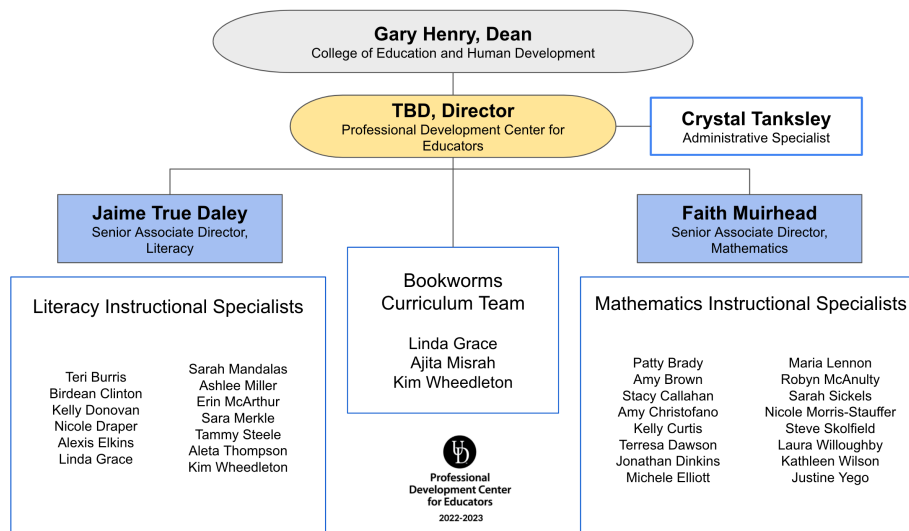
Figure 2   PDCE Organizational Chart. *Note:* Adapted from PDCE Community Guidelines 2022-2023.

We at PDCE serve a wide variety of partnerships, with schools in the public, private, and charter spaces (Figure 3). As our partnerships have expanded, so has our need for additional literacy specialists to deliver support, resulting in colleagues beginning their work at PDCE with varying levels of professional learning and coaching expertise.

PL content	Partner name	Partner location	School or district type	PL delivery type	PL support focus	Number of times PL offered	PL duration per offering (days)
Bookworms K-5 Reading and Writing Curriculum training	Bookworms Advanced Institute (multiple schools and districts)	various	public, charter	V	Curricular implementation quality	1	2
	Bookworms Booster (multiple schools and districts)	various	public	V	Intensifying curricular instruction to meet the needs of students at risk in literacy	3	1
	Bookworms Intensive Academy (multiple schools and districts)	various	public, charter, private	V	Intensifying curricular instruction to meet the needs of students at risk in literacy	2	1
	Bookworms New Teacher Institutes (multiple schools and districts)	various	public, charter, private	V	Curricular implementation fidelity	2	5

Figure 3   PDCE Literacy Department Professional Learning Partnerships, Fiscal year 2021-2022. *Note:* V = virtual, P = in-person, PL = professional learning

	Brandywine School District Institute	Delaware	public	V	Curricular implementation quality	1	1
	East Wake Academy	North Carolina	charter	V	Curricular implementation fidelity	1	1
	HIVE - Open Up Resources	various	public, charter, private	V	Curricular implementation quality	1	5
Bookworms K-5 Reading and Writing Curriculum training	Laurel School District	Delaware	public	P	Curricular implementation quality	4	1
	Morley Stanwood Elementary School	Michigan	public	V	Curricular implementation fidelity	2	1
	Tatnall School	Delaware	private	P	Curricular implementation fidelity	1	3
	Williamsburg -James City County Public Schools	Virginia	public	V	Curricular implementation fidelity	1	3
Bookworms Intensive Academy training	Fair Street School	Georgia	public	V	Curricular implementation fidelity	1	3
Bookworms K-5 Reading and Writing Curriculum - Shared Reading training	Delaware Department of Education	Delaware	public	V	Curricular implementation fidelity	1	1
Bookworms Middle School Curriculum training	Bookworms Middle School Training (multiple schools and districts)	various	public	V	Curricular implementation fidelity	1	3

Figure 3 (con't) *Note:* V = virtual, P = in-person, PL = professional learning

Bookworms Middle School Curriculum training	Seaford Middle School	Delaware	public	P	Curricular implementation fidelity	1	1.5
	Somerdale Park Middle School	New Jersey	public	V	Curricular implementation fidelity	1	3
Differentiated Instruction Model training	Alexandria City Public Schools	Virginia	public	V	Pilot new teacher training	4	.5
	Fair Street School	Georgia	public	V	Curricular implementation fidelity	1	2
	Ignite!	California	tutors	V	New tutor training	1	2
	KIPP North Carolina	North Carolina	charter	V	Curricular implementation fidelity	1	2
	Lake Forest East Elementary School	Delaware	public	P	Curricular implementation fidelity	3	0.5
	PS 112 The Bronxwood School and PS 045 Clarence Witherspoon	New York	public	V	Intervention for teachers with low-performing students	1	1
	Somerdale Park School	New Jersey	public	V	Curricular implementation fidelity	1	2
	Thomas Edison Charter School	Delaware	charter	V	Curricular implementation fidelity	1	1
	University at Buffalo	New York	tutors	V	New tutor training	1	2

Figure 3 (con't) *Note:* V = virtual, P = in-person, PL = professional learning

A Focus on DI

As the COVID-19 pandemic continues, PDCE continues to receive requests from both current and new K-5 partners to provide professional learning that supports implementation of the Bookworms curriculum. One interesting change we have

noticed is that many of our new partners are schools who have a literacy curriculum

other than Bookworms and are requesting support for implementing the DImodel in a

standalone capacity – as an addition to their current curriculum. I believe there are two

main reasons for this change.

Differentiated Instruction and High-Quality Instructional Materials

One reason that schools are increasingly requesting our services to coach and

train teachers in implementing the DI model is because it fulfills their requirement to

provide HQIM to support student literacy achievement. Early empirical evidence on

HQIM suggests that high-quality curricula positively influence student achievement

(Chingos & Whitehurst, 2012; Steiner, 2017). In reviewing the literature on high

quality instructional materials, Steiner (2017) found that there is a cumulative effect of

HQIM over time, relative to student achievement. For example, one longitudinal study

included in Steiner's review (Hill et al., 2008) tracked student performance using

HQIM curriculum for four consecutive years (from grades 7 to 10), finding that the

experimental group exceeded the achievement of the comparison group by 38

percentile points – a margin equivalent to four extra years of learning. The policy

implications of requiring specified high quality instructional material use over

multiple years, Steiner (2017) argues, "are significant and deserve attention" (p. 3).

Our partners, in turn, are expected by their state departments of education to

provide teachers with the HQIM that allow them to provide effective literacy

instruction. The Delaware Department of Education, for example, includes HQIM as

one of the four Strategic Intents of the Delaware Literacy Plan (DDOE, 2019). The

New York State Next Generation English Language Arts and Mathematics Learning

Standards (Revised 2017) expects schools to "foster high quality curriculum

development and instructional practices for all students" (p. 5). And a study by the

Southern Regional Education Board (SREB) describes the Georgia Department of

Education's efforts to identify and align high quality instructional materials to the

Georgia Standards of Excellence (SREB, n.d.).

While adopting and using HQIM are two important ingredients in a recipe for

foundational skills instruction, a successful result also requires high-quality

implementation and professional learning support (e.g., Chiefs for Change, 2017;

Weiner & Pimentel, 2017). At PDCE, my colleagues and I provide that professional

learning support by engaging teachers and specialists in the use of evidence-based

instructional practices, such as those embedded in the DI model, to increase student

literacy achievement.

Differentiated Instruction and the Science of Reading

Another potential reason new partners are seeking our support for

implementing the DI model is the recent surge of interest in the science of reading. To

understand how the DI model is connected to this surge, it is important to understand

what "the science of reading" really means. The science of reading is a term that has

been in use as far back as the 18th century (Figure 4), though the term's meaning and

use have changed over the years.

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        ┌──────────────────┐                    ┌──────────────────────┐
        │ "Science of      │                    │ Increase in applying │
        │ reading"         │                    │ research to reading  │
        │ referred to text │                    │ instruction, though  │
        │ reading          │                    │ the term "science of │
        └──────────────────┘                    │ reading" is not      │
                                                 │ often used           │
                                                 └──────────────────────┘
```

18th Century   **Since 1950s**

1830s   **Since 2018**

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        ┌──────────────────┐                    ┌──────────────────────┐
        │ First pedagogical│                    │ Increase in the use  │
        │ use of "science  │                    │ of the term "science │
        │ of reading" to   │                    │ of reading," though  │
        │ mean teaching    │                    │ disagreement         │
        │ students to      │                    │ surrounds how the    │
        │ decode           │                    │ term is used         │
        └──────────────────┘                    └──────────────────────┘
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Figure 4   A Brief Timeline of the Term "Science of Reading." *Source:* (Shanahan, 2020)

In an article examining what science of reading instruction entails, Shanahan (2020) notes that in the 18th century, the term "science of reading" referred to text reading and was used around the same time that linguistics – the study of language – was emerging. It was not until the 1830s that "science of reading" was used pedagogically, referring to decoding instruction. By the 1950s, there was an increase in applying research to reading instruction but without the label "science of reading." Since 2018, increasing use of the term "science of reading" has been accompanied by increasing disagreement on what this term means.

The definitional disagreement over the term "science of reading" diverges into two main views. One of these views holds that the science of reading refers mainly to

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systematic decoding and word reading. Proponents of this view have pointed to Gough and Tunmer's (1986) Simple View of Reading (SVR) model – which posits that reading comprehension is the product of decoding and listening comprehension – as justification (Cervetti et al., 2020). Though the SVR "gives equal footing" (Cervetti et al., 2020, p. S162) to both decoding and listening comprehension, it is decoding that has received the lion's share of attention (e.g., Aukerman & Schuldt, 2021; Silverman et al., 2020) from both researchers and the public. One example comes from researchers. Hudson and colleagues (2020) argue that "…teachers, in general, have an insufficient understanding of foundational literacy skills necessary for providing effective reading instruction based on the science of reading…" (p. S288). Another example comes from the public. Cervetti and colleagues (2020) credit education journalist Emily Hanford's (2018a) podcast *Hard Words: Why Aren't Our Kids Being Taught to Read?* as "the report that ignited much of the public debate" (Cervetti et al., 2020, p. S162) over the science of reading. In a subsequent New York Times article, Hanford (2018b) argued that while language acquisition is a natural process, learning to read requires explicit decoding instruction.

The other view of the science of reading encompasses a wider interpretation, including all five elements identified in the National Reading Panel Report (2000): phonemic awareness, phonics, fluency, vocabulary, and comprehension. Hurford and colleagues (2016) seem to agree with this view, arguing that, "The science of reading involves precisely what science has discovered to be relevant not only to reading, its subskills, and reading acquisition but how to modify experiences such that poor

readers can become competent readers" (p. 913). They specifically call out not only the five elements identified by the National Reading Panel (2000) but also elements such as orthography and writing. Going one step further, Semingson and Kerns (2021) proposed that the "science of reading" should also include what we know about "reading processes, the nature of reading, contextual factors, and the history of the study of literacy" (p. S158) to most appropriately select evidence-based practices to support student literacy learning.

DI, HQIM, the Science of Reading, and Student Literacy Achievement

It may be that our partners' increased interest in the DI model is influenced by the broader view of the "science of reading" proposed by Shanahan (2020), Hurford and colleagues (2016), and Semingson and Kerns (2021). Teachers are increasingly concerned about the negative impact the COVID-19 pandemic has had on students' foundational skills learning, and schools are required to provide teachers with HQIM with which to teach those foundational skills. Walpole and McKenna's (2017) text, which contains everything needed to teach the DI model, is endorsed by the National Council on Teacher Quality (Drake & Walsh, 2020) as one of only 14 "exemplary texts covering all five elements of effective reading instruction" (p. 15) noted in the National Reading Panel Report (2000). For students with foundational skill needs, the DI model provides single- and multi-syllable decoding lessons along with fluency development and practice. For students already strong in foundational skills, the DI model provides support for building and strengthening background knowledge and

vocabulary. As such, each student enters the model at the level of literacy support they need and engages in customized literacy learning matched to their specific needs.

Organizational Role

As an Instructional Specialist in English Language Arts, I work within PDCE's currently conceptualized professional learning theory of change (Walpole, 2021) to plan, design, and deliver professional learning support for literacy instruction using high quality instructional materials, in collaboration with my advisor Dr. Sharon Walpole, our Senior Associate Director of Literacy Dr. Jaime True Daley, and our literacy team colleagues. I also provide follow-up literacy instruction coaching and professional learning community support for teachers and administrators in schools implementing Bookworms, and schools who opt to implement Walpole and McKenna's (2017) DI model as a stand-alone support for building and strengthening students' foundational literacy skills. And finally, in late spring 2022, I concluded my work as part of a team of literacy colleagues working to revise the Bookworms K-5 Reading and Writing curriculum.

When I first began my work at PDCE in 2016, my role focused solely on designing and delivering professional learning in literacy for grades K-5. I provided our partners with coaching and professional learning community support for teaching literacy skill areas as identified by each partner, and for Bookworms curriculum implementation in particular. Then in the 2018-2019 school year, in addition to the

above work, I was asked to design and implement a Canvas (Instructure, n.d.) hybrid course. That course supported Delaware K-2 educators statewide in planning and implementing genre-based writing strategy instruction, using the work of Coker and Ritchey (2015). In the 2019-2020 school year, I added to the above work by collaborating with PDCE literacy team colleagues to plan, design, and implement specialized professional learning sessions to support more nuanced implementation of Bookworms for teachers as part of our first-ever Bookworms K-5 Reading and Writing Summer Institutes at the University of Delaware, and to support school leaders of Bookworms teachers at the 2019 HIVE Open Up Resources Conference (Wheedleton, 2019a-e).

It was also during the 2019-2020 school year that I began splitting my time between direct service to teachers and work on Bookworms curriculum development and revision. As part of this work, I developed several tools designed to support teachers and our Literacy Instructional Specialists, all with an eye to increasing implementation quality. Some of the tools I developed during that time, supported by collaboration with Dr. Sharon Walpole, included: a scope and sequence planning support for the Shared Reading and English Language Arts components of Bookworms, tables outlining the social studies and science content reflected in all Bookworms texts K-5, tables detailing the gender and race of characters and authors in all Bookworms texts K-5, and two self-guided Google Sites designed to flexibly support teachers and school leaders in a deeper dive into both of the DI texts which undergird the differentiated instruction lessons: *How to Plan Differentiated*

Instruction: Resources for Grades K-3 (Walpole & McKenna, 2017) and

Differentiated Literacy Instruction in Grades 4 & 5 (Walpole et al., 2020). These tools

were designed and shared to support both our literacy coaches and our partners to

increase the quality of implementation of both the Bookworms curriculum and the DI

lessons.

During the 2020-2021 school year, the COVID-19 pandemic shifted PDCE and

our school partners to virtual work. Our literacy team organized the second annual

Bookworms K-5 Reading and Writing Summer Institutes as a virtual conference,

where I engaged in collaborative planning with colleagues once again, but this time

we delivered sessions via Zoom. To support one another and our partners, my

colleagues and I collaborated to design and build virtual assets, to strengthen our own

knowledge and skills, and to serve the needs of students and teachers during an

education experience not encountered since the 1918 Spanish flu pandemic. Some

examples of the virtual assets we created are asynchronous virtual book study

websites, resource websites containing support for improving teachers' literacy

instructional practices, and video lessons to support student foundational skill

learning. We housed video-recorded virtual differentiated instruction and Bookworms

lessons in Google Sites I built for that purpose. The differentiated instruction lesson

sites often had to be redesigned to fit partners' varied access and content needs. I also

built Google Sites for our literacy team colleagues, designed to support them in their

quick pivot to virtual coaching work. These team-support sites housed pages with

links to virtual engagement and collaboration tools, virtual instruction tools, and

tutorials on how to design, build and use a Google Site as a digital hub from which to conduct virtual professional learning and virtual PLCs. And finally, with Dr. Sharon Walpole's guidance and collaboration, I designed and built the Canvas (Instructure, n.d.) Bookworms and DI training courses that our team uses as templates for designing customized professional learning sessions and Bookworms Institutes sessions that fit the varied needs and requests of each partner.

During the 2021-2022 school year, the COVID-19 pandemic was still impacting the work of schools and PDCE. Our literacy team needed to be nimble and responsive as our partners' coaching and professional learning support needs switched between in-person, virtual, or hybrid in response to changing pandemic guidance and requirements. I continued to split my time between coaching, professional learning, and curriculum writing. Our literacy team collaborated to plan and design a new version of our annual Bookworms institute with three targeted support areas – New Teacher Induction, Advanced Bookworms Institute, and Bookworms Intensive Academy, with sessions once again delivered virtually via Zoom. We also presented sessions via Zoom at the Open Up Resources HIVE 2021 virtual conference (Wheedleton 2021a-f).

The tools and procedures my colleagues and I have developed throughout the COVID-19 pandemic serve as the foundation from which I worked to address the problem stated in this ELP.

Statement of the Problem

The global COVID-19 pandemic has forced many organizations to pivot. PDCE is no exception. Our Center has experienced a huge increase in demand for our professional services – mainly in our literacy department – fueled by the focus on the science of reading more globally and EdReports' rating of Bookworms (EdReports, 2018) more specifically. Increased demand for our services has led to an increase in the number of trainings our specialists typically deliver during the last few weeks of the summer and into the early fall. Prior to the COVID-19 pandemic, our specialists used the applicable slides from one master PowerPoint presentation for Bookworms and differentiated instruction, and then customized as necessary. Since the COVID-19 pandemic, the increased demand for services and the switch to virtual and hybrid delivery has rendered both our standard training preparation and delivery system and our typical training materials insufficient to adequately keep pace with virtual and hybrid planning, design, and delivery demands. I have considered three possible solutions to alleviate this insufficiency.

One potential solution to meet increased demand is to change the Center's pricing model. PDCE uses a 1:1 preparation model for our professional learning services, meaning our literacy specialists are allotted one day to plan, design, and build all materials necessary for in-person or virtual delivery of a one-day training session. However, this solution is outside my sphere of influence, as our Center has

committed to this financial model to make services affordable for our partners and to provide the volume of services requested.

Another potential solution for the PDCE literacy team to meet this increased demand for services is to hire more people. While the decision to hire new team members is also outside my sphere of influence, PDCE's leadership did choose to take this course of action. As a result, we were able to hire four new Literacy Instructional Specialists in the spring of 2019 and then another four in the spring of 2020. While our expanded team lightened everyone's workload, the demand for our services also expanded, and our struggle to meet demand within our 1:1 preparation model continued. Compounding the issue, four teammates left PDCE in the late spring and early summer of 2021 to pursue other employment. Finally, in the summer of 2022 we were able to hire six new Literacy Instructional Specialists, and while these latest new hires have helped increase our current capacity to meet demand, the 1:1 preparation model has remained inconsistently attainable.

A third potential solution – solidly within my sphere of influence – is to meet the increased demand for PDCE's services by changing our professional learning design. Therefore, to try and address our literacy team's need to both meet demand and stay within the 1:1 preparation model, I worked in collaboration with Dr. Sharon Walpole and my fellow literacy specialists to design and build a master training course within the Canvas learning management system (Instructure, n.d.). The master Canvas course was a baseline professional learning architecture comprising a series of discrete content modules, each designed to support teachers in learning to effectively

implement each component of each lesson in Bookworms K-5 Reading and Writing and the DI model. While this design was initially successful in helping specialists keep up with demand, we discovered a limitation. Namely, the course had to be redesigned for each school partnership's specific needs. Content was able to be successfully customized, but a full course and materials redesign for each partnership did not fit within the 1:1 preparation model for Literacy Instructional Specialist planning.

Demand for PDCE's professional literacy services shows no signs of slowing down (a good thing!), and COVID-19 is still very much with us (a not-so-good thing). PDCE literacy specialists remain in need of support for the planning and design of our usual high-quality DI training. This support is necessary both within the 1:1 preparation our financial model requires, and with the customized content our partners require. Therefore, the problem that I addressed in this ELP is: How can I design a flexible baseline professional learning architecture, which both fits in PDCE's 1:1 preparation model, and allows for specialist customization that maintains quality and meets the unique professional learning needs of our partners?

Chapter 3

IMPROVEMENT STRATEGIES

As part of my rationale for this ELP, I provide overviews of research I have examined to guide my work. Those overviews include (a) how the science of reading informs the DI model (Chapter 2, "Differentiated Instruction and the Science of Reading"); (b) characteristics of effective hybrid, virtual, and in-person professional learning for teachers (Appendix B: Building a New Normal: Virtual and Hybrid Professional Learning Introduction; and (c) professional learning evaluation (Appendix C: Measuring the Effectiveness of Professional Learning. The improvement goals and strategies in this ELP center on professional learning design and how that design influences both our Literacy Instructional Specialists at PDCE and the teachers and administrators we serve in our partnerships.

The Importance of Professional Learning Design

What does the research literature have to say about effective professional learning? As it turns out, plenty. We know that teachers are more likely to engage in reflective practice and to change instructional practices when their learning experiences focus directly on classroom teaching (Camburn & Han, 2015). We know that the type and duration of professional learning matters for change in both teacher

practice and student achievement (Ault et al., 2017; Elish-Piper & L'Allier, 2011), and that change in practice is greater when the content of the professional learning matches the needs of teachers and students (Apthorp et al., 2012). We also know that professional learning that results in changed teacher practice tends to support both content and teacher knowledge and skill, be coherent in design, and be sustained over time (Garet et al., 2001). And we know that collective teacher efficacy predicts student achievement (Goddard et al., 2000), and that more frequent opportunities for teacher collaboration positively impact implementation (Walpole et al., 2010).

At PDCE, we know that the professional learning we provide for teachers has important consequences not only for the teachers' pedagogical knowledge and instructional skills, but also for the students they serve. To ensure that our Instructional Specialists' services are grounded in research, PDCE has developed a professional learning model from which all content area specialists will work (Walpole, 2021). We are optimistic that this model will help us to define and describe our services and provide a consistent framework to structure professional learning customized to each individual partnership. In this PDCE Theory of Change Model (Figure 5), the overarching goal is to positively impact student achievement. The model posits that PDCE can reach this goal in part through the enabling conditions of high quality instructional materials adoption and curriculum training, and in part through the proximal outcomes of teacher pedagogical content knowledge and self- and collective efficacy.
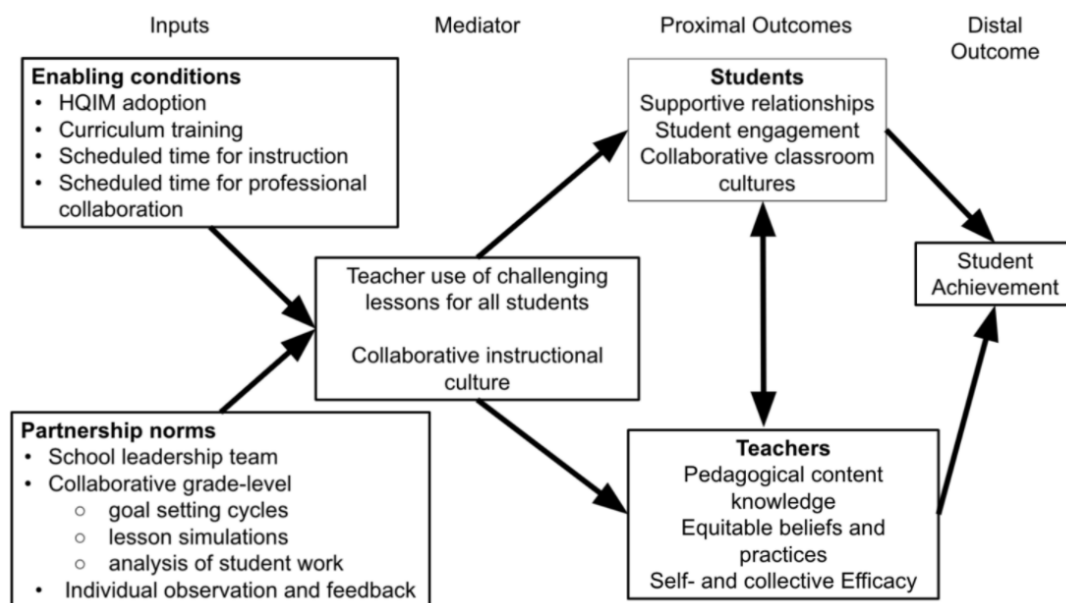
Figure 5   PDCE Theory of Change. (Walpole, 2021)

However, customization takes time, and our center's financial model can only allocate
specialists with one day of preparation for every day of professional learning
delivered. To deliver customized professional learning which fits the unique needs of
each partnership, we must ensure that all of our literacy specialists deliver the same
type and quality of services which effectively meet each partner's specific needs. To
that end I am proposing a theory of change for effective literacy professional learning
design (Figure 6), nested within the enabling conditions and teacher proximal
outcomes of PDCE's overall Theory of Change.
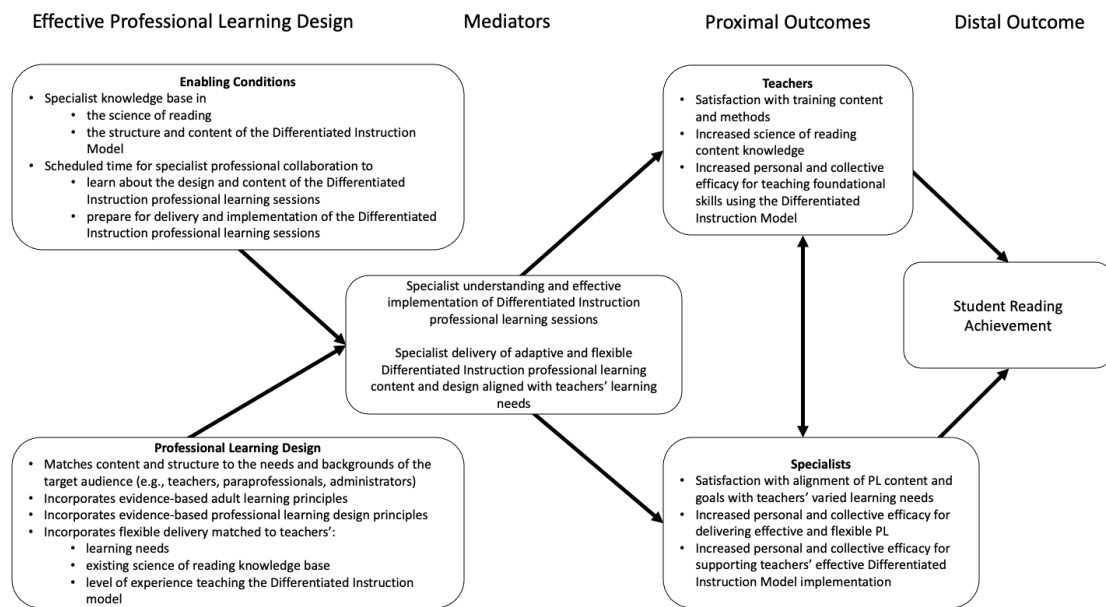
Figure 6   Effective Literacy Professional Learning Design Theory of Change

Influence of Professional Learning Design on PDCE Literacy Instructional Specialists

In the Effective Literacy Professional Learning Design Theory of Change, student achievement remains the distal outcome and can be used to frame the problem that this ELP endeavors to address: How can I design a flexible baseline professional learning architecture, which both fits in PDCE's 1:1 preparation model, and allows for specialist customization that maintains quality and meets the unique professional learning needs of our partners?

I propose that by focusing on the Enabling Condition of scheduled time for specialist professional collaboration, and on the elements included in the Professional

Learning Design component, we can more effectively support our Literacy

Instructional Specialists to customize and deliver professional learning to support

differentiated instruction model implementation.

By building a baseline professional learning architecture that our literacy

specialists can use (presented and described in Appendices E-H), PDCE can continue

implementing the 1:1 planning model and remain responsive to specific partner needs.

This baseline architecture contains a full menu of targeted support modules designed

to support effective implementation of all elements of the DI model to address

identified teacher learning needs (e.g., how the science of reading informs both

assessment and instruction in the DI model, the importance of accurate phoneme

pronunciation in supporting decoding, overall DI model structure, lesson structure and

implementation). Using this baseline professional learning architecture, Literacy

Instructional Specialists engage with school leaders to select from the menu of support

modules, according to the needs of the district, school, teachers, and students. Each

module is designed to fit 75-minute time blocks – which our Literacy Instructional

Specialists have found affords them enough time to support teachers in learning new

content, and affords teachers enough time to interact, reflect, and practice what they

have learned. To prepare to address this problem, I studied the literature on the

affordances of in-person, virtual, and hybrid professional learning design and the ways

in which those affordances can impact teacher knowledge and skill-building and allow

for customized professional support (Appendix B: Building a New Normal: Virtual

and Hybrid Professional Learning Introduction), and literature on measuring the

effectiveness of professional learning (Appendix C: Measuring the Effectiveness of Professional Learning).

Influence of Professional Learning Design on Teachers and School Leaders

Research suggests that a successful recipe for professional learning includes six main ingredients: teacher choice of topic, evidence-based adult learning principles, direct connection to classroom practice, customized coaching supports for individuals and groups, varied and frequent opportunities for reflection, and sustained duration (Basma & Savage, 2018; Brady et al., 2009; Darling-Hammond et al., 2017; Desimone, 2009; Desimone & Pak, 2017; Opfer & Pedder, 2011). We also know that when it comes to teacher perception of traditional professional learning value, time and type matter. For example, Mundy and colleagues (2015) found that the number of times professional learning was scheduled per year had a significant positive effect on how highly teachers valued the professional learning (the more times professional learning was scheduled, the more highly teachers valued those professional learning sessions). They also found that the types of professional learning receiving the highest positive teacher ratings were demonstration lessons, in-service sessions, and professional learning communities (PLCs). Finally, they found a significant positive correlation between the number of PLC hours received and how often teachers applied learned strategies in their classrooms.

It seems prudent to design professional learning according to factors which influence teachers' responses to that professional learning. Brady and colleagues (2009) identified several factors which influence teacher response toward professional learning in literacy, including: prior beliefs or attitudes toward the philosophy supporting the professional learning topic and/or content, teacher self-efficacy (e.g., teachers' belief in their ability to effectively support student learning), attitude toward ongoing professional learning, perception of the professional learning design, external motivation (e.g., administration policy, incentives, peer attitudes), internal motivation (e.g., level of satisfaction of student progress as a result of implementing the supported instructional practices), and intention to implement practices supported by professional learning. It also seems prudent to incorporate structures known to be characteristic of successful professional learning, as identified by Klingner (2004): close collaboration between researchers and school districts, sharing with all stakeholders the student data which shows the success of the new practices or initiative, evident and visible administrative support, support provided both initially and over time, and teachers' ownership of new practices or initiatives and mentorship of their colleagues.

Conclusions About Effective Professional Learning Design

When building a professional learning architecture, design and content matter. Given the unprecedented changes in teaching and learning brought about by the

COVID-19 pandemic, that architecture needs to be flexible enough to allow

Instructional Specialists to customize the professional learning to fit various topics,

delivery methods, and partnership needs. What stands out from the research is that,

whether in-person, virtual, or hybrid, effective professional learning design should:

- be customized to fit the needs and requirements of teachers, the school, the district, and the students who will benefit from teachers' increased pedagogical knowledge and skills (e.g., Bates et al., 2016; Desimone, 2009).

- incorporate what we know from research about elements of effective professional learning (e.g., Basma & Savage, 2018; Brady et al., 2009; Darling-Hammond et al., 2017; Desimone, 2009; Desimone & Pak, 2017; Katz et al., 2019; Opfer & Pedder, 2011; Vaden-Kiernan et al., 2012)

- provide any technology skill training and scaffolding necessary for teachers before the professional learning begins, to ensure all can effectively and comfortably participate (e.g., Huai et al., 2006; Katz et al., 2019)

To be most effective, instructional specialists at PDCE need to implement

research-supported elements of professional learning design which positively impact

teacher perception of professional learning value, increase teacher knowledge, and

enable teachers to accurately and efficiently transfer learning to practice. They also

need to deliver professional learning that is customized to their school partnership's

unique needs and settings. During the work of this ELP, I have gathered and analyzed

data about each of these professional learning design results using collection tools

which PDCE implements as part of our standard practice: teacher and administrator

post-training feedback forms, and written Literacy Instructional Specialist anecdotal

narratives (including my own) shared by the team as part of our usual post-professional-learning reflective practice. As providers of professional learning, our Literacy Instructional Specialists need to be able to accurately apply this information to each of our partnership situations, starting with a baseline professional learning architecture for DI, then customizing that architecture to design and implement professional learning for DI that best fits the unique needs of the district, the school, the teachers, and the students they serve, to strengthen and improve teacher practice. A professional learning architecture from which to collaboratively plan and build a customized professional learning experience will serve as a valuable tool for PDCE's Literacy Instructional Specialists to effectively support teachers implementing the differentiated instruction model with their students.

Chapter 4

IMPROVEMENT STRATEGIES RESULTS

Partnership Description

In August 2022, I had the chance to try out my professional learning design using tools I created in Appendices E-H, although imperfectly. A partner with whom I had worked previously, Lake Forest School District in Kent County, Delaware, approached PDCE about their need to implement a research-based intervention for phonics and fluency at Lake Forest Central Elementary School. Lake Forest Central is a grades 4-5 facility with over 600 students; a 13:1 students-per-teacher ratio; 96% of teachers with 3 or more years of experience; student demographics of 62% White, 22% Black, 8% Hispanic, 7% two or more races, 1% Asian or Pacific Islander, and 1% Native American; and 45% of students from low-income families (Great Schools, n.d.). Lake Forest East Elementary school (K-3) implemented the differentiated instruction model during the 2021-2022 school year (Appendix D: Try/Fail/Redesign Process) with positive results. As a result, the district requested to partner with us once again, at Lake Forest Central Elementary School, with me as the professional development provider. Their goal was for their classroom teachers, literacy specialists,

interventionists, and paraprofessionals to learn to implement the DI model as a Tier 2 intervention with struggling students.

Overview of the Implementation

Lake Forest Central requested two full, consecutive days of in-person professional learning in August 2022. However, I was only available for one of those dates. As a compromise, my supervisor offered one day of synchronous, in-person professional learning support with me, and one day of asynchronous professional learning support via the Canvas course described in Appendix G: Multi-Use Canvas Differentiated Instruction Training Course. However, the Canvas course and its accompanying tools were designed for access in conjunction with synchronous training delivery by our Literacy Instructional Specialists. The imperfect application of my design is that we accommodated Lake Forest's request by providing a further customized Canvas course for them that supported both synchronous delivery with me on day one as designed, and revised asynchronous modules to be accessed by teachers, literacy specialists, interventionists, and paraprofessionals on day two.

I implemented the professional learning design by moving through the steps outlined in the Evidence-Based Practices Design System (Appendix H) and using the required tools as I encountered them in those steps. When we arrived at the Planning Meeting task, school leaders worked with me to make their module selections, guided by analyzing data collected from the Evidence-Based Practices Needs Assessment

(Appendix E) and the Teacher Needs Assessment Summary Tool (Appendix F). To both implement my professional learning design and accommodate Lake Forest Central's requests, I provided their professional learning experience in two phases, based on the modules selected for each service day. In the first phase, I was able to implement the following tools and elements of the Canvas course as designed, up to and including the first professional development day:

- Evidence-Based Practices Needs Assessment (Appendix E)
- Teacher Needs Assessment Summary Tool (Appendix F)
- Evidence-Based Practices Design System (Appendix H)
- Selected Canvas course modules (Appendix G):
  - Learn How to Use Canvas
  - DI and the Cognitive Model
  - Grouping Students and Preparing them for the DI Block
  - Blends and Digraphs and R-Controlled Vowels
  - Fluency and Comprehension lessons
  - End-of-Training Evaluations

In the second phase, I adapted the following elements of the Canvas course (Appendix G) to accommodate unsupported asynchronous access (e.g., revising module text to remove references to follow their University of Delaware coach's directions, adding pre-recorded support videos to replace pages where live coach presentations or lesson simulations would normally occur):

- Introduction and Overview

- Stairstep Model Overviews

- Administering the Assessments

- Phonemes and High Frequency Words

- Basic Alphabet Knowledge lessons

- Using Letter Sounds lessons

- Using Letter Patterns lessons

- Dictated Sentences lessons

- Vowel-Consonant-e lessons

- Vowel Teams lessons

- Vocabulary and Comprehension lessons

Analysis of Implementation Results

Recall the problem I endeavored to address in this ELP: How can I design a flexible baseline professional learning architecture which both fits in PDCE's 1:1 preparation model, and allows for specialist customization that maintains quality and meets the unique professional learning needs of our partners? To determine the extent to which I was able to address this problem, I will first present the data, and then analyze the results in two segments. First, I will analyze whether my tools and procedures fit the 1:1 preparation element of the problem, and then I will analyze the customization/quality/partner needs element of the problem.

Feasibility of Fitting the 1:1 Preparation Model

Since this Lake Forest Central partnership requested two full professional learning days (1 synchronous, 1 asynchronous), I was allotted two full days to plan, design, and prepare the professional learning sessions. Since my calendar did not have room to devote two uninterrupted days for this work, I realized I would need to complete the tasks in smaller increments over an extended number of days instead. To account for this unusual work distribution, I first calculated the total number of minutes in two full workdays (7.5 hours per day x 60 minutes per hour x 2 workdays = 900 minutes). Then, I kept a running record of work session dates, tasks completed, tools used, the time spent completing those tasks, and a running total of minutes spent overall. I have compiled that data in the figure that begins below.

Planning and Preparation Data

Work Session	Tasks and Tools	Minutes Worked in Session	Minutes Running Total
7/29/2022	Received Lake Forest contact information and contract details Completed "First Things First" section of Evidence-Based Practices Design System Emailed School Leader to request initial meeting Prepared for initial meeting: • Created a copy of the design checklist • *Edited module selection document to reflect further customization (synchronous/asynchronous elements) • Downloaded Evidence-Based Practices Needs Assessment PDF • Created organizing folders on computer for contract preparation documents	10 (module selection document edits) 55 (all other tasks)	65

Figure 7   Tasks, Tools, and Time Chart. *Note:* * = additional task required to support asynchronous course content.

8/1/2022	Reviewed directions in Evidence-Based Practices Design System Prepped Evidence-Based Practices Needs Assessment PDF to share with leaders • One PDF with just the leader's page • One PDF with just the teachers' page Conducted initial meeting as outlined in Evidence-Based Practices Design System Post-meeting tasks: • added meeting participants to Canvas through UD Guest sent follow-up email confirming today's meeting information and date for planning meeting	25 (mtg prep and emails) 40 (mtg) 24 (add 4 leaders to Canvas)	154
8/3/2022 – 8/4/2022	Aug 3: Contacted Senior Associate Director via email, requested admin privileges to bulk-upload participants to UD Guest (system takes up to 3 minutes to add people one at a time) Aug 4: Permission granted • Added leaders to Canvas course • Created bulk-upload file with teacher participants and uploaded to University of Delaware Guest	19	173
8/5/2022	Composed and sent welcome email to teachers with instructions for accepting University of Delaware Guest and Canvas invitations Troubleshooting three returned emails via school leader contacts	10	183
8/8/2022	Added corrected emails to UD Guest, emailed instructions to teachers Responded to school leader emailed questions	17	200

Figure 7 (con't) *Note:* ***** = additional task required to support asynchronous course content; mtg = meeting

8/10/2022	Began adding teachers to Canvas Completed selected tasks from Evidence-Based Practices Design System • Created copy of Padlet practice board • Edited Padlet link in Warm Up Those Tech Muscles page *Revised Community before Content page to reflect day 1 training is in-person synchronous, day 2 training is Canvas asynchronous	10 (CbC page revision) 20 (all other tasks)	230
8/11/2022	Added new information emailed from school leader to DI Model Training Design Checklist Checked University of Delaware Guest page for newly accepted invitations Added 1 new teacher to Canvas	12	242
8/12/2022	Checked Canvas and University of Delaware Guest acceptances (no new ones) Completed schedule times in Canvas schedule page Compiled Needs Assessment Summary Tool data and leader data, entered into a blank Google Doc to share with leaders at Planning Meeting	65	307

Figure 7 (con't) *Note:* * = additional task required to support asynchronous course content

8/16/2022	Check for new participants to add to Canvas Added Canvas update to data sheet created on Aug. 12 Planning Meeting preparation • Prepared recommendations based on data comparison, added as comments to DI Model Training Design Checklist • *Advanced planning for how I could revise any modules selected for asynchronous access on day two (that referenced coach-delivered content) Planning meeting Finish meeting notes *Prepare for asynchronous course revisions • Review meeting notes, determine plan for needed asynchronous supports • Record video support segments for the Assessment module • Review video segments for accuracy • Upload videos to Canvas Revise Assessment module pages to embed videos	78 (planning meeting prep) 60 (planning meeting) 15 (finish meeting notes) 195 (prep for async course revisions tasks)	655
8/17/2022	Completed tasks in "To customize your Canvas course" section of Evidence-Based Practices Design System *Extra preparation for asynchronous course elements • Recorded Vocabulary and Comprehension information video • Edited Basic Alphabet Knowledge and Using Letter Sounds videos for Phonemes and High Frequency Words module • Edited BAK and ULS pages to customize for asynchronous access • Edited lesson simulation video for VAC and embedded in Canvas page • Embedded lesson simulations from Deepen Your Learning pages into the main learning pages for each instructional group, and revised page language to reflect asynchronous access Make guide sheet for asynchronous day matched to leaders' selected modules	67 (customize your course tasks) 236 (extra prep tasks)	958

Figure 7 (con't) *Note:* ***** = additional task required to support asynchronous course content; BAK = Basic Alphabet Knowledge; ULS = Using Letter Sounds

8/22/2022	Added new teachers to University of Delaware Guest per district request Checked for new people ready to add to Canvas Updated	12	970
8/23/2022	Final check-in meeting	41	1011

Figure 7 (con't) *Note: * = additional task required to support asynchronous course content

Determining Feasibility

Given the constraints of this partnership (e.g., one day synchronous, one day asynchronous), I was able to test the 1:1 planning feasibility of using three elements of the professional learning architecture as designed: (a) the Evidence-Based Practices Needs Assessment, (b) the Teacher Needs Assessment Summary Tool, and (c) the Evidence-Based Practices Design System. In addition, I was able to test the 1:1 planning feasibility of using six modules and accompanying tools from the Multi-Use Canvas DI Training Course that Lake Forest Central leaders selected for synchronous implementation as designed: (a) Learn how to use Canvas, (b) DI and the Cognitive Model, (c) Grouping Students and Preparing Them for the DI Block, (d) Blends and Digraphs and R-Controlled Vowels, (e) Fluency and Comprehension lessons, and (f) End-of-Training Evaluations.

Within the Planning and Preparation Details chart, we can see that the total number of planning and preparation minutes totaled 1011. However, 451 of those minutes were devoted to preparing the asynchronous professional learning content for

day two - additional tasks outside of my professional learning design. The remaining 560 minutes were devoted to using the planning tools as designed and preparing the synchronous professional learning content as designed – a total time well within the 900 available minutes for this work. From these results I conclude that when using this professional learning architecture as designed, it is feasible for the preparation work to fit within the 1:1 preparation model in use at PDCE.

Feasibility of Providing Customization that Maintains Quality and Meets Partner Needs

To determine Lake Forest Central's professional learning needs, I completed the tasks listed in the Evidence-Based Practices Design System (Appendix H) and used the two data collection tools embedded within: the Evidence Based Practices Needs Assessment (Appendix E) and the Teacher Needs Assessment Summary Tool (Appendix F). I will present the leader data first, followed by the teacher data.

School Leader Data

Figure 8   Evidence-Based Needs Assessment Data – Lake Forest Central Leaders

Know Your Teachers

What are your teachers' DI Model learning needs?

Enhancing lesson quality:
"How do we teach these lessons?"

- [2] Learn how to teach the lessons as designed
- [1] Learn how to accurately assess and group students
- **some** [★] Know the DI Model but need a refresher

Building teacher knowledge and expertise:
"Why do we teach these lessons?"

- [★] Increase knowledge of evidence-based literacy teaching practices
- [ ] Increase foundational skills knowledge
- [ ] Increase literacy content knowledge

Expanding teacher knowledge and expertise:
"How do we become experts?"

- [ ] Improve lesson implementation quality
- [★] Improve data-informed instructional planning
- [ ] Engage in professional reflection

Figure 8 (con't)

Two Lake Forest Central leaders met with me during the Initial Planning Meeting three weeks prior to the first training date to complete this needs assessment tool. The leaders shared that their primary goal for the DI model professional learning was for their teachers to adopt an evidence-based Tier 2 instructional model to strengthen their overall literacy program at Lake Forest Central. However, they also reported the training should have secondary goals of building teachers' knowledge base of evidence-based literacy instructional practices and strengthening students' foundational literacy skills. They said teachers would most prefer working in pairs or small groups. In terms of enhancing lesson quality, leaders wanted to prioritize accurate student grouping and assessment and teaching the lessons as designed, while acknowledging some may only need a refresher as they had piloted the DI lessons prior to this year or had taught them in other schools. Their main concern in building teacher knowledge and expertise was to increase teacher knowledge of evidence-based literacy teaching practices. And to expand teacher knowledge and expertise, leaders

said the professional learning should target improved data-informed instructional

planning.

Teacher Data

After reading the graphic, please check the response below that most accurately reflects your understanding of the DI Model and the science of reading. (Select only one response.)
7 responses

- 42.9%
- 14.3%
- 42.9%

- ● I know the DI Model well and understand how it aligns with these literacy terms and concepts.
- ● I know the DI Model, but need to know more about how it aligns with these literacy terms and concepts.
- ● I understand many or all of these literacy terms and concepts, but I am new to the DI Model.
- ● I am new to both the DI Model and to one or more of these literacy terms and concepts.

What are your students' current literacy learning needs? (Select all that apply.)
7 responses

Literacy Need	Responses
My students need to build missing phonological awareness and letter sound skills.	2 (28.6%)
My students need to strengthen their existing decoding skills.	3 (42.9%)
My students need to maintain their on-track fluency or comprehension skills.	6 (85.7%)
My students need to strengthen and expand their vocabulary knowledge, comprehension ability, and background knowledge.	7 (100%)

Figure 9   Needs Assessment Summary Tool Data – Lake Forest Central Teachers, Specialists, Interventionists, and Paraprofessionals

What are your learning goals for this DI Model PL? (Select all that apply.)

7 responses

Learning Goal	Responses
Learn how to teach the lessons as designed.	0 (0%)
Learn how to accurately assess and group students.	2 (28.6%)
Get a refresher to make sure I'm teaching the lessons as designed.	4 (57.1%)
Increase my knowledge of evidence-based literacy teaching practices.	0 (0%)
Increase my knowledge of foundational skills.	0 (0%)
Increase my literacy content knowledge.	1 (14.3%)
Improve my lesson implementation quality.	4 (57.1%)
Improve my data-informed instructional planning.	6 (85.7%)
Engage in professional reflection.	4 (57.1%)

How do you prefer to engage in group work? (Select all that apply.)

7 responses

Option	Responses
In pairs or small groups	5 (71.4%)
In grade level groups	6 (85.7%)
In groups with a mix of grade levels	2 (28.6%)
With colleagues in my own school (if other schools are also attending)	4 (57.1%)
With colleagues from other schools (if other schools are also attending	0 (0%)

When you learn about a new instructional procedure, which learning structure below would you most prefer? (Choose only one.)

7 responses

- 🔵 First tell me about the procedure, then show me how to teach it, then give me a chance to practice teaching it, then give me a chance to reflect on it. — 57.1%
- 🔴 First show me how to teach the procedure, then give me a chance to practice it, then give me a chance to reflect on it, then tell me more about it. — 42.9%
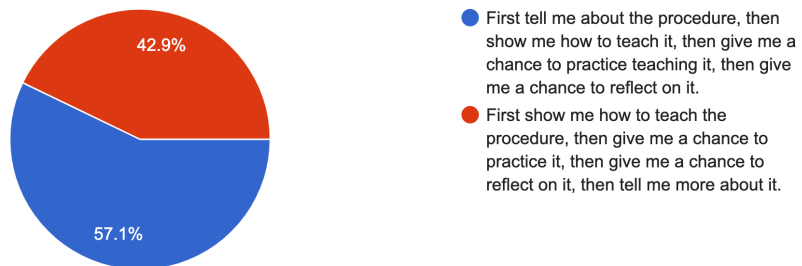
Figure 9 (con't)

When you have opportunities to reflect on your own learning, how do you prefer to do this work? (Select all that apply.)

7 responses

Category	Value
Individually	5 (71.4%)
In pairs or small groups	5 (71.4%)
In whole group	0 (0%)
Using digital tools such as discussion boards, Padlet boards, or Google documents	5 (71.4%)
Using real-world tools such as notepaper, charts, or sticky notes	2 (28.6%)
Verbally	2 (28.6%)
In writing	3 (42.9%)
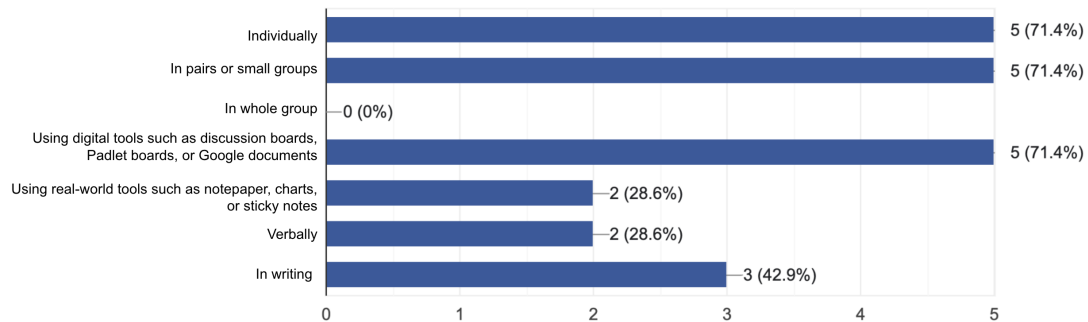
If there is anything else you would like us to know about your learning goals for this DI Model PL, you are welcome to share that information below. (This is an optional question.)

1 response

I would like to know about more resources for the DI Model.

Figure 9 (con't)

Out of the 18 teachers, specialists, interventionists, and paraprofessionals invited to attend the professional learning sessions, less than half (n=7) responded to this survey tool (Appendix F), delivered via email three weeks prior to the first training date. This low response rate (38.9%) required viewing the data as informative but incomplete, due to the possibility that the respondents may not have been a representative sample of the group overall. It may be that if the tool had requested respondents to also indicate their instructional position, even this small data set could have allowed for more accurate analysis and training content selection decisions.

Of those seven respondents, three indicated they knew the DI model well, three indicated understanding all or many concepts from the science of reading graphic

presented at the beginning of the tool (Appendix F), and one indicated knowing the DI

model but needing to know more about how it aligns with the science of reading

concepts and terms. All respondents indicated a need for their students to strengthen

and expand vocabulary and comprehension skills, and six said students need to

maintain their fluency or comprehension skills. Less than half of respondents (n = 2)

reported that their students had phonological awareness or decoding support needs.

When responding to the question about learning goals, all but one respondent

(n = 6) indicated wanting to improve their data informed instruction. Three other goals

were tied at four responses each: get a refresher of the differentiated instruction model,

improve lesson implementation, and engage in professional reflection. Three goals had

zero responses: learn how to teach the lessons, increase knowledge of evidence-based

practices, and increase knowledge of foundational skills.

Nearly all respondents (n = 6) indicated a preference to work in grade level

groups, pairs, or small groups, while only two indicated a preference for working in

mixed grade level groups. Over half of respondents (n = 4) indicated a preference for

the knowledge-building, simulation, practice, reflection (KSPR) learning structure.

Respondents indicated a range of preferences for reflection, with the highest selections

(n = 5) for individually, in pairs or small groups, and using digital tools. No one chose

the option to reflect in whole group.

Comparing the Data

In comparing school leader and teacher responses, both similarities and

differences stand out. Similarities were indicated in one category: learning goals for

the professional learning sessions. In identifying goals for engaging in the differentiated instruction model professional learning, school leaders indicated their primary goal for teachers' engagement was adopting an evidence-based Tier 2 instructional model to strengthen Lake Forest Central's overall literacy program (n = 2). Leaders assigned secondary importance to both supporting/building teacher knowledge base of evidence-based literacy instructional practices (n = 2) and strengthening student foundational literacy skills (n = 2). Teacher responses largely aligned with school leader goals, with nearly all (n = 6) identifying the goal of improving their data-informed instructional planning, and just over half (n = 4) identifying goals of getting a refresher to ensure they are teaching the lessons as designed, improving lesson implementation, and engaging in professional reflection.

School leaders' and teachers' perceptions differed in the category of DI model learning needs. School leaders ranked their estimation of teacher responses regarding enhancing lesson quality, anticipating that learning how to accurately assess and groups would rank first (n = 2), and learning how to teach the lessons as designed would rank second (n = 2). In determining the importance teachers would assign to knowing the DI model but needing a refresher, school leaders said teachers would indicate this to "some" degree (n = 2). School leaders also anticipated that in terms of building knowledge and expertise in the DI model, teachers would identify increasing knowledge of evidence-based literacy instruction practices as their primary learning need (n = 2), and not increasing foundational skills or literacy content knowledge. And in terms of expanding teacher knowledge and expertise, school leaders anticipated

teachers would identify improving data-informed instructional planning as their primary learning need (n = 2), and not improving lesson implementation quality or engaging in personal reflection. These responses indicate that school leaders anticipated teacher learning needs would center around strengthening the literacy program and identifying student placement for instruction. However, teacher responses indicate their learning needs are largely evenly divided between knowing the differentiated learning model well and being new to it. When identifying their understanding of the DI model and the science of reading, 85.7 % of teachers (n = 6) were evenly split between those indicating they know the differentiated model well and understand its alignment with the science of reading (n = 3) and those indicating understanding science of reading terms but being new to the DI model (n = 3), and one teacher indicated knowing the DI model but wanting to know more about how the model aligns with the science of reading.

Finally, one category indicated both similarities and differences: how teachers like to practice instructional procedures. While school leaders (n = 2) accurately anticipated that teachers (n = 5) would indicate a preference for working in pairs or small groups, they did not anticipate teachers' additional strong preference for working in grade level groups (n = 6).

Using the Data to Inform Training Content and Design

School leaders worked with me to analyze each set of data responses and use them to select two sets of modules: one set for synchronous training on day one, and another set for the asynchronous training day. Leaders decided to select the highest-

priority modules and content for the synchronous training: (a) DI and the Cognitive

Model, (b) Grouping Students and Preparing Them for the DI Block, (c) Blends and

Digraphs and R-Controlled Vowels, and (d) Fluency and Comprehension lessons.

Then they chose the remainder of the course modules to be included for the

asynchronous training day and to offer teachers choice of any four modules in which

to engage during that workday. To honor teachers' learning preferences, the KSPR

structure was chosen for the modules offering a structure choice, and I committed to

varying the ways in which teachers would engage in reflection and work sessions so

that as many preferred grouping preferences as possible could be included.

When delivering the in-person synchronous training, I was able to provide all

selected content, simulations, practices, and reflections as designed, within the set

schedule parameters (Figure 10 on next page) assigned to each module, and using the

accompanying presentation and learning tools of each module.

Daily Schedule

Here is the breakdown of how we will spend our time together during our in-person DI Model training on Thursday, August 25, 2022:

Thursday, August 26, 2022
Session 1 (8:30 AM - 9:45 AM)   DI and the Cognitive Model
15 min BREAK (9:45 AM - 10:00 AM)
Session 2 (10:00 AM - 11:15 AM)   Grouping Students and Preparing Them for the DI Block
15 min Optional Q&A (11:15 AM - 11:30 PM)
11:30 AM - 12:30 PM   LUNCH

Figure 10   Lake Forest Central Synchronous DI Model Training Schedule

Session 3 (12:30 PM - 1:45 PM)   Blends and Digraphs/R-Controlled Vowels
15 min BREAK (1:45 PM - 2:00 PM)
Session 4 (2:00 PM - 3:15 PM)   Fluency and Comprehension/Multisyllabic Decoding
15 min Optional Q&A (3:15 PM - 3:30 PM)

Figure 10 (con't)

Determining Feasibility

I was able to test the feasibility of customizing DI model training that both maintains quality and meets the unique professional learning needs of our partners by

using the same three elements of the professional learning architecture as designed: (a) the Evidence-Based Practices Needs Assessment, (b) the Teacher Needs Assessment Summary Tool, and (c) the Evidence-Based Practices Design System. In addition, I was able to test this feasibility by using the same six modules and accompanying tools that were examined for 1:1 planning feasibility: (a) Learn how to use Canvas, (b) DI and the Cognitive Model, (c) Grouping Students and Preparing Them for the DI Block, (d) Blends and Digraphs and R-Controlled Vowels, (e) Fluency and Comprehension lessons, and (f) End-of-Training Evaluations.

Since I was not present for the asynchronous training day and teachers did not fill out either of the End-of-Training Evaluation forms in Canvas, I am unable to report on whether the customized options and choices that day were perceived to be of high quality or of a personalized nature. The evaluation tools were placed at the end of the series of modules in Canvas. It may be that teachers simply didn't notice the tools since they were so far down on the page, and that increasing their visibility by moving them to the top of the series of modules would have resulted in higher completion rates.

For the synchronous training day, however, there are several indicators to suggest the customized module and content delivery choices provided as part of my professional learning architecture both maintains quality and meets partner needs. First, the data collected from the Evidence-Based Practices Needs Assessment and the Teacher Needs Assessment Summary Tool allowed school leaders to choose professional learning content aligned not only to leaders' preferences for professional

learning content but also to teacher's specified learning preferences for both content

and structure. Second, I noted high engagement throughout the full day of

synchronous training. Teachers were on task for all practice sessions, questions

teachers posed after reading activities were specific and aligned to the readings, and

there was no resistance or refusal to complete any of the planned tasks. Third, leaders

shared with me during breaks that teachers seemed pleased with the sessions and could

see these lessons as valuable literacy learning supports for their students, and that

leaders themselves were excited to see the supports their students would be receiving.

And finally, while only four teachers chose to complete PDCE's standard post-training

feedback form, responses were overall positive, as indicated in Figure 11 and 12.

The objectives of the session were clearly communicated	The objectives were relevant to my learning	Throughout the session I was engaged in active learning	The objectives of the session were met by my presenter	I plan to use what I learned in this session
5	5	5	5	4
4	5	4	5	5
5	5	5	5	5
5	5	5	5	5

Figure 11   PDCE Professional Learning Feedback Form Numerical Responses;
Response range from 1 (Strongly Disagree) to 5 (Strongly Agree)

One thing I am taking away from the session is...	One question I still have about the session is...	What I found effective about the session was...	The session could be improved by...	What additional comments do you have about the session?
I love how there is a clear guide to where we can start students, based on their baselines, and where we can move forward or backwards. The example lesson plans are wonderful and useful. Having the scripted lessons will help with routine and structure within the classroom. Students know what to expect each time and we can move through content quickly and effectively.	Is it typical that students will progress forward..or has there been an incident where students complete a second cycle within the same subtest?	I can use it with all of my students, not just my Tier 2 and 3 students.	None at this time.	None at this time. I enjoyed the presenter and felt she was very knowledgeable and thorough.
the need for phonics instruction for students who are really struggling with decoding.	N/A	The opportunities to practice the lessons with colleagues.	N/A	
better ideas for planning and working with my students during RTI to meet their academic needs.	Where to get the resources for the grades 4-5? Most of my students will fall in the top step of the model.	the examples and practice. I don't typically have students on those lower levels so breaking that instruction apart was helpful.	N/A	Thank you very much for your expertise.
How the DI model is structured.	I am still unsure how to effectively implement the vocabulary and comprehension group.	The lesson plans and materials are easy for teachers to plan and implement for groups.	I enjoyed the seesion.	

Figure 12   PDCE Professional Learning Feedback Form Anecdotal Responses

The evidence available, while limited, does point toward feasibility of my professional learning architecture to customize DI model training that both maintains quality and meets the unique professional learning needs of our partners. Additional anecdotal data collection tools and an increased number of respondents in the Teacher Needs Assessment Summary Tool and the PDCE Professional Learning Feedback Form would provide a stronger feasibility indicator in this area, as would having other Literacy Instructional Specialists plan and deliver DI model professional learning using my professional learning architecture design.

Conclusion

Taken together, these results indicate that, if implemented as designed, the flexible baseline professional learning architecture that I designed can feasibly allow

PDCE's Literacy Instructional Specialists to provide customized differentiated

professional learning sessions that fit in PDCE's 1:1 preparation model, maintain

quality, and meet the unique professional learning needs of our partners.

Chapter 5

REFLECTION ON IMPROVEMENT EFFORT

As I was moving through the stages of completing this ELP, I initially thought

the evidence of effectiveness for my professional learning design would come from

the five iterative processes described in Appendix D: Try/Fail/Redesign Process.

Engaging in that process allowed me to analyze failed elements of each professional

learning design iteration and apply what I learned to subsequent design iterations. That

analysis and application process enabled me to develop and integrate a definitive set of

nine design elements into the Multi-Use Canvas Differentiated Instruction Training

Course (Appendix G). Then in the summer of 2022, I had the opportunity use the tools

and professional learning course that I designed (Appendices E-H) to support teachers

and school leaders from one of PDCE's partner school districts in implementing the

DI model (Chapter 4: Improvement Strategies Results). Results from that sixth

iteration design analysis indicate the feasibility of using the artifacts in Appendices E-

H to address the problem stated in this ELP: How can I design a flexible baseline

professional learning architecture which both fits in PDCE's 1:1 preparation model,

and allows for specialist customization that maintains quality and meets the unique

professional learning needs of our partners?

However, as the summer of 2022 progressed, and through frequent thought

partner exchanges with my advisor Dr. Sharon Walpole, I came to realize my evidence

of effectiveness had two pathways: one expected, and one unexpected. In this reflection on my improvement effort and its implications, I will first reflect on the evidence from the expected pathway, and then the unexpected pathway.

The Expected Pathway

DI Model Partnership 6: Lake Forest Central Elementary School

Lake Forest Central Elementary School requested to partner with PDCE's literacy team in part due to the successful DI model training and coaching partnership described in Appendix D: Try/Fail/Redesign Process. Figure 13 outlines the partnership details.

Partner Type	Public school
Professional Learning Dates + Duration	August 25 - 26, 2022 Full days
Professional Learning Participants (n = 18)	School leaders Classroom teachers Reading specialists Interventionists paraprofessionals
Professional Learning Focus	Training to implement the DI model as a Tier 2 intervention with struggling students.
Partner's Differentiated Instruction Implementation Format	In-person in the classroom

Figure 13   Lake Forest Central Partnership Details

Student Grade Level Focus	4-5
Professional Learning Format	In-person delivery via PowerPoint*** presentation and Canvas** resources
	Asynchronous delivery via Canvas** resources
Professional Learning Presenters	Me

Figure 13 (con't) *Note:* **Instructure (n.d.). ***Microsoft (n.d.).

Reflection on Lake Forest Central Professional Learning Sessions

What Failed

Providing Lake Forest Central with even more customization than what is already provided in the Canvas course structure required significant additional preparation time beyond the 1:1 preparation model we use at PDCE. I am very comfortable with technology, so when I agreed to provide this additional customization, I envisioned the work being simple and quick to complete. However, I severely underestimated the planning and preparation time required to do that work, failing to realize that additional videos would also be required if teachers were to successfully learn the content once the synchronous coach presentation elements were removed. Redesigning the current Canvas course modules and creating and embedding video content to support fully asynchronous course access required 451 additional minutes of work – slightly more than one full additional preparation day. That additional preparation came at a personal cost to me: since my workload calendar is

completely booked for the 2022-2023 fiscal year, my only option (as I saw it) was to complete this additional preparation work after hours on my own time.

What I Learned

At PDCE, our Literacy Instructional Specialists have historically been service-minded, willing to provide our partners with flexible professional learning support customized to their literacy instruction needs. As COVID-19 has continued to impact how we deliver professional learning, each of us on the literacy team has evolved our work and mindset to become even more flexible, as the circumstances under which we provide professional learning have often required creative thinking and quick pivots. Sometimes our willingness to serve flexibly results in even more effective and customized support. Other times, that flexibly causes unforeseen issues in terms of time spent and costs incurred. This dichotomy has made me realize the need for our literacy team – and more specifically, me personally – to provide "constrained customization" in our professional learning design. In other words, to provide customized professional learning support for our partners, we need to be not only open and flexible, but also mindful of both our capabilities and our limitations, and work within those boundaries.

I moved through the same iterative design process with Lake Forest Central as I did for the five previous partnerships described in Appendix D: Try/Fail/Redesign Process. In this newest iteration, I was able to gather data in a systematic way, which allowed me to determine partnership goals and learning needs more accurately. It also allowed me to have a more nuanced yet not fully complete understanding of the

dynamics between school leadership and teachers. As noted earlier, only 38.8% of teachers (n = 7) chose to complete the Teacher Needs Assessment Summary Tool (Appendix F). Since I encountered no teacher resistance during the professional learning, it seems reasonable to conclude that the low completion rate was likely not due to resistance to the training or content. One possible explanation may be timing. This training was delivered during the summer, just prior to school opening. The teachers were not required to report for work or complete work tasks until the day of the professional learning, yet the survey was sent out three weeks prior to that official start date. School leaders had anticipated this occurrence, and sent out frequent reminders asking teachers to respond, but were unable to require compliance since it went out prior to the contracted start date. While this circumstance is outside my sphere of influence, it may be that offering completion incentives or making clearer connections to how and why the data was being requested would have resulted in more teachers choosing to complete the survey.

Regardless of the reasons for survey non-completion, the low response rate required that I view the data as informative and suggestive, but not complete. For example, in comparing data from the Evidence-Based Practices Needs Assessment (Appendix E) and the Teacher Needs Assessment Summary, I was able to draw some informative conclusions based on the similarities and differences between school leader and teacher responses. Analysis of the data indicate that while closely aligned in their respective goals for teacher engagement in the DI model professional learning sessions, there may be a discrepancy between school leaders' perception of teacher

knowledge and learning needs and teachers' own perception of the same. This discrepancy may indicate school leaders' desire to move teachers in a particular instructional direction that differs from teachers' current instructional trajectory. It also may indicate a discrepancy between school leaders' and teachers' student data interpretations and classroom experiences. Being aware of such discrepancies and keeping them in mind as I plan and deliver the professional learning sessions allows me to provide a more tailored learning experience for all stakeholders.

In addition to learning the positive impact of systematic data gathering and analysis on customized professional learning design, I also learned that our literacy team can expand the boundaries of what is possible when we provide professional learning. We now have a flexible professional learning architecture for the DI model in place, with preliminary evidence of feasibility in not only 1:1 preparation, but also quality implementation and customized support aligned with partner literacy professional learning needs. That architecture opens the door for expansion to provide both synchronous and asynchronous support in professional learning design and, to the extent possible, training designs that include a structure for varied combinations of synchronous, asynchronous, and combination delivery. But we must temper enthusiasm for that expansion possibility with realistic preparation estimations and mindfulness in terms of our capabilities and limitations.

Finally, I learned that I need to be not only more intentional in knowing the parameters in which I can work, but also more knowledgeable about the time required to fulfill customization requests, because the accuracy of my estimations impact the

decisions and workload of everyone connected to the partnership. When my Senior Associate Director asked me if customizing the Canvas course for asynchronous access would still fit within the Center's 1:1 preparation model, I responded with an enthusiastic yes. Had I been more cognizant of the work and time required to fulfill that customization, I could have given her a more accurate time estimate. Such information would have allowed us to consider two options prior to offering the additional customization: (a) let the partner know that only one day of professional learning was available given our Literacy Instructional Specialist's availability and the parameters of our financial model, and (b) present the partner with a revised cost estimate factoring in the additional planning and preparation time required to provide that additional customization. Such actions would then enable the partner to be more well-informed about the professional learning options available to them, and make the customized choice most closely aligned with their learning needs and training format preferences.

Parameters Which Should Frame the Next Redesign

A significant positive result of this additional customization work is that I was afforded the opportunity to test whether these materials had the potential to support teachers even more flexibly than originally intended. Customizing the Canvas modules for asynchronous access has opened the possibility of the Center offering three different types of DI model professional learning support: fully synchronous, fully asynchronous, and hybrid. I now have a partially complete, fully asynchronous version of the Multi-Use Canvas Differentiated Instruction Training Course (Appendix G).

Using these customized modules as templates, I can build a second DI model professional learning Canvas course designed for fully asynchronous access. Once that template course is complete, PDCE will be able to offer three different levels of DI model professional learning support: synchronous-only sessions guided by one or more of our Literacy Instructional Specialists, asynchronous-only sessions in which teachers are self-guided through the course, or a combination of synchronous and asynchronous sessions.

Recall that at the beginning of this chapter I noted that there are two evidence of effectiveness pathways: one expected, and one unexpected. In the expected pathway I have just described, I was the only Literacy Instructional Specialist planning and delivering the differentiated instruction professional learning using the tools described in Appendices E-H. Since no other colleagues worked with me to plan and deliver the Lake Forest Central differentiated instruction training, I did not think I would have the opportunity within this ELP to examine my design's impact on anyone other than me. But in the process of preparing to solo-implement my design for Lake Forest Central, something unexpected happened, transforming an opportunity missed into an opportunity found. Next, I describe that opportunity and the unexpected evidence of effectiveness pathway that accompanied it.

The Unexpected Pathway

Reflection on the Literacy Team's Engagement in the Iterative Process

What Happened

The summer months for PDCE are a historically busy time, since many schools and districts contract with us to provide professional learning to support teachers to start off strong with curriculum implementation in the fall. So as my curriculum writing work was winding down in the beginning of Summer 2022, my coaching work was ramping up. Open Up Resources contracted with our literacy team at PDCE to deliver a series of three, week-long virtual professional learning support sessions for new teachers implementing the Bookworms K-5 Reading and Writing curriculum (Open Up Resources, n.d.). Each day of the week focused on one component of the Bookworms curriculum for each grade from K-5: Shared Reading, Interactive Read Alouds, Genre Based Writing, Differentiated Instruction Assessment, and Differentiated Instruction Lessons. Open Up Resources requested that each training day had to include a morning and an afternoon session, with the same information presented in both sessions, to accommodate teachers attending from multiple time zones. This training structure required a minimum of six Literacy Instructional Specialists (one per grade K-5) to deliver the training each day.

My two curriculum writing team colleagues and I collaborated to design the New Teacher Training framework and based it on the professional learning design I developed for the standalone differentiated instruction training. Once the training framework was complete, my writing teammates and I created all content and materials necessary for our Literacy Instructional Specialists to deliver the trainings as designed each week – just as I had done for the standalone differentiated instruction

professional learning design (e.g., PowerPoint presentation files, Guide Sheets for teacher note taking and work organization, Padlet boards for teacher reflection, digital materials to deliver lesson simulations, digital materials for teachers to practice lesson delivery, PDFs of readings). The same parameters for the standalone trainings also applied to these New Teacher Trainings: 1:1 preparation model, maintain quality, and meet the unique professional learning needs of our partners. In this case, the "unique professional learning need" was that each daily AM and PM session had to be completed in its entirety within a three-hour timeframe.

As the curriculum writing team was putting the finishing touches on the New Teacher Trainings and preparing to roll them out to the coaching the team, six new Literacy Instructional Specialists officially joined the literacy team in July 2022. These new teammates spent the first iteration of New Teacher Training shadowing our experienced Literacy Instructional Specialists who delivered the trainings as designed. Then both experienced and new team members actively contributed to the post-training reflection and redesign process. Figure 14 shows an example of one of the Google Doc charts the team used to collaboratively share reflections and offer revision suggestions.

What went well?	What didn't go so well?	Ideas to improve?
G2 AM: Lots of engagement in the CT analysis	G2 AM: Not so much engagement in the rest (cameras off, very little verbal or chat activity for discussion points)	Ideas [team member] had: being more intentional about reminding teachers of the focus questions, and then following back up after reading - share in chat, call out, etc., for each question upon return (accountability) Also perhaps, working in personal connection: how do you see this working in your classroom? Etc. Other ideas? [team member] wondered about tweaking the Spelling tool work to include teacher practice. Here's what [team member is] going to try on Aug 2: • [document link] (pages 5-6) • [document link] (slides 19-20)
G3 AM: Same as G2, Lots of engagement in the CT analysis - A lot of positive "thank you's" and "great session!" Shared at the end, although they were very quiet during!	G3 AM: Same as G2, Not so much engagement in the rest (cameras off, very little verbal or chat activity for discussion points)	[team member]: I like working on the personal connection mentioned above!
	G3 PM: Not that it didn't go well - but we did the CT Jigsaw work differently because we had such a small group size. One person would have been responsible for recording on the doc for each task which I thought might be a lot of pressure, so we just had them each choose a CT to examine, keeping those questions in mind, and then I briefly spoke to each one at the end.	

Figure 14   Example of Collaborative Reflection and Revision Suggestions Chart.
Note: G2 = Grade 2. G3 = Grade 3. CT = Culminating Task.

G1 AM- Deepest talk about word study and culminating tasks. They were relieved to see the same routines and the website. PM: [team member] used [team member's] idea for differentiating in Respond Together and they really liked that idea.	G1AM- Zoom updated and created a mess Not enough time to get into IRA, but the model Respond Together was useful.	[team member likes] the idea of being more explicit about the Focus Questions. [team member] put them into the Guide Sheet for next week and will see if that seems to elicit more answers. Based on some questions from this week, [team member] also added screenshots from the student workbooks for a few lessons so [teachers] could see the difference between a text connection and a written response on the student side (helped them understand that this wasn't anything additional they students needed to do)
[team member] introduced the Jigsaw as would have to kids in a classroom. Why/How/Designate specific roles. We had a really detailed jigsaw and great convo after!		

Figure 14 (con't) *Note:* G1 = Grade 1. G3 = Grade 3. CT = Culminating Task.

After the first week of training, the entire literacy team met and discussed the contents of the reflection and revisions chart and collaboratively decided on which training elements should remain and which needed revision, cuts, or replacement. Then revision work was divided up amongst the team for completion.

The second iteration of New Teacher Training was implemented during the second week of August 2022. This time, some of our new team members delivered either AM or PM training sessions while others continued to shadow more experienced colleagues. When training concluded, once again all team members

contributed to a second round of reflection resulting in only slight revisions to the design this time. By the third and final iteration of New Teacher Training during the fourth week of August, nearly all the sessions were delivered by our new team members, with follow-up reflection indicating little to no design revisions were necessary.

This sizable systematic and collaborative reflection and revision process was possible in part due to the size of the partnership the professional learning supported. The New Teacher Training was a very large contract with multiple partnerships participating in each iteration. It may be that the success of this process was due in part to having a large enough contract to financially justify our whole team engaging in such intensive design improvement work. If that is so, it may be possible to scale this collaborative improvement process up or down to fit the size of the contract the professional learning supports.

Evidence of Effectiveness

The collaborative iterative process described in the previous section is the same try/fail/redesign process I used to improve the design of the standalone differentiated instruction professional learning sessions we offer our partners. This manner of working is a big change from how our team has worked in the past. Before summer 2022, our Literacy Instructional Specialists sometimes engaged in the iterative process on their own, or sometimes in collaboration with a few other colleagues. But summer 2022 is the first time our literacy team has engaged in such a very public reflection and revision process as a team, in a systematic way. I see this as

evidence that collective engagement in the iterative process results in stronger

professional learning design.

What I Learned

I took what I learned about standalone DI model professional learning design

from the iterative process described in Appendix D: Try/Fail/Redesign Process and in

Chapter 4: Improvement Strategies Results, and then applied it to the professional

learning design of Bookworms K-5 Reading and Writing New Teacher Training in

general and the two differentiated instruction days in particular.

What I learned from the team's collaborative iterative experience is that having

well-designed and well-prepared professional learning materials helps team members

in multiple ways. Besides making planning and preparation more manageable and

easier to fit in the 1:1 preparation model, the iterative process also helps team

members collaborate and contribute to the professional learning design process. In

addition to supporting the literacy team in general, this iterative design experience

specifically enabled new team members to become more purposefully integrated into

the work of our literacy team. And finally, engaging in collaborative reflection and

design revision allowed the work to be distributed more equitably, enabling each team

member to have a more manageable workload.

Parameters Which Should Frame the Literacy Team's Ongoing Iterative Process

Given the way some team members positively highlighted each other's ideas in

the Collaborative Reflection and Revisions chart (Figure 13), it may be that the

iterative process contributed not only to stronger professional learning design, but also

to stronger collective efficacy and possibly even self-efficacy in terms of professional learning design. However, continued iterative collaboration and professional design work, along with more systematic data collection and analysis, would be required to know this for certain.

Chapter 6

REFLECTIONS ON LEADERSHIP DEVELOPMENT

Two years before I set out on this doctoral journey, I was brand new to both the University of Delaware and PDCE, and my only experience delivering professional learning was to peers in my master's classes at West Chester University. But I was confident that if I designed professional learning sessions aligned with literacy research, evidence-based practices, the Common Core State Standards, and requests from school leadership, everything would work out just fine. Fast forward to now. I am in my sixth year as a Literacy Instructional Specialist, and it has been five years since Dr. Walpole stood in front of me at PDCE's offices, looked me squarely in the eye, and said, "You're getting your doctorate, right?" Though I have learned much since then about literacy and leadership, and I still have much to learn, I will reflect on what I've learned so far.

What I Used to Think

As a newly minted PDCE Literacy Instructional Specialist, I delivered my first professional learning session to a – for me – very large group of teachers. I worked hard to prepare what I thought matched what the district requested, and so I presented the whole thing feeling confident that I was giving teachers what they needed. But

when the surveys came back that afternoon, the comments were direct and hard to read: "Don't read the slides to me. I can do that myself." "I already knew this. We have gotten training in this topic for years." "This did not meet my needs." "I didn't learn anything new." When I reflected, I did plan for what the district requested. I did do the research. And, I knew the content was sound. But I did not think to ask the teachers in the room what they wanted and needed. I did not involve participants in a way they felt was meaningful, impactful, and respectful of their current expertise and knowledge. It was a hard lesson to learn, and I very nearly decided that day that I should never have become a literacy coach and that I should find another job. It was only through the support of PDCE colleagues and leaders (both onsite that day and afterwards at the office) that I was able to regroup, relearn, and try again, with better results each time I tried. I didn't realize then that I was engaging in my own personal iterative process to improve my professional learning design.

What I Read and Thought About

At PDCE, we typically refer to ourselves as literacy "coaches" in our day-to-day work with teachers. Bean (2020) defines literacy as "one's ability to read, write, think, and communicate" (p. 9). Walpole and McKenna (2013) define a coach as a person who is "…a teacher's teacher. A coach accepts, understands, and addresses the real needs of adult learners in specific schools with the same unfailing, relentless, positive energy that our very best classroom teachers bring to their work with

children" (pp. 1-2). And Ippolito and Lieberman (2020) contend that "…coaching is inherently leadership work" (p. 77). Though I am part of a team of literacy coaches at PDCE, I do not have a titled leader position, and I used to think that lack of title precluded my ability to lead. However, Bean (2020) argues that while literacy coaches do not have official authority to require change, they still serve as leaders by sharing ideas and resources, inviting teachers and school leaders to engage in the change process, and sharing their knowledge and expertise. According to Bean (2020), one way to think of literacy leadership is that it builds the capacity of teachers to provide stronger and more effective literacy instruction. Specifically, Bean (2020) maintains that literacy coaches lead by (a) sharing their knowledge and expertise with teachers (b) working closely with principals, and (c) engaging teachers and leaders in a problem/solution process, all in service to improving literacy instruction. It seems fair to say that this concept of leadership by building capacity would also apply not only to my work supporting teachers in my coaching partnerships, but also to my work supporting my colleagues through the professional learning tools and structures I have built and the iterative design process in which we collectively engaged.

What I Learned About Professional Learning Design

As I engaged in the iterative professional learning design process, I experienced many failures. However, each failure taught me something new about effective professional learning design.

- Failing to clarify leader roles within the professional learning delivery for both me and the partnership leaders taught me to determine clearly defined roles for all stakeholders prior to implementation.

- Failing to align participant learning needs with professional learning content taught me to develop and implement data-gathering tools for both partnership leaders and teachers. Such data tools allow for a more accurate match between content, teacher learning needs, and partnership goals. This alignment failure also taught me the importance of advanced collaborative planning with partnership leaders, to ensure that content/learning needs/partnership goals match.

- Failing to ensure the quality of content delivery tools taught me that a cohesive learning experience via recorded video demands that I preview and test all video to check for quality or continuity issues, and rectify those issues as appropriate (e.g., by recording and embedding new videos).

- Failing to ensure adequate time for teachers to practice instructional procedures and ask follow-up questions taught me to pace presentations more appropriately and to more realistically allot practice timeframes that provide a more effective teacher learning experience.

- Failing to appropriately plan for materials management (virtual or physical) taught me to think carefully about teachers' learning experiences, anticipate materials organization and manipulation issues, and create a minimum of tools that support maximum learning opportunity.

In professional learning design, failure is a necessary part of the iterative process that ultimately leads to improved design and a more effective learning experience for teachers. Once I learned to view failure as a tool for identifying issues and improving design, I feared it less and embraced it more.

By engaging in an iterative design process for the differentiated instruction stand-alone training, I learned that I have the potential make a colleague's job easier by having a systematic professional learning architecture which provides well-designed virtual materials that support both training implementation and teacher learning. Then, by engaging with the literacy team in an iterative process for professional learning design evaluation and revision, I learned that I can share what I learned about the iterative process with my colleagues and work with them to establish an equally strong collective design process. In this way, I was able to not only improve my own practice, but also positively influence the improved practice of my colleagues.

What I Learned About Leadership

One way I have learned to lead in literacy is through influence. Bean (2020) claims that to lead by influence, a person might engage in persuasive conversations aimed at guiding colleagues toward changes in both practices and policies. Another way I have learned to lead is through developing people – one of four leadership categories espoused by Leithwood and Jantzi (2008). I was able to both develop and influence my colleagues during the process of redesigning professional learning via the iterative process. First, I learned how to move through the iterative process guided by my advisor. Then, I persuaded a few of my colleagues to help me in that process (Appendix D: Try/Fail/Redesign Process), developing their skill in the process by guiding them to use similar processes. That iterative work in turn influenced our

Senior Associate Director to engage our entire literacy team in a collective iterative analysis of our initial New Teacher Training design, followed by collaborative professional learning revision and redesign. Taken together, these iterative processes supported capacity building of not only me, but also the entire team, and contributed to the development of a "collegial culture" (Bean, 2020, p. 13) where we were all focused on a common goal: improving professional learning design.

In addition to learning more about how to lead, I also learned about the limits of my leadership. While there are many factors under my control in professional learning design and implementation (e.g., the accuracy of the literacy content, the design of the learning elements offered, the alignment of instruction with evidence-based practices, the quality of the training delivery tools), there are many more that are not (e.g., materials shipments that fail to arrive on time, technology difficulties, unexpected schedule changes, last-minute or unexpected partner requests). The challenge for me as a literacy leader was learning how to respond to and adjust for those factors I could not control, or to mitigate those factors to some degree by planning ahead for their possibility.

By building capacity, developing people, leading by influence, and purposeful planning, I can effect change through a professional learning lens. For the teachers I serve, that change may occur in instructional practice or pedagogical knowledge or beliefs. For the colleagues I work alongside, that change may occur in professional learning design or implementation or in collaborative work engagement. And for both

teachers and colleagues, those changes have the capacity to pave the way toward our

ultimate goal: student literacy achievement.

What I Still Need to Refine

Perhaps one of the most important concepts that this design and leadership

journey has reinforced for me is the need for continuous skill improvement. I have

prioritized four leadership and design skills that I believe are the most immediate for

me to refine. First, I need to refine my skills related to simplicity of design. For

example, recall that one of the failures I noted was related to materials management.

By continuing to learn how to better design and incorporate learning tools that are

simple to manage and easy to use, I can more effectively facilitate teachers' learning

experiences.

Second, I need to refine my skills related to teacher engagement and

relationship building. One example is that I struggle to get teachers to complete our

Center's end-of-training surveys, resulting in collection of minimal or incomplete

post-training data. By actively working to increase relational engagement early in the

training, and to learn more effective ways to increase teacher survey completion, my

ability to design stronger professional learning aligned to teachers' learning needs and

preferences will increase.

Third, I need to refine my skills related to virtual small group activity design.

My colleagues and I noticed when checking in with groups during their virtual

practice sessions–especially during the New Teacher Trainings–that some of the groups did not engage in the designated practice activity. Instead, they discussed other topics or simply had cameras and microphones turned off. My colleagues and I are not sure why those virtual small group activities did not have higher engagement. Is it because teachers were unable to see how virtual practice connected to in-person lesson delivery? Is it because the virtual tools we provided were not easy to use? Is it because we needed to build more accountability into the task? It may be that to be effective, practice session spaces and materials need to match the spaces in which teachers will deliver instruction with students. As I consider possible redesign ideas (e.g., incorporating different accountability measures beyond simple share-outs, using different or better-designed virtual tools that are easier to manipulate, providing video-recorded lesson simulations before practice sessions instead of live coach simulations) engaging my colleagues in collaborative problem-solving will increase my knowledge base of effective design and engagement ideas.

Fourth, I need to refine my skills related to delegating responsibility (Bean and Goatley, 2021). For example, after each iteration described in Appendix D: Try/Fail/Redesign Process, I completed the professional learning redesign work on my own, using the input provided by my colleagues. Since I was engaging in that iterative process to inform the design of the flexible professional learning architecture I was building for this ELP, I would argue that doing that work myself was the appropriate leader action to take. However, while working with our literacy team to collaboratively apply the iterative process to improve the design of New Teacher

Training, I kept trying to do all the redesign tasks myself, because I thought this action was helpful to and supportive of my peers. But thanks to timely feedback from my Senior Associate Director, I came to realize that I was missing the opportunity to empower my colleagues (Bean and Goatley, 2021) to engage their own leadership and expertise in service to our collective goal: supporting strong teacher curriculum implementation via strong professional learning design.

To list all the leadership and professional learning design skills I need to continually improve could fill volumes. However, starting with these four are a strong start from which to continue to grow.

What I Would Have Done Differently

Knowing what I know now, if I were to start this project all over, the main thing I would do differently is add opportunities to increase colleague capacity by incorporating elements of distributed leadership. According to Bean (2020), distributed leadership involves understanding both the actions and interactions of those being led. One way to enact distributed leadership is to find out what people are good at, and then match each person to tasks where they can leverage their expertise most effectively to make a difference (Bean, 2020).

I have been on the literacy team for six years. I have worked with some team members for nearly all of those six years, some for only a couple of years, and some for only a couple of months. Over those timeframes, I have learned that two of our

colleagues are particularly skilled in teacher engagement and relationships. Another excels at coaching organization and data management. We have a colleague whose strength is big-picture analysis and developing effective systems for organizing people. Still another colleague has great facility with finding and effectively implementing both new and existing digital tools. We have two colleagues with strong special education expertise, two others with administrative experience and expertise, and another two with both depth and breadth of knowledge in early literacy. We also have a colleague with strong data analysis skills and particular expertise in evidence-based literacy instructional methods for students who struggle.

If I had applied distributed leadership to the design and implementation of my flexible professional learning architecture, for example, I could have enlisted the expertise of those colleagues skilled in teacher engagement when designing the lesson practice and reflection elements of the course (Appendix G: Multi-Use Canvas Differentiated Instruction Training Course). I could have enlisted the expertise of my colleagues skilled in digital tools to determine which digital reflection tools would provide both ease of use and effective practice and reflection experiences for teachers. I could have engaged colleagues with strong special education expertise to work with me to design a new module focused on how teachers might scaffold DI lessons as needed to match students' Individualized Education Program goals. I could have engaged colleagues with administrative experience and expertise to help me determine a stronger design and build for the Evidence-Based Practices Needs Assessment (Appendix E) and the tasks to include in the leader meetings outlined in the Evidence-

Based Practices Design System (Appendix H). When using the flexible professional

learning architecture to provide DI model training to partnerships, I could have

engaged my colleague with strong data analysis skills to help me examine data

collected from both the Evidence-Based Practices Needs Assessment and the Teacher

Needs Assessment Summary Tool (Appendix F) and then work with me to more

accurately determine that partnership's professional learning needs. These are just a

few of the ways I could have applied distributed leadership to increase colleague

capacity. Doing so could have positively impacted not only my colleagues' expertise,

but also teachers' skill in implementing the DI model with their students.

To sum up, Bean and Goatley (2021) assert that, "Leaders are those who

promote positive change and inspire and empower others to participate in the process"

(p.101). While my reflection on my improvement effort in this ELP pointed toward

positive results in both the expected and unexpected evidence of effectiveness

pathways I encountered, those results might have been even more positive if I had

focused more concerted efforts toward building colleague capacity. It may be that the

requirements of the ELP to work personally were a barrier in a workplace where the

best work is done collaboratively.

Conclusion

The work of this ELP has engaged me in dynamic development of professional

learning to support both knowledge-building in the science of reading generally, and

in implementation of Walpole and McKenna's (2017) DI model specifically. I was

able to create a professional learning architecture that is potentially universally

accessible yet also contextually customizable, simply by (a) knowing a core set of six evidence-based design principles and (b) asking a constrained set of questions targeting what leaders know about their teachers and their school and what teachers know about their students and their own learning goals.

Design is all about improving from one iteration to the next, but what I really benefitted from is implementation with multiple stakeholders in multiple settings and from multiple backgrounds. After five iterations, the DI model professional learning design held up so well that our literacy team learned something about effective practice in multiple full-day training scenarios and applied that learning to effective practice in multiple half-day training scenarios. What this whole design process has taught me is that if I have a core set of design principles, a list of intentional and targeted questions, a group of willing and knowledgeable collaborators, access to high quality instructional materials, and a little bit of time, I have the core set of tools necessary to design flexible, effective, customized professional learning in the future.

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PDCE LITERACY DEPARTMENT PROFESSIONAL LEARNING

PARTNERSHIPS SUPPORTING DI MODEL IMPLEMENTATION

The DI model and its accompanying lessons were first developed and written

by Dr. Sharon Walpole and Dr. Michael McKenna as a framework for implementing

small group foundational skills instruction. Schools partnered with Dr. Walpole and

Dr. McKenna to increase student literacy achievement through implementation of this

multiple-entry skills intervention, which provides explicit instruction in decoding. The

differentiated instruction framework and lessons were initially published in

Differentiated Reading Instruction: Strategies for the Primary Grades in 2007. The

framework and lessons were piloted by literacy coaches working with Dr. Walpole

and Dr. McKenna. In 2009, a finalized version of differentiated instruction framework

and lessons were published in *How to Plan Differentiated Reading Instruction:*

Resources for Grades K-3. Through interactions with teachers as they implemented

the lessons, Drs. Walpole and McKenna were able to identify improvements and

publish a revised second edition in 2017.

The DI model and lessons are an integral part of the Bookworms K-5 Reading

and Writing literacy curriculum (Bookworms). Bookworms incorporates challenging

texts and evidence-based instructional routines designed to build and strengthen

students' vocabulary and background knowledge as well as their comprehension, decoding, spelling, and grammar skills. Drs. Walpole and McKenna began writing the Shared Reading component of Bookworms in 2011, followed by the Read Aloud component in 2013. By the summer of 2016, the ingredients were gathered for what soon became the Genre Based Writing component. This is a brief summary of how the DI model and Bookworms came to be. The full Bookworms story is available in the introduction sections of the Bookworms K-5 Reading and Writing Teacher Manuals, available for free via the Open Up Resources website: https://access.openupresources.org/curricula/bookworms-k5.

Prior to the Fall of 2019, schools and districts interested in literacy instruction support for their K-5 teachers and students typically partnered with the University of Delaware's PDCE to implement all three components of Bookworms: Shared Reading, English Language Arts (which includes both Interactive Read Alouds and Genre Based Writing) and Differentiated Instruction. Then came the COVID-19 pandemic. By March of 2019, the pandemic had forced an abrupt halt to in-person learning and a subsequent pivot to different variations of virtual and hybrid instruction. It was a highly challenging time for teachers to teach and students to learn.

By the Spring of 2019, schools and districts noticed a worrying decline in students' foundational skills knowledge, and PDCE noticed a substantial increase in requests for partnerships. These partnership requests solely or primarily focused on implementing the DI model as a stand-alone support to address that decline. To meet that demand, PDCE's Literacy Instructional Specialists jumped into action,

collaborating to support new and current partners by designing and providing multiple

types of differentiated instruction professional support matched to partners' specific

needs and settings. This included the following components.

- Asynchronous virtual differentiated instruction was provided via designing, pre-recording and embedding 160 15-minute videos into a built-from-scratch student-accessible Google Site. One video was provided for every lesson in the Phonological Awareness and Word Recognition, and Word Recognition and Fluency, stairsteps of the DI model.

- Synchronous virtual or hybrid differentiated instruction support for teachers was provided via PowerPoints or PDF documents. Versions of the DI model lessons were designed and built to adhere as closely to the typical in-person instructional content and delivery as possible.

- Synchronous virtual differentiated instruction training for teachers and tutors was provided by our Literacy Instructional Specialists and focused on how to effectively plan for and implement differentiated instruction lessons in virtual and hybrid settings.

- Asynchronous virtual DI model and foundational skills knowledge-building support provided via built-from-scratch Google Sites designed to guide teachers through either independent or small group self-guided book studies of two differentiated instruction texts: *How to Plan Differentiated Reading Instruction: Resources for Grades K-3* and *Differentiated Literacy Instruction in Grades 4&5: Strategies and Resources*.

The professional learning design I have developed to address the problem of

this ELP is informed by my direct work with five different school partnerships, each

of which began in Summer 2021. Each partner requested stand-alone support in

implementing the DI model. I will briefly describe those partnerships here but will

provide a more in-depth explanation and detail in Appendix D: The Try/Fail/Redesign Process.

The first of my differentiated instruction stand-alone partnerships was with an educational group called Ignite! Reading (Ignite). Ignite requested virtual training and support for tutors to virtually and synchronously implement the differentiated instruction lessons with individual students using the Zoom (Zoom, n.d.) videoconferencing platform. The tutors came from various backgrounds and levels of educational experience: charter school teachers, paraprofessionals, university students, and volunteers. For this partnership, I designed and implemented virtual, synchronous professional learning for 30 tutors and Ignite leaders over two days, and virtual synchronous and asynchronous coaching for Ignite's group leader and tutors for nine additional days.

I used what I learned from the Ignite partnership to redesign the support for my second differentiated-instruction-only partnership with KIPP North Carolina Charter Schools. I served as lead coach for both the training and coaching elements of the partnership and used what I learned from the Ignite professional learning to improve KIPP's professional learning design for 119 teachers, paraprofessionals, and school leaders. As lead coach, I supported and joined with two additional colleagues to provide the initial two-day virtual trainings to support in-person lesson delivery. Additionally, four colleagues and I provided ongoing in-person coaching support for both administrators (four days per school) and teachers (eight days per school) across three K-4 elementary KIPP schools in North Carolina.

I used what I learned from KIPP and Ignite! to improve further on the professional learning design as well as adapt that design for in-person delivery of my third differentiated-instruction-only partnership with Lake Forest East Elementary School, a K-2 public elementary school in Frederika, Delaware. Lake Forest East leaders requested in-person professional learning in three, half-day increments, spaced across the school year, to support in-person implementation of the DI model. Each professional learning session was delivered on-site and in-person at Lake Forest East for 32 teachers and leaders, and professional support was expanded further to include three additional half-day coaching sessions spread across the school year.

I used what I learned from Lake Forest East, KIPP, and Ignite to improve the design yet again, this time for the Thomas Edison Charter School in Wilmington, Delaware (Edison Charter). Edison Charter requested synchronous virtual support for a differentiated instruction "refresher" session for teachers, paraprofessionals, and leaders. This school is not new to the DI model, and so they wanted more nuanced professional support. For this partnership, I collaborated with a colleague to design and deliver a one-day "refresher" professional learning to reinforce 31 teachers' and leaders' skills in initial student beginning-of-year group placement, and their understanding of the structure and content of each group in the DI model.

I used what I learned from each of the prior four partnerships to inform the professional learning support for my fifth differentiated-instruction-only partnership with two elementary schools in New York City. This partner requested virtual professional learning and coaching support for four teachers (three teachers in one

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school, one teacher in another school) who are piloting the DI model in their classrooms (grades K, 1 and 2). Working with the same colleague from the Edison Charter partnership, we designed and provided a one-day virtual professional learning session to deliver initial training for each school in how to implement the DI model in their classrooms. Follow up coaching consisted of teacher choice of either asynchronous support via video-recorded feedback on the instructional videos they sent us, or synchronous support via Zoom coaching sessions.

The experiences described in this narrative and in Appendix D: Try/Fail/Redesign Process informed the recipe for the overall design of the flexible professional learning architecture described in Appendix G: Multi-Use Canvas Differentiated Instruction Training Course.

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Appendix B

BUILDING A NEW NORMAL: VIRTUAL AND HYBRID PROFESSIONAL

LEARNING INTRODUCTION

Abstract

This systematic literature review discusses best practices in traditional, virtual, and hybrid professional learning. It examines the benefits of both fully virtual and hybrid professional learning experiences in the context of how they compare to what we know about effective traditional professional learning experiences, supported by the existing research base from 2006-2020. The most salient points from this examination are then synthesized to determine what a "recipe for success" might look like in a hybrid professional learning environment going forward. The paper ends by discussing limitations and conclusions regarding further study and consideration of the hybrid professional learning model.

Keywords: virtual, hybrid, professional learning

Introduction

The COVID-19 pandemic forced a significant change in the business-as-usual teaching and learning environment. Over the course of the pandemic, teaching and learning in either fully or partially virtual environments became the new normal not only for student learning but also for teacher learning. In our work at the University of Delaware's PDCE, our literacy team provides professional learning in literacy for teachers, specialists, and administrators in the elementary grades. Before the COVID-19 pandemic, our work was nearly always delivered in-person: workshops, professional learning community sessions, coaching, and training. During the COVID-19 pandemic, we made the sudden and initially disorienting shift to providing those same services virtually and have thankfully met with success. But what happens once the pandemic ends? While the temptation may be to just "go back to normal," should we? Or, should we craft a more purposeful "new normal" going forward, which incorporates both lessons learned through experience during the pandemic, and what the research tells us about effective traditional, virtual, and hybrid professional learning environments? I believe our PDCE Literacy Team can better serve our partners by crafting a purposeful new normal.

What We Know About Traditional Professional Learning

A successful recipe for a traditional professional learning model includes six main ingredients: teacher choice of topic, evidence-based adult learning principles, direct connection to classroom practice, customized coaching supports for individuals and groups, varied and frequent opportunities for reflection, and sustained duration

(Basma & Savage, 2018; Brady et al., 2009; Darling-Hammond et al., 2017; Desimone, 2009; Desimone & Pak, 2017; Opfer & Pedder, 2011). And, when it comes to teacher perception of traditional professional learning value, time and type matter. For example, Mundy, Howe, and Kupczynski (2015) found that the number of times professional learning was scheduled per year had a significant effect on how highly teachers valued the professional learning, and that the types of professional learning receiving the highest teacher ratings were demonstration lessons, in-service sessions, and professional learning communities. They also found a significant positive correlation between the number of professional learning community hours received and how often teachers applied learned strategies in their classrooms. Taken together, research has identified numerous traditional professional learning practices that positively impact teacher learning. However, virtual and hybrid professional learning practices and their impact are much less familiar to both teachers and professional learning providers. So, I decided to conduct a narrative literature review and learn what the literature has to say about these less familiar types of professional learning support.

Narrative Review Focus

This paper seeks to add to the traditional professional learning knowledge base by conducting a narrative literature review focused on identifying the currently known affordances of virtual and hybrid professional learning, synthesizing them with the affordances of traditional professional learning, and then determining what a recipe for

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success might look like in a hybrid professional learning environment in 2021 and beyond.

Article Selection Method

To identify articles that most clearly address the goals stated in the previous paragraph, I used one information retrieval technique to locate 44 total documents, 24 of which were selected for review. Articles were retrieved via one online computer search (Cooper, 1982) using five different electronic databases: Google Scholar, and the University of Delaware's DelCat Discovery library which simultaneously searches four databases: Education Source, ERIC [EBSCOhost], Educational Administration Abstracts, and Educator's Reference Complete. I used both literacy-specific and professional-development-general search terms to cast a wider net from which to choose. However, I also limited the search to articles published between 2006 and 2020, to ensure the articles reflected the most up-to-date technology tools and professional learning practices. Those search terms were:

- Efficacy of hybrid professional learning for literacy teachers
- Efficacy of virtual professional learning for literacy teachers
- Hybrid professional learning for elementary teachers
- Virtual professional learning for elementary teachers.

These four search terms yielded 44 total documents. Articles for this sample were selected if the search terms appeared in the title, abstract, or keywords of the study, and if the study focused on K-12 teachers in literacy. After selection, I skimmed the 44

articles and selected those which seemed to most closely examine content related to virtual and hybrid professional learning in literacy in one or more of seven different categories:

- Definition of a virtual or hybrid professional learning model

- Types of tools used during the virtual or hybrid professional learning

- Professional learning design or type options applied

- Evidence-based practice in virtual or hybrid professional learning

- Why or how to use a virtual or hybrid professional learning model

- Affordances or barriers of using virtual or hybrid professional learning model

- Teacher or administrator views of virtual or hybrid professional learning

This criterion-based skimming procedure resulted in a final selection of 24 articles that fit within those seven selection categories, yielding a sample of 15 empirical articles, five theoretical articles, two reports, and two reviews.

The selected 24 articles were then sorted to determine whether virtual, traditional, or hybrid professional learning were examined. From there, the articles in each of those three sorting categories was further examined and coded to determine which of nine different evidence-based elements of effective traditional professional learning were evident in each article: (a) customized coaching and professional learning support, (b) teacher efficacy, (c) access, convenience, and flexibility, (d) direct connection to classroom practice, (e) evidence-based adult learning principles,

(f) opportunities for reflection, (g) sustained duration, (h) opportunities for professional colleague collaboration, and (i) cost benefit. See the figures at the end of this paper to examine the breakdown of articles within each category and the respective professional learning elements evident in each category.

Affordances of a Virtual Professional Learning Experience

Before considering the affordances of a virtual professional learning experience, it will be helpful to establish definitions. For this paper, virtual professional learning means teacher training and/or professional support which takes place in an online space, using one or more digital tools or virtual practices such as: webinars, virtual coaching, or distance education courses (Bates et al., 2016); online professional learning communities (Blitz, 2013; Duncan-Howell, 2010; Katz et al., 2019); professional learning networks (Krutka et al., 2016); internet-based multimedia courses (Huai et al., 2006), or websites and webcam coaching (L. Vernon-Feagans et al., 2015). These virtual professional learning experiences can be synchronous (where participants access online learning activities at the same time and in the same space), asynchronous (where participants access online activities at dates and times of their own choosing), or a combination of the two (Bates et al., 2016; Parsons et al., 2019). In the next section, I zero in on previous research highlighting the benefits of virtual professional learning experiences for teachers.

Opportunities for Reflection

Virtual professional learning can provide expanded opportunities for teacher reflection, which has been found to be an effective, evidence-based component in a

successful traditional professional learning model (e.g., Basma & Savage, 2018; Darling-Hammond et al., 2017; Opfer & Pedder, 2011). In a review of the literature examining online professional learning communities, Blitz (2013) found evidence to suggest that an online professional learning environment provides expanded opportunities for reflection and collaboration minus the barriers of "time, space, and pace" (p.1) and that online professional learning environments better promote teacher self-reflection on their practice compared to face-to-face professional learning environments. Virtual professional learning networks seem to be of particular benefit for teacher reflection. In a survey of teachers' professional learning network experiences (Trust et al., 2016), teachers reported that professional learning network participation allowed them to engage in professional reflection on their role as recursive learners, and to foster reconsideration of professional goals relative to improved practice. Further, professional learning network participation allowed them to take ownership of their own professional growth and improvement, through professional collaboration and engagement with their peers.

Teacher Knowledge and Skill-Building

Virtual professional learning can positively impact teacher knowledge-building and skill-building, which traditional professional learning research suggests has the potential to positively impact classroom practice. In a study examining the effect of online coaching on improved classroom discussion quality, Matsumura and colleagues (2019) implemented a virtual professional learning model (online workshops and video-based coaching sessions) that resulted in improved teacher questioning

strategies and more rigorous student discussion. In a systematic review of studies examining both formal and informal online teacher communities, Lantz-Andersson and colleagues (2018) found evidence to suggest several positive outcomes from teacher participation in such communities, including: changed instructional practice, changed pedagogical knowledge, increased enthusiasm for their work, and improved confidence in their role as education professionals.

Access, Convenience, Flexibility

Virtual professional learning can allow for ease of access, convenience, and flexibility, providing teachers with the element of choice in their own learning. In one study investigating elementary teachers' experiences in a self-directed online professional learning environment, participants reported that the ease and accessibility of online professional learning motivated their engagement with the professional learning site, and that the convenience and greater variety of content offered through the online professional learning was preferable to receiving professional learning support through more narrowly focused professional text resources (Beach, 2017). In another study, researchers investigated the effects of an internet-based professional learning program on teachers' assessment literacy (Huai et al., 2006). The authors argued that their results suggest virtual professional learning offers affordances of convenient access to professional learning content, flexible time and pace when engaging with professional learning content, transcendence of location and financial travel burden barriers for teachers in remote areas, and promotion of convenient and frequent professional learning and collaboration.

Potential for Indirect Impact on Student Achievement

Virtual professional learning that increases teacher knowledge and skill has the potential to positively impact teacher practice, which can lead to a secondary positive impact on student achievement. For example, Basma and Savage's (2018) review of 17 studies examined the effect of professional learning on elementary students' achievement in reading and included a sub-question seeking to determine whether there were any professional learning variations across those studies which moderated overall effects. Of the 17 studies reviewed, only two compared differences in student achievement between teachers receiving virtual versus in-person professional learning: Powell and colleagues (2010) and Vernon-Feagans and colleagues (2015). Powell and colleagues (2010) conducted a comparison of classroom and child outcomes versus teacher coaching condition (no control group). Results revealed that Head Start teachers receiving in-person coaching had higher instructional practice knowledge scores and demonstrated larger gains in instructional practice implementation than those receiving remote coaching. Yet, it was the students of teachers who received professional learning via remote video support who had better reading achievement growth. No causal link, however, was noted. Vernon-Feagans and colleagues (2015) compared the effectiveness of in-person versus webcam professional learning and coaching for the Targeted Reading Intervention (TRI) program for rural kindergarten and first grade classrooms, and found evidence to suggest that not only did the teachers in the webcam coaching group have higher quality instructional implementation than teachers in the in-person coaching group, but also that students of

the webcam-coached teachers had higher literacy growth (on one literacy measure) than those whose teachers received in-person support.

It is important to highlight the differences in the findings of these two studies, however, and view them with an eye to further investigation. While both studies reported higher achievement for students of the virtually supported teachers (Powell et al., 2010; Vernon-Feagans et al., 2015), only one study found that the virtually supported teachers had higher pedagogical knowledge and/or instructional implementation gains (Vernon-Feagans et al., 2015). The overarching goal of teacher professional learning is increased pedagogical knowledge and improved practice. Therefore, understanding how virtual professional learning impacts teacher knowledge and skill, whether any changes in knowledge and skill result in changes in practice, and whether any changes in practice result in higher student achievement, allows professional learning designers to select the most appropriate professional learning design to effectively support teacher learning.

Cost-Effective Collaboration and Access to Expertise

Virtual professional learning can provide cost-effective opportunities for collaboration with a wider circle of colleagues possessing greater ranges of experience and expertise. In presenting their framework for professional learning network enrichment, Krutka and colleagues (2017) suggest that such online professional learning groups provide the opportunity for participating teachers to connect and collaborate with other teachers outside of their immediate geographic area who have similar interests and/or professional learning needs, without the travel, cost, and time

barriers inherent to connecting with far-away colleagues. Salazar and colleagues

(2010) argue virtual professional learning collaboration through participation in online

professional learning communities is particularly beneficial for teachers of English

Language Learners (ELs) in isolated rural settings, as local support for such teachers'

more specialized professional learning needs is not always readily available. Findings

from a teacher survey conducted by Trust and colleagues (2016) seem to bear this out.

When 732 preschool through grade 12 teachers in 47 countries responded to questions

about their views of the professional learning networks in which they participate, 71%

reported that their professional learning network members included local colleagues,

educators worldwide with "specific expertise" (p. 22) such as a particular grade level

or a specialist in a particular content or instructional area, and non-education members

such as writers or scientists. Further, 11% reported that their professional learning

network gave them the opportunity to engage in collaborative learning. Such

collaborative work opportunities with a wide range of collegial expertise provides

teachers with professional support customized to each teacher's specific learning

needs and topic choices.

Ingredients for Successful Virtual Professional Learning

Considering such affordances, what can virtual professional learning add to an

effective overall professional learning recipe? Bates and colleagues (2016) believe the

key to successful virtual professional learning is to combine it with school-based

collaboration. They submit that virtual professional learning works best in the

following five situations:

1. When specific professional learning is needed for specific teachers on content which is not part of the district instructional plan during that school year

2. When expertise is not available in-district but is available virtually

3. When access is needed to colleagues with similar interests or expertise levels, but such personnel are not available in-district

4. When teacher needs prohibit "more powerful professional learning experiences" (p.72) than what can be offered in-district or locally

5. When online professional learning is significantly more cost-effective than in-person professional learning, but the quality of each type of professional learning is equivalent

With a more research-informed idea of the affordances of virtual professional learning in place, I will now examine hybrid professional learning.

Affordances of a Hybrid Professional Learning Experience

What are the affordances of a hybrid professional learning experience? Like virtual professional learning, it will be helpful to define terms. Unlike virtual professional learning, a common definition of hybrid professional learning is more elusive. One reason is the lack of consistent terminology use: some studies use the term "blended," while others use the term "hybrid" (Bates et al., 2016; Parsons et al., 2019), and still others use the combination term blended/hybrid (Salazar et al., 2010) or use each term seemingly interchangeably (Blitz, 2013; Clary et al., 2017; Moore et al., 2016). Another reason is that there does not seem to be one overarching accepted definition in the literature for this type of professional learning, no matter which of these terms is used.

How do articles using the term "hybrid" define this type of professional learning? Salazar and colleagues (2010) define a hybrid professional learning model generally, by describing its role in their professional learning program as an approach which "…expands [their] program's content and delivery options as well as its outreach to participants in a variety of locations, circumstances, levels of technological comfort and accessibility" (p. 2). Bates and colleagues (2016) define the general hybrid professional learning model, but in more detail, stating that

> Hybrid online learning activities take place as part of a larger in-person learning opportunity. Examples include in-person courses or workshops that require virtual collaboration or completion of other online tasks between sessions. These hybrid opportunities may use synchronous or asynchronous online tools, depending on the particular aims of the in-person sessions (p. 71).

Blitz defines hybrid professional learning communities as "…combin[ing] online interactions with the face-to-face interactions of traditional professional learning communities (2013, p. i). This definition is similarly echoed in the findings of Lantz-Andersson and colleagues' (2018) review of studies examining online teacher communities.

How do articles using the term "blended" define this type of professional learning? Katz and colleagues' (2019) article on teacher professional learning environments describes "blended learning spaces" for teachers as those which incorporate both online and face-to-face components. Clary and colleagues (2017) seem to agree, describing their blended professional learning design as one which

includes "…both face-to-face…learning opportunities and online instruction modules" (p. 507).

Despite inconsistent term use and lack of a universally accepted definition for hybrid professional learning in the literature, we can distill commonalities across studies to construct a working definition. Therefore, hybrid professional learning in this paper refers to teacher training and/or professional support which includes a purposeful integration of teacher learning experiences from both face-to-face and virtual environments in its design. With a working definition now in place, I will examine the affordances of hybrid professional learning.

Increased Pedagogical Knowledge

Hybrid professional learning shows evidence of contributing to teachers' increased pedagogical knowledge, which traditional professional learning research suggests has the potential to positively impact teacher practice. Clary and colleagues (2017) reported that the face-to-face component of their hybrid professional learning model "resulted in significant [content] learning gains" for teachers (p. 518) by the end of this component of the model. Goldfeld and colleagues (2020) found similar results but add a note of caution: their hybrid professional learning intervention study showed short-term bumps in teachers' pedagogical knowledge, but it also found evidence that the impact of that knowledge gain was lost as professional learning support was withdrawn over time. The researchers argue that such results point to the need for ongoing, sustained hybrid professional learning design to avoid this loss. While delivery format or content have been the focus of research to date, dosage – or

the amount of professional learning time needed to sustain positive impact on instruction – is an under researched area.

Customized Professional Support

Hybrid professional learning design allows for customized professional support, which we know to also be an integral part of a successful traditional professional learning model. One type of customized support is related to scheduling. In Clary and colleagues' (2017) study, teachers reported that the asynchronous online component of the study's hybrid professional learning model accommodated their busy schedules by eliminating the need for travel time to a physical professional learning site and offered convenient access to professional learning content. Another type of customized support is related to efficiency. Moore and colleagues (2016) conducted a three-year study examining the impact of a hybrid professional learning program on science and mathematics teachers' use of geographic information system technology in their classrooms. The researchers reported that the introductory online training component provided teachers with advanced preparation support before beginning the face-to-face – and more costly – in-person summer institute component, enabling them to maximize the benefit of time with experts in the in-person space. Similarly, in Katz and colleagues' (2019) article outlining lessons learned from implementing their blended professional learning model Reading Apprenticeship, they argue that teacher learning from their three-day in-person summer institute is sustained throughout the school year via ongoing, synchronous online professional learning communities and asynchronous text-based discussions. Taken together, these findings

suggest that hybrid professional learning which incorporates customized support (e.g., flexible scheduling, strategic coordination of online and face-to-face professional learning sessions, ongoing asynchronous discussion opportunities) allows for more impactful teacher learning experiences.

Benefits in Rural Settings and for Specialized Teachers

One way hybrid professional learning may be particularly beneficial in rural settings and for specialized teachers is by providing customized professional learning support. Vernon-Feagans and colleagues (2013) studied the impact of a webcam-based coaching program on rural classroom teachers' ability to "promote rapid reading gains in K-1 struggling readers," (p. 1178). The teachers were first provided with an in-person, three-day summer workshop to learn the Targeted Reading Intervention program. This was followed by ongoing biweekly coaching provided via live webcam technology, during which teachers received real-time, immediate feedback as they implemented the intervention with students. Results indicated that while the intervention was unable to close the achievement gap between struggling and non-struggling readers, both groups of readers gained early reading skills (word reading and spelling of sounds) at the same rate. The researchers argued that their results suggest webcam literacy coaching is an affordable, efficient, and effective professional learning strategy to support classroom teachers learning to implement literacy instructional strategies that lead to "significant early reading gains in struggling readers" (Vernon-Feagans et al., 2013, p. 1185).

Another way hybrid professional learning may benefit rural and specialist teachers is by providing convenient access to professional learning for targeted groups. In their article describing the impact of the online professional learning community Project TEACH, Salazar and colleagues (2010) note that teachers of ELs were able to receive specialized support not only from the asynchronous online professional learning components, but also from face-to-face meetings to extend and deepen their learning with their own on-site EL colleagues, the professional learning instructor, and fellow EL professionals in other geographic areas, through interactive videoconferencing.

Efficacy Benefits

Effective instruction is greatly impacted by teachers' perceived efficacy that they can successfully apply their pedagogical knowledge and skill in a variety of contexts (Bandura, 1986). The virtual elements of hybrid professional learning have the potential to positively impact teacher efficacy relative to personal expression, personal connection with colleagues, and collaborative work. One example is from Salazar and colleagues (2010), who suggested that the virtual, asynchronous elements of a hybrid professional learning model can give voice to teachers who might not speak up in a face-to-face synchronous environment. Another example comes from Duncan-Howell (2010), who argued that participation in an online community reduces teachers' "feelings of disconnectedness, isolation and aloneness" (p. 326) and increases opportunities for collaborative discussion, data analysis, and decision-making. Finally, Lantz-Andersson's (2018) review of studies examining online

professional learning groups found that teachers in such groups often mention appreciation for/valuing the opportunity to build professional relationships and collegiality with their online peers. Thus, hybrid professional learning has the potential to positively impact teachers' reflective practice, emotional well-being, and collegial relationships.

With a more research-informed idea of the affordances of hybrid professional learning now in place, I can draw some research-informed conclusions. Specifically, how might I use the literature-suggested affordances of not only hybrid professional learning but also virtual and traditional professional learning to develop a recipe for successful hybrid professional learning design that increases teachers' professional knowledge base and improves their instructional practice?

Successful Hybrid Professional Learning Design

There are three main conclusions I drew from this examination of the research, to help frame out what the most successful hybrid professional learning design might be. First, a successful recipe for hybrid professional learning should include the most effective elements of not just hybrid professional learning affordances, but also those of virtual and face-to-face professional learning – especially those affordances which the examined research suggests are evident in more than one professional learning type. It is interesting to note that each component which the literature identified as common to successful traditional professional learning was also evident in at least one of the other two professional learning types. For example, *opportunities for reflection* is an affordance common to both traditional and virtual professional learning;

sustained duration is common to both traditional and hybrid professional learning. Moreover, four areas of affordance – *customized coaching and/or professional learning support*; *access*, *convenience*, *flexibility*; *direct connection to classroom practice*; and *opportunities for professional collaboration* – were evident in all three professional learning types. Such affordance commonalities amongst each of these professional learning types seem to suggest that effective professional learning practices may not necessarily be tied to any one particular manner of delivery.

Second, it is important that a recipe for successful hybrid professional learning makes clear connections between the virtual and face-to-face elements of the professional learning. By ensuring that the content in one element builds on and interconnects with the other elements (e.g., Moore et al., 2016), a hybrid professional learning design is more likely to positively impact teachers' increased pedagogical knowledge (e.g., Goldfeld et al., 2020; Salazar et al., 2010) and teachers' transfer of that knowledge to their classroom practice (e.g., Matsumura et al., 2019; Trust et al., 2016; Vernon-Feagans et al., 2013).

Finally, when developing a recipe for successful hybrid professional learning, design and content matter. So, what might the ingredients be? What stands out from the research examined in this paper is that hybrid professional learning design should:

- be customized to fit the needs and requirements of teachers, the school, the district, and the students who will, in turn, benefit from teachers' increased pedagogical knowledge and skills (e.g., Bates et al., 2016; Desimone, 2009).

- allow for teacher choice, flexibility of time/place/pace when engaging in the professional learning, and convenient access to content (e.g., Beach, 2017; Katz et al., 2019; Krutka et al., 2017).

- incorporate what we know from research about elements of effective professional learning (e.g., Basma & Savage, 2018; Brady et al., 2009; Darling-Hammond et al., 2017; Desimone, 2009; Desimone & Pak, 2017; Katz et al., 2019; Opfer & Pedder 2011; Vaden-Kiernan et al., 2012).

- tightly and purposefully integrate content and learning between the face-to-face and virtual elements of the professional learning (e.g., Katz et al., 2019; Moore et al., 2016).

- provide technology skill training and scaffolding for teachers before the professional learning begins, to ensure that all are able to effectively and comfortably participate (e.g., Huai et al., 2006; Katz et al., 2019).

- present frequent opportunities for self-reflection, to support effective adult learning (e.g., Blitz, 2013; Huai et al., 2006; Trust et al., 2016).

- build in elements known to support teacher efficacy, such as virtual interaction and discussion opportunities (e.g., Duncan-Howell, 2010; Katz et al., 2019; Salazar et al., 2010) as well as time and space for collaborative exchange of ideas (e.g., Katz et al., 2019).

- include access to and participation of knowledgeable leadership with appropriate expertise and provide clear protocols for online community management and facilitation, to effectively guide conversations and discussions (e.g., Blitz, 2013; Lantz-Andersson et al., 2018; Salazar et al., 2010).

- be sustained over time (e.g., Clary et al., 2017; Darling-Hammond et al., 2017).

Taken together, these suggested elements – synthesized through combining what we know from research about the elements of successful traditional professional learning and what the research suggests are the affordances of virtual and hybrid

professional learning – may be just the quality ingredients needed for our PDCE

Literacy Team to create an effective recipe for successful hybrid professional learning

design.

Limitations

It is important to note that while this paper has focused on the affordances of

traditional, virtual, and hybrid professional learning to inform hybrid professional

learning design, extending examination to also include the barriers would allow for a

more complete picture and a more informed base from which our Literacy Team can

work as we develop professional learning for our partners. Such examination, together

with any information researchers may have gathered about the impact of virtual and

hybrid professional learning which teachers have received during the COVID-19

pandemic, would give us a more complete understanding of the impact of virtual and

hybrid professional learning on teacher knowledge and practice, allowing us to better

determine whether a hybrid professional learning model is the best fit for each of our

partnerships.

Conclusion

As a Literacy Instructional Specialist, I learned much from the research about

what has shown positive impact on teacher perception of professional learning value,

increased teacher knowledge, and teacher transfer of learning to practice in traditional,

virtual, and hybrid professional learning models. But simply knowing this information

is not enough. As literacy professional learning providers, my PDCE colleagues and I

need to be able to apply this information to our own situations as we design and

implement the most effective professional learning model which best fits the needs of the district, the school, and the teachers and students we serve, to strengthen and improve teacher practice.

Affordances of Traditional Professional Learning Models

Study	Year	Title of Article	Article Type	Customized coaching and PL support	Teacher efficacy	Access, convenience, flexibility	Direct connection to classroom practice (e.g., teacher knowledge-building, changed instruction)	Evidence-based adult learning principles	Opportunities for reflection	Sustained duration	Opportunities for professional colleague collaboration (e.g., school/university partnerships, collaborative work sessions)	Cost benefit (e.g., reduced travel expenses, travel time, or in-person PL implementation costs)
Basma & Savage	2018	Teacher Professional Development and Student Literacy Growth: A Systematic Review and Meta-Analysis	Review	X					X			
Brady, Gillis, Smith, Lavalette, Liss-Bronstein, Lowe, North, Russo, & Wilder	2009	First Grade Teachers' Knowledge of Phonological Awareness and Code Concepts: Examining Gains from an Intensive Form of Professional Development and Corresponding Teacher Attitudes	Empirical			X	X					
Darling-Hammond, Hyler, Gardner, & Espinoza	2017	Effective Teacher Professional Development	Empirical	X			X	X	X	X		
Desimone	2009	Improving Impact Studies of Teachers' Professional Development: Toward Better Conceptualizations and Measures	Theoretical				X			X		
Desimone & Pak	2017	Instructional Coaching as High-Quality Professional Development	Theoretical	X							X	
Opfer & Pedder	2011	Conceptualizing Teacher Professional Learning	Review				X	X	X	X		

Notes. PL = professional learning

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Affordances of Virtual Professional Learning Models

Affordances of Virtual PL Models

Study	Year	Title of Article	Article Type	Customized coaching and PL support	Teacher efficacy	Access, convenience, flexibility	Direct connection to classroom practice (e.g., teacher knowledge building, changed instruction)	Evidence-based adult learning principles	Opportunities for reflection	Sustained duration	Opportunities for professional colleague collaboration (e.g., school/university partnerships, collaborative work sessions)	Cost benefit (e.g., reduced travel expenses, travel time, or in-person PL implementation costs)
Bates, Phalen, & Moran	2016	Online Professional Development: A Primer	Theoretical			x	x				x	x
Beach	2017	Self-Directed Online Learning: A Theoretical Model for Understanding Elementary Teachers' Online Learning Experiences	Empirical			x						
Blitz	2013	Can Online Learning Communities Achive the Goals of Traditional Professional Learning Communities? What the Literature Says	Report					x	x		x	
Huai, Braden, White, & Elliott	2006	Effect of an Internet-Based Professional Development Program on Teachers' Assessment Literacy for All Students	Empirical			x		x	x		x	x
Krutka, Carpenter, & Trust	2016	Elements of Engagement: A Model of Teacher Interactions Via Professional Learning Networks	Empirical			x						
Krutka, Carpenter, & Trust	2017	Enriching Professional Learning Networks: A Framework for Identification, Reflection, and Intention	Empirical			x						
Lantz-Andersson, Lundin, & Selwyn	2018	Twenty Years of Online Teacher Communities: A Systematic Review of Formally-Organized and Informally-Developed Professional Learning Groups	Review		x		x				x	x
Matsumura, Correnti, Walsh, Bickel, & Zook-Howell	2019	Online Content-Focused Coaching to Improve Classroom Discussion Quality	Empirical				x					
Powell, Diamond, Burchinal, & Koehler	2010	Effects of an Early Literacy Professional Development Intervention on Head Start Teachers and Children	Empirical				x					
Salazar, Aguirre-Muñoz, Fox, & Nuanez-Lucas	2010	On-line Professional Learning Communities: Increasing Teacher Learning and Productivity in Isolated Rural Communities	Theoretical	x	x		x				x	
Trust, Krutka, & Carpenter	2016	"Together We are Better": Professional Learning Networks for Teachers	Empirical	x			x	x	x		x	
Vernon-Feagans, Bratsch-Hines, Varghese, Bean, & Hedrick	2015	The Targeted Reading Intervention: Face-to-Face vs Webcam Literacy Coaching of Classroom Teachers	Empirical				x					

Notes. PL = professional learning

Affordances of Hybrid Professional Learning Models

Affordances of Hybrid PL Models

Study	Year	Title of Article	Article Type	PL Affordances								
				Customized coaching and PL support	Teacher efficacy	Access, convenience, flexibility	Direct connection to practice (e.g., teacher knowledge-building, changed instruction)	Evidence-based adult learning principles	Opportunities for reflection	Sustained duration	Opportunities for professional colleague collaboration (e.g., school/university partnerships, collaborative work sessions)	Cost benefit (e.g., reduced travel expenses, travel time, or in-person PL implementation costs)
Clary, Dunne, Elder, Saeho, Beard, Wax, Winter, & Tucker	2017	Optimizing Online Content Instruction for Effectivd Hybrid Teacher Professional Development Programs	Empirical	X		X	X			X		X
Duncan-Howell	2010	Teachers Making Connections: Online Communities as a Source of Professional Learning	Empirical		X						X	
Goldfeld, Snow, Eadie, Munro, Gold, Orsini, Connell, Stark, Watts, & Shingles	2020	Teacher Knowledge of Oral Language and Literacy Constructs: Results of a Randomized Controlled Trial Evaluating the Effectiveness of a Professional Learning Intervention	Empirical				X			X		
Katz, Stump, Charney-Sirott, & Howlett	2019	Traveling with Integrity: Translating Face-to-Face Teacher Professional Learning to Online and Blended Spaces	Theoretical	X		X				X	X	
Moore, Haviland, Moore, & Tran	2016	Preparing Teachers to use GIS: The Impact of a Hybrid Professional Development Program on Teachers Use of GIS	Empirical	X								X
Vernon-Feagans, Kainz, Hedrick, Ginsberg, & Amendum	2013	Live Webcam Coaching to Help Early Elementary Classroom Teachers Provide Effective Literacy Instruction for Struggling Readers	Empirical	X		X	X			X	X	X

Notes. PL = professional learning

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Appendix C

MEASURING THE EFFECTIVENESS OF PROFESSIONAL LEARNING

Executive Summary

Among the most important decisions school leaders make are those which ensure their teachers are well equipped to meet students' instructional needs. To do so requires significant time and cost investment in teacher professional learning. So, how can school leaders be certain the professional learning they arrange is worth that investment? By measuring professional learning effectiveness. This white paper presents a five-step process that school leaders can follow to develop a customized, evidence-based plan for measuring professional learning effectiveness:

- Step 1: Know what you want to know. Develop specific instructional goals and anticipate and plan for potential supports and barriers the professional learning presents.

- Step 2: Formulate your questions. Develop a list of specific, measurable questions to guide your evaluation work.

- Step 3: Decide how to answer your questions. Decide how you will gather data to provide evidence of the professional learning's level of effectiveness.

- Step 4: Choose the tools you'll use. Decide which types of tools will most accurately gather the data you identified in Step 3.

- Step 5: Make a plan. Be sure to consider constraints and logistics.

Introduction

Teachers rely on decisions made by their school leaders. Some of the most important decisions are those which ensure that teachers are well equipped to meet the needs of the students in their care. To do so requires school leader investment in teacher professional learning, and we know this investment often comes at considerable cost. So, how do school leaders ensure that the professional learning they arrange is worth the substantial investment? A good start is to plan in advance to measure professional learning effectiveness. Research can provide guidance here. By examining how educational researchers measure professional learning effectiveness, we as school leaders can more confidently choose tools to measure professional learning effectiveness in our own schools.

An Example, in Pie Form

Suppose we gave a seminar on how to bake an apple pie, and now we want to know whether the bakers who attended have successfully learned what we presented. The easiest way to measure our bakers' learning would be to just have them deliver their pies to our offices! This might tell us what the pies looked like and how they tasted, but we still wouldn't know much about what our bakers had done to make them. We also wouldn't know how easy or hard the process was for them. So, if the pies weren't good, or weren't pies, or weren't apple, we wouldn't know why. To really know whether our seminar accomplished its goal, we would need to take a careful look at what happens when our bakers return to their own kitchens and get to work.

If we could get into our bakers' kitchens and see them in action, what kinds of things would we want to look for and know? We would probably want to know about the process they went through to make their pies. Did they use the recipe's listed ingredients, or did they make substitutions? Did they follow the recipe's steps in order, or did they switch some things around? Did they complete the steps exactly as written, or did they make changes? How long did the process take? Did they end up making an apple pie, or did they instead make a different dessert?

Once our bakers served the apple pies to their tasters, we would probably also want to know how those tasters reacted. Did the dessert satisfy their craving for apple pie? Did they eat the pie, but with reluctance? Did they try the pie but spit it right back out? Did they want to try the pie but seemed confused about which utensil to use? If they knew to use a fork, were they able to successfully eat the pie, or did it keep sliding off the fork? What if they tried a spoon or a knife or a spatula instead – could they still eat the pie, or were there problems? Or, did they simply push the plate away right from the start and refuse to touch the pie?

And finally, we would probably want to know how the bakers felt about their ability to bake. Did they feel well-prepared to bake the pie? Was the process smooth or frustrating for them? Did they express regret that all of their previous pie-baking efforts were failures? Did they worry that they might have ruined the apple pie palates of their past tasters by using the recipes from their traditional cookbooks? Did they resent not being able to use their own family recipe instead of the one provided in the seminar?

As you can see, there are a lot of things to consider when trying to determine whether our apple pie seminar was a success. And you may be wondering, "How can this apple pie business help with professional learning decisions in schools?" We can apply this same line of thinking to the professional learning evaluation process. Once we know what we want to know, the next steps are formulating the questions we need to ask, deciding what we want to measure and how, and then choosing or creating the tools that will most effectively answer those questions.

Is Professional Learning Worth the Effort?

Let's start with the negatives. What are the downsides to arranging professional learning? Well, we know professional learning is costly. Here's what researchers have shared about cost. We know that:

- instructional materials and programs can have elements which drive up cost, such as those that require classroom observations, specially trained implementation personnel, specialized technology, proprietary materials, or restrictive group sizes (e.g., Amendum et al., 2011; Desimone, 2009; Garet et al., 2001; Kraft & Hill, 2020; Ransford-Kaldon et al., 2010; Vadasy & Sanders, 2010, 2011; Vernon-Feagans et al., 2013; Walpole et al., 2010).

- the professional learning itself may be costly, requiring substantial lead time and planning, multiple training days, ongoing implementation over time, or delivery by outside experts (e.g., Camburn & Han, 2015; Desimone, 2009; Festas et al., 2015; Garet et al., 2001; Glazerman et al., 2010).

- cost may be attributable to lost teaching and planning time, substitute coverage while teachers are in training sessions, extended school days for professional learning implementation, or rescheduled and compensated teacher planning time (e.g., C. Martin et al., 2018; Walpole et al., 2019).

- assessment linked with professional learning may incur costs, such as student assessment, data analysis, or independent assessors (e.g., Festas et al., 2015; Mashburn & Henry, 2005).

We also know that sometimes, regardless of the investment, professional learning may not work. Here are just a few examples from research:

- In a study of new teacher support, researchers found that teachers didn't attend professional learning as often as expected, rated their self-efficacy lower than comparison teachers did, and had retention rates that were lower than comparison teachers (Schaefer, 2015).

- In a training and coaching program designed to increase use of evidence-based practices in writing, knowledge of evidence-based literacy practices, and alignment of instruction with district-level curricula and professional learning practices (Wijekumar et al., 2019), no teachers reported using the literacy practices suggested in the National Reading Panel except for vocabulary, and teachers did not understand reading comprehension strategies. Assessment, instruction, and district policies did not align, and assessment tools were not appropriately used.

- In a workshop, coaching, and independent study professional learning model, researchers found that implementation fidelity was low, particularly for ongoing supports, and teachers had mixed reactions to the helpfulness of the independent study professional learning component (Vaden-Kiernan et al., 2012).

You might think this is a really big list of professional learning failures, but there are positive stories in the research too – and a lot of them! Here are just a few of the many examples of effective professional learning in the research literature. We know that:

- teachers are more likely to engage in reflective practice and to change instructional practices when their learning experiences focus directly on classroom teaching (Camburn & Han, 2015).

- the type and duration of professional learning matters for change in both teacher practice and student achievement (Ault et al., 2017; Elish-Piper & L'Allier, 2011).

- change in practice is higher when the content of the professional learning matches teacher and student needs (Apthorp et al., 2012).

- professional learning which results in changed teacher practice tends to support both content and teacher knowledge and skill, be coherent in design, and be sustained over time (Garet et al., 2001).

- collective teacher efficacy predicts student achievement (Goddard et al., 2000).

- more frequent opportunities for teacher collaboration positively impacts implementation (Walpole et al., 2010).

At the University of Delaware's Professional Development Center for Educators (PDCE), we know that providing professional learning for our school partners has important consequences for teachers, students, and school leaders. We know that there are multiple examples of positive professional learning effectiveness in the research, but we also know that to make informed decisions about professional learning, we need to consider all angles. For example, as a school leader, once you take a look at your professional learning effectiveness data, you might find that your professional learning investment didn't get the change or the impact that you wanted. While disappointing, such findings are still valuable because then you can make different choices moving forward. So how could we make sure our professional learning choice is worth the time and money it takes to implement it? Since PDCE

partners with school leaders in providing effective professional learning for teachers, it was important for me to explore this question, so I reviewed a lot of research to gain a deeper understanding of professional learning evaluation. Below is a summary of that research and some recommendations for you to consider as you make decisions about professional learning in your schools.

Measuring Change

Think about measuring change as a researcher would: In a perfect world, we would be able to measure changes in teacher knowledge, beliefs, and instruction. But the costs involved in those measurements force us to prioritize. Even the most accomplished researchers make choices based on their resources. In other words, they don't measure everything, and they don't always use their preferred tool because they can't – there's just not enough time and money. So, they make choices about what they can measure and which tools they are able to use. That seems like good news because it tells me that evaluations don't need to be perfect to be useful.

What do those choices look like? Let's say a group of researchers decides to prioritize measuring changes in teacher instruction. How might they measure that instructional change with the limitation of a small budget? Here's an example from researchers who measured the number of minutes spent in instruction and the types and frequency of teaching practices implemented. They reviewed teacher survey data, coded transcriptions of audio-recorded lessons, and reviewed both observation checklists filled out during classroom visits and teachers' self-reported lesson logs. These teacher self-report data were an affordable limitation (Apthorp et al., 2012)

compared to potentially more costly types of professional learning effectiveness measures as noted earlier in this paper.

What if the priority is still measuring instructional change, but the limitation is with grouping instead? This example is from researchers who wanted to measure whether a workshop and coaching professional learning model supported classroom and ESL teacher collaboration (Babinski et al., 2018). They collected data from classroom observations using two different observation tools. One tool measured teacher practices – specifically the general components of quality teaching for English Language learners. The other tool measured implementation – specifically, implementation of the professional learning content. They also collected student achievement data at the beginning and end of the school year. Though teachers did use the supports provided in the professional learning, one limitation the researchers noted was that random assignment wasn't possible – meaning they couldn't randomly assign teachers and classrooms to either a group receiving the workshop or a group *not* receiving the workshop. That meant they couldn't directly compare the effectiveness of the schools' business-as-usual professional learning support with the new professional learning support, to help determine which was the most effective professional learning model.

School leaders must make similar choices to identify the best ways to evaluate the professional learning they have arranged. To make those choices most effectively, you need to think about what's important and what's possible in your particular context. From there, you can decide which questions you need to answer, and which

tools are most appropriate to gather that data. My read of the research revealed five steps for this work that school leaders could follow in their own schools.

Measuring Professional Learning Effectiveness

Step 1: Know What You Want to Know

Start by thinking about the potential outcomes of professional learning. What is the change you would like to see in the classroom? How would you know it if you saw it? To answer these questions, you must be very clear about the change you're trying to get. Is your instructional goal specific and explicit? In that case, you might use a checklist to measure change. Is your goal more holistic? In that case, you'll likely need a combination of measures to determine whether the change has occurred. Researchers tend to call these fidelity questions. Fidelity means faithfulness that is demonstrated. In education it means implementing the desired outcome. We can define fidelity further by envisioning the change that professional learning is targeting.

How Specific is Your Instructional Goal?

It is easier to design a measure if your instructional goal is specific. However, even specific goals are not always achieved. For example, you might have a very specific set of instructional goals. But if the instructional change is a very big jump from business-as-usual, then it's much harder to achieve fidelity. If your goal should be implemented similarly, you may be able to measure fidelity with a single tool across multiple classrooms. If it's a more holistic goal where you want instruction to look very different across classrooms, you may need to use more than one tool. The

overriding consideration that will impact your decision is knowing what your actual goal is.

Maybe you're implementing a targeted intervention program with a specific set of protocols, meant to positively impact a specific area of student achievement. The professional learning required to achieve a more specific goal is easier, and there are many examples in the literature where researchers have achieved such changes in intervention studies. To know whether an intervention works, you have to first establish that the intervention is implemented as designed. Then you can examine achievement data to determine *if* the intervention was a good choice. Some examples might be a targeted intervention to support students who are struggling in literacy in general (e.g., Ransford-Kaldon et al., 2010; Torgeson et al., 2006; Vadasy & Sanders, 2010), or a targeted intervention for strengthening vocabulary and comprehension skills (Apthorp et al., 2012). Another example is arranging for professional learning to support implementation of a curriculum designed to support language and literacy development and encourage strong social/emotional skills (e.g., Assel et al., 2007). In these cases, it appears that implementation measures are useful when the professional learning goal is very specific: specific implementation of specific practices that are defined in a specific way. If you can describe your professional learning goal that way, you should use an implementation measure matched to your goal.

Maybe your professional learning goal is more holistic, targeting broad strengthening and implementation of evidence-based instructional practices. The professional learning required to achieve the goal is more complicated and change in

practice is harder to achieve. However, this difficulty should not be a deterrent from choosing this type of goal. It just means that you should expect that it may take longer for teacher practice to change. Some researchers have focused on implementation of a range of evidence-based instructional practices in literacy (e.g., Babinski et al., 2018; Elish-Piper & L'Allier, 2011; Garet et al., 2008). Others have studied the effects of multi-faceted induction or mentoring programs on general teacher content and pedagogy knowledge (e.g., Glazerman et al., 2010; Henry et al., 2014). Another team studied professional learning designed to improve teachers' ability to analyze data and use the results to improve instruction (e.g., Kraft & Hill, 2020). In these cases, it appears that simple fidelity measures are not sufficient to determine change in instructional practice. When the professional learning goal is broad, changes in practice are not easily measured, and teacher pedagogical and content knowledge gains vary. Our measurement tools and strategies must take this into account.

What Supports and Barriers Do You Anticipate?

Regardless of the specificity or open-endedness of your instructional goal, supports and barriers could influence success. You might want to measure these, too. Sometimes supports and barriers are related to how often and how long you collect implementation and evaluation data. One example might simply be that the act of collecting implementation data may encourage teachers to use the intervention (Baker et al., 2013). Another might be that if you can keep the expectation strong for changing instructional practices for a substantial amount of time, teachers will

continue once the pressure is off, because they know how to do it, they're comfortable with the process, and it has become habit (Borman & Dowling, 2009).

Other times, supports and barriers to changing practice are related to other influences on teachers. For example, it might be that change in practice is influenced by whether teachers experience success in their own classrooms or PLCs (e.g., Apthorp et al., 2012; Ault et al., 2017; Matsumura et al., 2019), whether they view the professional learning as high-quality (Basma & Savage, 2018), or whether they feel the treatment directly impacts their work in the classroom (Camburn & Han, 2015). It might be important to measure teachers' self-efficacy – their belief in their ability to effectively support student learning – as part of the work to determine changes in practice. We know that teachers with high self-efficacy are better planned and organized and more often persist in helping struggling students (Tschannen-Moran & Chen, 2014), and that high collective teacher efficacy in a school increases the likelihood that teachers will pursue actions to strengthen student learning (Goddard et al., 2000). It might also be important to measure teacher beliefs, since we know that without a compelling reason to do so, teachers are unlikely to change their beliefs about the instruction we ask them to implement (Goddard et al., 2000).

These cases suggest that goals which fill a specific instructional need (such as increasing achievement) or professional need (such as tying adherence to teacher evaluation) positively impact change in practice, and that a variety of barriers such as a mismatch between your instructional goal and teachers' beliefs or low teacher efficacy can negatively impact that change. Knowing whether your arranged

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professional learning is specific or holistic, and being aware of potential supports and

barriers that may impact implementation, puts you in a good position to specify your

goals for the professional learning.

Step 2: Formulate Your Questions

After you identify your goals, it's time to get specific. We can use what

researchers have found to be effective when measuring the impact of professional

learning (Guskey, 2000) and develop a list of questions to guide our professional

learning evaluation work. To do this, we can think in terms of people and practice, by

examining the influence of the professional learning on teachers, and on teaching and

learning. Below are two charts of potential categories and questions to consider. The

categories in the far-left column of each chart are taken from Guskey's (2000) 5

Levels of Professional Development, and I wrote the questions in the far-right column

to provide specific examples. As a start, you could check the questions that are

consistent with your professional learning goal. Then you can narrow the list once you

consider your resources.

Professional Learning Evaluation Tool

Measuring the Influence of Professional Learning on Teachers		
Teacher Reactions	❑	To what extent did teachers rate their professional learning experience as high-quality?
	❑	To what extent did teachers find the professional learning useful for improving teaching practice?
	❑	To what extent did teachers find the professional learning useful for improving student achievement?
	❑	To what extent did teachers indicate increased self-efficacy?

		To what extent did teachers indicate motivation to implement professional learning content?
Teacher Learning	❏	To what extent did the professional learning increase teachers' knowledge of evidence-based teaching practices?
	❏	To what extent did the professional learning increase teachers' content knowledge?
	❏	To what extent did teachers indicate willingness to reflect on their teaching practice?

Measuring the Influence of Professional Learning on Teaching and Learning		
Influence on teacher instructional practice	❏	To what extent have teachers implemented professional learning content with fidelity?
	❏	In what ways have teachers used professional learning content to support student learning?
	❏	In what ways has the quality of teachers instructional practice improved?
	❏	In what ways have teachers engaged in reflective practice?
Influence on teacher instructional planning	❏	In what ways do the content of teachers' plans reflect what they've learned in the professional learning?
	❏	In what ways have teachers' instructional planning practices changed?
	❏	In what ways has teachers' instructional planning quality increased?
Influence on student performance and achievement	❏	In what ways have students demonstrated increased knowledge and/or skill?
	❏	In what ways has the quality of student work improved?
	❏	To what extent have student achievement scores improved?
	❏	To what extent has student self-efficacy improved?
Areas of Challenge and Success	What are the implementation challenges experienced by teachers? List them below:	
	Where are teachers meeting with success in implementation? List them below:	

Step 3: Decide How to Answer Your Questions

Once you've determined your professional learning goal, and matched your goal to questions, your next step is to figure out how you might gather data to provide evidence of your professional learning's level of effectiveness. Characteristics, content, and outcomes of professional learning can all be measured. The trick is choosing or designing the right tool.

Researchers measure professional learning in different ways. Some of those ways are direct, and some are indirect. Some are virtual, and some are in-person. Some are pre- and post-intervention. Some are more frequent, and some are less so. Some are observational, and some are self-report. Some are about feelings. Some are actual tests, such as test of knowledge, or tests of application. So how do we choose? The key to making these choices is the same whether you're a researcher or an administrator: to select the measures that most closely match your goals, time, and budget.

Direct Measures of Professional Learning

Direct measures are those which gather data on actual work completed in the moment, or on work products. If you think back to our pie example, direct measures are the equivalent of taking notes on what we see happening as the bakers are working in their kitchens, or as the tasters are sampling the bakers' results. Or we might examine the bakers' results directly and note how their products turned out. Or we could test their pie baking knowledge before and after the seminar, then compare the results.

Researchers use a variety of direct measures to evaluate the effects of a treatment, matched to their goals. We can do the same when evaluating professional learning. Since our Step 1 examples focused on instructional change, let's start with that. If your goal is to measure implementation, you might choose to

- Make audio- or video-recordings of tutoring sessions, classroom lessons, post-observation conversations, or interviews (Apthorp et al., 2012; Ault et al., 2017; Blachman et al., 2004; Guthrie et al., 2004; Kraft & Hill, 2020; Matsumura et al., 2019; Torgeson et al., 2006; Vadasy & Sanders, 2010; Vaden-Kiernan et al., 2012; Vaughn et al., 2017).

- Conduct observations of tutoring sessions, classroom lessons, professional learning sessions, focus groups, or interviews (Apthorp et al., 2012; Assel et al., 2007; Ault et al., 2017; Babinski et al., 2018; Baker et al., 2013; Blachman et al., 2004; Garet et al., 2008; Glazerman et al., 2010; Gunn et al., 2010; Ransford-Kaldon et al., 2010; Schaefer, 2015; Smith et al., 2016; Vadasy et al., 2015; Vadasy & Sanders, 2010; Walker et al., 2009; Walpole et al., 2010; Wexler et al., 2010; Wijekumar et al., 2019).

- Conduct assessments of teacher knowledge and/or student achievement, lesson content or teaching practices evident in video-recorded classroom lessons, or identify quality indicators within ongoing teacher-mentor communications, or survey results (Ault et al., 2017; Babinski et al., 2018; Garet et al., 2008; Glazerman et al., 2010; Matsumura et al., 2019)

- Collect artifacts such as school demographic profiles, program documents, classroom data sources, textbooks, curricula, or documents connected to professional learning offerings such as attendance logs (Vaden-Kiernan et al., 2012; Vernon-Feagans et al., 2013; Wijekumar et al., 2019).

Indirect Measures of Professional Learning

Indirect measures are those which gather data on perceptions of the work or work products, after the work session is done or the work product is completed. From our pie example, these measures might be asking our bakers how they feel they did with their task or interviewing the tasters after their sessions to ask what they thought about what they had been served. We might also compile some descriptive statistics around the amount of pie the tasters left uneaten on the plate.

Just as with direct measures, researchers also use a variety of indirect measures to evaluate a treatment. Staying with the goal of instructional change, you might choose to

- Conduct surveys of teacher background, demographics, instructional/content/pedagogical knowledge, instructional or implementation practices, engagement, efficacy, or job satisfaction (Apthorp et al., 2012; Ault et al., 2017; Camburn & Han, 2015; Garet et al., 2008; Glazerman et al., 2010; Goddard et al., 2000; Goldfeld et al., 2020; Guthrie et al., 2004; Kraft & Hill, 2020; Ransford-Kaldon et al., 2010; Schaefer, 2015; Smith et al., 2016; Torgeson et al., 2006; Walker et al., 2009; Wijekumar et al., 2019)

- Conduct interviews to learn about teacher experiences during professional learning, teacher satisfaction with instructional methods or the professional support provided, teacher self-reflection after viewing video-recorded lessons, perceived teacher challenges and successes of program implementation (Ault et al., 2017; Borman & Dowling, 2009; Guthrie et al., 2004; Matsumura et al., 2019; Vaden-Kiernan et al., 2012; Vernon-Feagans et al., 2013; Wijekumar et al., 2019).

- Conduct focus groups to receive teacher feedback about instructional methods or the professional support provided (Ransford-Kaldon et al., 2010; Wijekumar et al., 2019)

- Keep logs of activities implemented during lessons, frequency and type of contacts made between teachers and mentors, content/nature/frequency of coaching sessions, teacher perceptions of professional learning content or program usefulness, professional learning attendance, training received by teachers, or number of minutes of instruction/intervention provided (Apthorp et al., 2012; Assel et al., 2007; Ault et al., 2017; Elish-Piper & L'Allier, 2011; Garet et al., 2008; Glazerman et al., 2010; Matsumura et al., 2019; Schaefer, 2015; Torgeson et al., 2006; Vadasy et al., 2015).

- Complete evaluation forms to collect feedback about the quality/content of professional learning sessions or other instructional support provided to teachers, or the quality/content of the program or intervention (Schaefer, 2015; Torgeson et al., 2006).

Step 4: Choose the Tools You'll Use

Once you've decided on your goals and how to measure them, the next step is deciding which tools you will need. Maybe you want to know how well teachers implement a particular strategy, or the impact of varying quality levels of implementation on student achievement. Keep in mind that your overall goal for providing professional learning is to improve instruction. So we measure fidelity to professional learning goals as a way to gauge progress toward instructional improvement. You can use the questions in each category of our charts from Step 2 to choose direct or indirect measures that will help answer those questions.

For example, let's say you arranged a professional learning on academic vocabulary for teachers in grades K-5. What are some things you might want to know?

- Do teachers feel the professional learning improves their skill in teaching their students to recognize vocabulary in context, determine the meaning of the vocabulary words in context, and use their vocabulary knowledge to comprehend text?

- Do teachers' lesson plans include vocabulary instruction strategies from the professional learning which are appropriate for the stated instructional goals?

- Do teachers correctly teach the vocabulary strategies in their classrooms?

These are the goals for your professional learning. Now that you have them, you can select questions from our charts that will lead you to whether you achieved these goals. The first goal focuses on teacher reactions, the second on instructional planning, and the third on instructional practice. Here are the questions that most closely match your goals:

- To what extent did teachers find the professional learning useful for improving teaching practice?

- In what ways do the content of teachers' plans reflect what they've learned in the professional learning?

- To what extent have teachers implemented professional learning content with fidelity?

Using our examination of direct and indirect measures of professional learning as a guide, here are some tools you might use to measure these goals:

Measurement Tools Aligned to Professional Learning Goals 1, 2, and 3

Question Number	Direct Measurement Tools	Indirect Measurement Tools
1	Professional learning observation, audio or video-recordings of interviews or focus groups, assessment of audio/video-recorded interviews or focus groups	Surveys, interviews, focus groups, evaluation forms, perception logs

2	Summaries from teacher plan books	Surveys, interviews, focus groups, planned activity logs
3	Audio or video-recordings of classroom lessons, observations of classroom lessons	Surveys, completed activity logs, interviews, focus groups

We can look to how researchers have approached measurement to get some idea of what goal measurement might look like. The first question is focused on teacher reactions. In a study of the impact of a mentor program on teacher practice, researchers conducted indirect measures of teacher reaction by conducting interviews in the spring of each year of the two-year program (Ault et al., 2017). The interview protocol data gave researchers important insights into the impact of each component of the mentor program on both teachers and mentors in terms of changes in practice, how well supported mentors and teachers felt in implementation of those practices, and how well the program content matched mentor and teacher needs. You can find one example of an interview protocol tool following the conclusion of this white paper. This is a tool I built to collect teacher feedback about their differentiated instruction professional learning experience and the extent to which the professional learning content has served their instructional needs in the classroom. To develop it, I used the questions in the chart in Step 2 titled "Measuring the Impact of Professional Learning on Teachers," and customized them to fit the differentiated instruction professional learning. The data collected from the interview session can be coded and analyzed to determine whether and how well the professional learning met teachers'

self-identified training needs and the extent to which the professional learning content impacted their self-efficacy for applying what they learned in their classroom.

The second question is focused on instructional planning. A study examining the impact of a vocabulary instruction program on student vocabulary knowledge and passage comprehension (Apthorp et al., 2012) indirectly measured instructional planning by evaluating teacher lesson logs. Statistical analysis of lesson log data revealed that teachers in the treatment condition devoted more instructional time to vocabulary work than teachers in the control condition, targeted Tier 2 words, used proportionately more deep processing activities, and asked a greater number of higher order questions. You can find one example of a tool to evaluate quality of instructional planning, preparation, and implementation following the conclusion of this white paper. This tool is called the DI Innovation Configuration, and it measures the teachers' continuum of progress towards effective planning, preparation, and implementation of foundational literacy skills lessons from Walpole and McKenna's (2017) DI model. It was collaboratively built by the literacy team leaders and instructional coaches at PDCE.

The third question is focused on instructional practice. Researchers studying the impact of evidence-based instructional practices on student reading achievement (Garet et al., 2008) directly measured instructional practice by conducting classroom observations three times over the two years of the study, using an explicit instruction scale to collect observation data. Results indicated a positive impact on teacher knowledge and implementation of scientifically based reading instructional practices.

You can find one example of a tool to evaluate instructional practice following the conclusion of this white paper. This tool is called the "Fidelity Checklist for DI," and it measures the extent to which teachers are implementing foundational literacy skills lessons as designed, from Walpole and McKenna's (2017) DI model. It was adapted from the instructional checklist in the Walpole and McKenna (2017) text, and from adaptations from Dr. John Strong at the University of Buffalo, Dr. Sharon Walpole at University of Delaware, and Kim Wheedleton at University of Delaware's PDCE.

This handful of examples provide a quick glimpse into the types of direct and indirect measures you might choose to determine changes in practice, and the tools you might select to collect data for those measures. To get a clear picture of how well your professional learning has impacted teacher practice, it's important to carefully determine your professional learning goals, formulate the questions that will most accurately guide professional learning evaluation, and then select the measures and tools most closely matched to gathering the data needed to answer those questions.

Step 5: Make a Plan

We started this professional learning evaluation journey by looking at an example in pie form. Let's go back there, now that we're better equipped to make a strong plan for measuring the effectiveness of our pie seminar. Remember, we had a lot of questions we were mulling over, but we didn't settle on anything specific. Let us say our goal is to know whether our bakers were able to not only follow the recipe as presented in the seminar, but also make successful substitutions when needed, to fit the various dietary needs of all their tasters. For this goal, our questions might be:

- To what extent did our bakers follow the recipe as written?

- In what ways did our bakers' substitution decisions reflect increased understanding of nutrition and the dietary needs of their tasters?

- To what extent have tasters' dietary and nutritional needs been met?

This seems like a good start, but before we go further, we need to think about constraints…

- What is our budget?

- What is the timeframe for completing the evaluation?

- Who is both available and qualified to carry out the evaluation?

…and logistics:

- Where will we implement the evaluation, and with whom?

- Who will manage the people carrying out the evaluation?

- Who will analyze, summarize, and report the data?

- How will we share our results, with whom, and why?

- How will we use our results?

Once our goals, questions, constraints, and logistics are mapped out, we can decide on the measures needed to answer our questions. Those measures might be direct, such as kitchen observations of the baker in action; those measures might be indirect, such as interviews with the baker once the pies are finished, or observations

of tasters as they sample the pies. After we finalize our measures, the next step is to either select or create the most appropriate tools for gathering data for those measures, such as observation checklists, video-recordings, or interviews.

As the evaluators complete this work, we will need strong management to keep everything on track. Evaluation managers will need a detailed plan for tasks such as arranging any training evaluators might need for using the selected tools, making sure evaluators are actually using the tools, checking to be sure the tools are being used correctly, making sure measures are completed within the timeframe allotted, arranging for accurate data analysis, organizing clear reporting of that data, and communicating results to appropriate stakeholders for review.

Just as we did before, we can apply this same line of thinking to create a strong plan for evaluating professional learning in our schools and districts. Once our goals are developed, questions are formed, measures are selected, tools are chosen, and management tasks are considered, we have everything we need to create a strong, customized plan for evaluating professional learning.

Conclusion

Successfully measuring the effectiveness of professional learning requires education leaders to be specific, have a detailed and well-thought-out evaluation plan, and have the tools to gather the necessary data. But most importantly, once that plan is ready, education leaders must manage and work the plan carefully and in a detailed, methodical way. Otherwise, all that professional learningplanning will have been for naught.

Interview Protocol Tool for Collecting Teacher Feedback on Differentiated

Instruction Professional Learning Sessions

This interview protocol is designed for a 20 to 30-minute timeframe and can be implemented either collectively with a small group or separately with individuals.
- **Interview Prompts** directly correspond to gathering information to answer each question.
- **Optional Probing Questions** can be asked to further clarify teachers' responses or to gather more in-depth information.

Teacher Reactions	
Interview Prompt 1: Quality	**Optional Probing Questions**
On a scale of 1-10, with 1 being very low and 10 being very high, how would you rate the quality of the differentiated instruction professional learning in which you participated? **Notes:**	*If teachers indicate the professional learning was **low to medium quality** (1-5):* • Can you tell me more about why you felt the professional learning was not of high quality? • What could we have included or excluded that would have made this professional learning more high-quality? *If teachers indicate the professional learning **was high-quality** (6-10):* • Can you tell me more about why you described this professional learning as high quality? • What was it about the professional learning that made it high-quality for you? (e.g., the design of the sessions, or inclusion of specific content, etc.)

Teacher Reactions	
Interview Prompt 2: Self-Efficacy	**Optional Probing Questions**
On a scale of 1 to 10, with 1 being not at all and 10 being very well, how prepared do you feel to implement the differentiated instruction lessons in your classroom? **Notes:**	*If teachers indicate **low to medium preparedness** (1-5):* • Can you tell me more about why you don't feel well-prepared to implement the differentiated instruction lessons in your classroom? • What could the professional learning have included that would make you feel better prepared to implement the differentiated instruction lessons in your classroom? *If teachers indicate **higher preparedness** (6-10):* • Can you tell me more about why you feel prepared or well-prepared to implement the differentiated instruction lessons in your classroom? • What was it about the professional learning that made you feel prepared or well-prepared? (e.g., practice sessions, clear description, Q&A time, etc.)

Teacher Reactions	
Interview Prompt 3: Teaching Practice	**Optional Probing Questions**
On a scale of 1-10, with 1 being not at all and 10 being quite a lot, how useful do you feel this differentiated instruction professional learning was for improving your literacy teaching practice? **Notes:**	*If teachers indicate **low to medium usefulness** (0-5):* • Can you tell me more about why you feel this professional learning is not useful for improving your literacy teaching practice? • What could the professional learning have included that you feel would be more useful in supporting your literacy teaching practice? *If teachers indicate **greater usefulness** (6-10):* • Can you tell me more about why you feel this professional learning is useful for improving your literacy teaching practice? • What specific elements of the professional learning do you think were most useful for improving your literacy teaching practice?

Teacher Reactions	
Interview Prompt 4: Student Improvement	**Optional Probing Questions**
On a scale of 1-10, with 1 being not at all and 10 being quite a lot, how useful do you feel the content of this differentiated instruction professional learning will be for improving student literacy achievement? **Notes:**	*If teachers indicate **low to medium usefulness** (0-5):* • Can you tell me more about why you feel this professional learning will not be useful for improving student literacy achievement? • What could the professional learning have included that would make you feel it better supported student literacy achievement? *If teachers indicate **greater usefulness** (6-10):* • Can you tell me more about why you feel this professional learning is useful for improving student literacy achievement? • What specific elements of the professional learning do you think are most supportive for improving student literacy achievement?

Teacher Reactions	
Interview Prompt 5: Content Knowledge	**Optional Probing Questions**
On a scale of 1 to 10, with 1 being not at all, and 10 being quite a lot, how well do you feel this differentiated instruction professional learning has increased your foundational literacy skills knowledge? **Notes:**	*If teachers indicate **low to medium knowledge gained** (0-5):* • Can you tell me more about why you feel your foundational skills knowledge did not increase or only increased slightly? • What could the professional learning have included that would make you feel more knowledgeable about foundational literacy skills? *If teachers indicate **greater knowledge gained** (6-10):* • Can you tell me more about how the professional learning increased your foundational literacy skills knowledge? (e.g., time to read/discuss sections of the differentiated instruction text, information explained/provided by the presenter, responding to written questions, analyzing data, etc.) • In what ways has the professional learning increased your foundational literacy skills knowledge? (e.g., new knowledge gained, clarification of information, etc.)

Teacher Learning	
Interview Prompt 5: Content Knowledge	**Optional Probing Questions**
On a scale of 1 to 10, with 1 being not at all, and 10 being quite a lot, how well do you feel this differentiated instruction professional learning has increased your foundational literacy skills knowledge? **Notes:**	*If teachers indicate **low to medium knowledge gained** (0-5):* • Can you tell me more about why you feel your foundational skills knowledge did not increase or only increased slightly? • What could the professional learning have included that would make you feel more knowledgeable about foundational literacy skills? *If teachers indicate **greater knowledge gained** (6-10):* • Can you tell me more about how the professional learning increased your foundational literacy skills knowledge? (e.g., time to read/discuss sections of the differentiated instruction text, information explained/provided by the presenter, responding to written questions, analyzing data, etc.) • In what ways has the professional learning increased your foundational literacy skills knowledge? (e.g., new knowledge gained, clarification of information, etc.)

Teacher Learning	
Interview Prompt 6: Pedagogical Knowledge	**Optional Probing Questions**
On a scale of 1 to 10, with 1 being not at all, and 10 being quite a lot, how well do you feel this differentiated instruction professional learning has increased your knowledge of effective teaching practices for foundational skills instruction? **Notes:**	*If teachers indicate* **low to medium knowledge gained** *(0-5):* • Can you tell me more about why you feel your knowledge of effective teaching practices for foundational skills instruction did not increase or only increased slightly? • What could the professional learning have included that would make you feel more knowledgeable about effective teaching practices for foundational skills instruction? *If teachers indicate* **greater knowledge gained** *(6-10):* • Can you tell me more about how the professional learning increased your knowledge of effective teaching practices for foundational skills instruction? (e.g., time to read/discuss sections of the differentiated instruction text, information explained/provided by the presenter, responding to written questions, analyzing data, etc.) • In what ways has the professional learning increased your knowledge of effective teaching practices for foundational skills instruction? (e.g., new knowledge gained, clarification of information, etc.)

Teacher Learning	
Interview Prompt 7: Professional Reflection	**Optional Probing Questions**
On a scale of 1-10, with 1 being not at all and 10 being very much, how interested are you in follow-up coaching opportunities to reflect on your teaching practice as you implement these differentiated instruction lessons? **Notes:**	*If teachers indicate **low to medium interest** (1-5):* • Can you tell me more about why you are not interested in follow-up coaching and reflection opportunities? • How could we design coaching and reflection opportunities so that your interest would be higher? *If teachers indicate **high interest** (6-10):* • Can you tell me more about why you are interested in follow-up coaching and reflection opportunities? • What is it about opportunities to reflect on your teaching practice that appeals to you?

Differentiated Instruction Innovation Configuration Coaching Tool

Curriculum is enacted with Integrity – PAWR and WRAF				
Exploration	**Preparation**	**Implementation**	**Sustainment**	Notes
Teacher meets with a small group and uses some of the materials and routines.	Teacher meets with a small group and uses all materials and routines but cannot implement the lesson in 15 minutes.	Teacher meets with a small group and uses all materials and routines and can implement the lesson in 15 minutes by reading from the script.	Teacher meets with a small group and uses all materials and routines. The script is available but mostly internalized. The teacher provides expert error correction and ensures engagement through consistent routines.	

Curriculum is enacted with Integrity – FAC				
Exploration	**Preparation**	**Implementation**	**Sustainment**	Notes
Teacher meets with a small group and uses some of the routines.	Teacher meets with a small group and uses some of the routines but struggles to balance modeling and practice.	Teacher meets with a small group and balances modeling and practice but struggles with discussion.	Teacher meets with a small group, balances modeling and practice, and leads a short collaborative discussion with high levels of student participation.	

Curriculum is enacted with Integrity – VAC				
Exploration	**Preparation**	**Implementation**	**Sustainment**	Notes
Teacher meets with a small group and uses some of the routines.	Teacher meets with a small group and uses some of the routines but struggles to balance silent reading and discussion.	Teacher meets with a small group and balances silent reading and discussion. The discussion questions are high level.	Teacher meets with a small group and balances silent reading and discussion. The discussion questions are high level. The teacher is able to leverage student participation naturally and connect students to one another.	

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Fidelity Checklist Tool for Differentiated Instruction

Basic Alphabet Knowledge Group

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
Sing, say, point alphabet (3 minutes)	Sing the song chorally, then echo the letter names, then echo again while pointing to the letter shapes.					
Initial sound sorting (5 minutes)	Say each word, compare it quickly with the pictures, and then have the children touch the one with the same sound.					
Letter names and sounds (2 minutes)	First say the letter names and have students point. You should be able to do as many as 20 in a minute. Then repeat with the letter sounds.					
High-frequency words (3 minutes)	Stretch the sounds first. Then print the word. Then show how the sounds match the letters from left to right. Then give the children words on a list. Call the words and have them touch them.					
Tracking memorized text (2 minutes)	Using either our sentences or a short predictable book, teach children the words, then have them say the words while pointing to the initial letter in each.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

Using Letter Sounds Group

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
Say-It-and-Move-It (5 minutes)	For each word, say it, then stretch it, then show the movement of each marker into a box, and then have the children stretch, move, and blend.					
Sounding and blending (5 minutes)	For each word, make the individual sounds, and then say the word. Then ask the children to do the same thing. When you have modeled the whole card, set a timer for 1 minute. Ask the children to practice on their own. They should look at each word, say it if they know, or sound and blend it.					
High-frequency words (5 minutes)	Stretch the sounds first. Then print the word. Then show how the sounds match the letters from left to right. Then give the children words on a list. Call the words and have them touch them.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

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Using Letter Patterns Group

E = Excellent P = Proficient D = Developing N = Not Yet

Component	Description	E	P	D	N	Things I noticed
Oral blending and segmenting (2 minutes)	First work with blending. Say individual sounds in each word and have students respond with the whole word chorally. When you are done, move to segmenting. Say each word, and have students respond chorally with the individual sounds and then the blended word.					
Teaching letter patterns (5 minutes)	Introduce the three patterns for the day. Say each word, and have children point to the word with the same pattern. Say " _____, the pattern is _____ and I spell it with _____ an ."					
Decoding practice (1 minute)	Distribute word cards and ask children to read the words in a whisper voice. If they finish, they can reread.					
Spelling (3 minutes)	Keep the headers out for reference. Call out some of the words and ask the students to spell them.					
High-frequency words (4 minutes)	Stretch the sounds first. Then print the word. Then show how the sounds match the letters from left to right. Then give the children words on a list. Call the words and have them touch them.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

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Dictated Sentences Group

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
Build knowledge (5 minutes)	Engage children in reading chorally from a short book, in listening to a brief read aloud, or in discussing a topic or event.					
Co-construct a sentence (5 minutes)	Engage children in producing a sentence-level summary of at least 6 words and help them to memorize it.					
Independent writing (5 minutes)	Direct children to write the sentence, using the sounds that they hear, in invented spelling. Do not help them to stretch sounds or to match sounds to letters and patterns.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

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Blends and Digraphs or R-Controlled Vowels Group

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
High-frequency words (**up to 5 minutes**)	Each day, introduce two new words. Stretch the sounds first. Then print the word. Then show how the sounds match the letters from left to right. Then give the children the two new words and the previously taught ones on a list. Call the words and have them touch them. Call the words and have them spell them aloud.					
Sounding and blending (**4 minutes**)	Say the individual sounds in each word, then say the word, then have the students do the same. Make sure to pull apart blends.					
Student practice (**1 minute**)	When you have modeled the whole card, set a timer for 1 minute. Ask the children to practice on their own. They should look at each word, say it if they know, or sound and blend it if they don't.					
Whisper Reading (**2 minutes**)	Quickly preteach any words that will be problematic. Set your timer and ask children to whisper read until time is called. Tell them that if they know the words, they should just say them, and if they don't, they should sound and blend. When the timer rings, switch to partner reading.					
Partner Reading (**2 minutes**)	Children should alternate sentences until time is called. One child is reading while the other tracks and listens. If the reader makes a mistake, the coach should ask him to reread.					
Choral Reading (**1 minute**)	When time expires, switch to choral reading.					

Students completing independent work

- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

Vowel-Consonant-*e* Group

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
High-frequency words (<u>up</u> to 5 minutes)	Each day, introduce two new words. Stretch the sounds first. Then print the word. Then show how the sounds match the letters from left to right. Then give the children the two new words and the previously taught ones on a list. Call the words and have them touch them. Call the words and have them spell them aloud.					
Listening for vowel sounds (<u>about</u> 2 minutes)	Tell children that long vowels say their name and short vowels don't. Quickly review the vowel sounds for the day and distribute the anchor chart. Tell children to listen to a word, find the vowel sound in their head, and then touch the picture of a word with the same vowel sound.					
Reading and spelling words aloud (<u>about</u> 2 minutes)	When you have finished the words, give the children the cards and tell them that when they see the final *e*, the vowel says its name. Say words in random order and have them point to them and then, when you say "go," spell them aloud.					
Writing words (<u>about</u> 1 minute)	Remove the cards and say the words again in random order and have the children spell them. Keep repeating the role of the final *e*.					
Whisper Reading (2 minutes)	Quickly preteach any words that you think will be problematic. Set your timer and ask children to whisper read until time is called. Tell them that if they know the words, they should just say them, and if they don't, they look for final *e*. When the timer rings, switch to partner reading.					
Partner Reading (2 minutes)	Children should alternate sentences until time is called. One child is reading while the other tracks and listens. If the reader makes a mistake, the coach should ask him to reread. When					
Choral Reading (1 minute)	the timer rings, switch to choral reading.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

Vowel Teams Group

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
High-frequency words (up to 5 minutes)	Each day, introduce two new words. Stretch the sounds first. Then print the word. Then show how the sounds match the letters from left to right. Then give the children a list of the two new words and those previously. Call the words and have them touch them. Call the words and have them spell them aloud.					
Decoding by Analogy (about 4 minutes)	Introduce the key words for the day and review their vowel patterns. Then give children the day's card. Ask them to look at each word, find its vowel pattern, and then touch a key word with the same vowel pattern. Have them chorally respond. "I know _____. This must be _____."					
Student practice (about 1 minute)	Have children read the words on the card for 1 minute.					
Whisper Reading (2 minutes)	Quickly preteach any words that you think will be problematic. Set your timer and ask children to whisper read until time is called. Tell them that if they know the words, they should just say them, and if they don't, they should use their clue words.					
Partner Reading (2 minutes)	When the timer expires, switch to partner reading. Children should alternate pages until time is called. One child is reading while the other tracks and listens. If the reader makes a mistake, the coach should ask him or her to reread. When time expires, switch to choral reading.					
Choral Reading (1 minute)						
Students completing independent work • What are students working on when not in a group with the teacher? • What behavior and procedure expectations are evident?						

Fluency and Comprehension Group *with* Multisyllabic Decoding

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
Multisyllabic Intro (1 minute)	Read the script that introduces the day's features. Distribute the week's words to each child. Ask the children to mark vowels and divide their words.					
Choral Response (1 minute)	Lead the children chorally to pronounce each word part and then to say the entire word. These two steps should take 2 minutes all together.					
First Reading (5 minutes)	Distribute an authentic, engaging text near grade level with few or no text features to process. Engage children in an initial choral reading of a new text segment for 5 minutes. If the text appears to be too difficult, switch to echo reading.					
Second Reading (5 minutes)	Engage the children in a rereading of the day's segment. Use whisper reading when possible, or partner reading if the text is more difficult. Stop the reading after 5 minutes, even if children have not finished.					
Inferential Discussion (3 minutes)	Ask several inferential questions, typically starting with how and why. Your discussion should last about 3 minutes.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

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Fluency and Comprehension Group *without* Multisyllabic Decoding

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
First Reading (6 minutes)	Distribute an authentic, engaging text near grade level with few or no text features to process. Engage children in an initial choral reading of a new text segment for 5 minutes. If the text appears to be too difficult, switch to echo reading.					
Second Reading (6 minutes)	Engage the children in a rereading of the day's segment. Use whisper reading when possible, or partner reading if the text is more difficult. Stop the reading after 5 minutes, even if children have not finished.					
Inferential Discussion (3 minutes)	Ask several inferential questions, typically starting with how and why. Your discussion should last about 3 minutes.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

Vocabulary and Comprehension Group - Fiction

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
Before Reading (3-4 minutes)						
Introduce or review the book	On the first day, introduce the book and author. On subsequent days, review to the point you left off. (No more than a minute.)					
Describe text structure	Introduce or continue story map.					
Suggest a focus	Suggest a focus for reading.					
During Reading (7-9 minutes)						
Reading of text segment	Allow students to read silently. They may remain at the table or return to their seats, but they need to reconvene for the post-reading discussion.					
After Reading (3-4 minutes)						
Review text structure and lead inferential discussion	Ask inferential and summary questions. Refer to the story map as needed.					
Teach vocabulary	Teach 2 Tier 2 words found in the day's text segment.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

Vocabulary and Comprehension Group - Nonfiction

E = Excellent   P = Proficient   D = Developing   N = Not Yet

Component	Description	E	P	D	N	Things I noticed
Before Reading (3-4 minutes)						
Introduce or review the book	Introduce the book or summarize to the point where you left off. (No more than a minute.)					
Preview vocabulary	Introduce technical vocabulary using a simple chart or diagram to indicate how the words are related.					
Describe text structure	Point out or review how the book is organized.					
Suggest a focus	Suggest a focus for reading.					
During Reading (7-9 minutes)						
Reading of text segment	Allow students to read silently. They may remain at the table or return to their seats, but they need to reconvene for the post-reading discussion.					
After Reading (3-4 minutes)						
Review text structure and lead inferential discussion	Ask inferential and summary questions. Refer to the story map as needed.					
Teach vocabulary	Teach 2 Tier 2 words found in the day's text segment.					

Students completing independent work
- What are students working on when not in a group with the teacher?
- What behavior and procedure expectations are evident?

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Appendix D

TRY/FAIL/REDESIGN PROCESS

This artifact describes and outlines what I learned about professional learning content and design from five successive DI model (Walpole & McKenna, 2017) partnerships. I designed the first differentiated instruction professional learning session for the Ignite! partnership in collaboration with my advisor, Dr. Sharon Walpole, then reflected with her after delivery to determine which elements to keep and which to redesign. For each successive differentiated instruction professional learning partnership, I moved through three different stages of a try/fail/redesign process.

First, my Literacy Instructional Specialist colleagues and I customized the content and structure of the previous differentiated instruction professional learning session according to the needs and requests of the new partnership. Next, after delivering the customized professional learning session, my colleagues and I verbally debriefed, and they also shared written notes with me, to outline the successes and difficulties encountered when presenting the sessions. In addition, I examined teachers' comments about their professional learning experience from the University of Delaware's Professional Development Center for Educators' (PDCE) standard end-of-session survey. Finally, I reflected on both the presenter notes and teachers' survey comments in collaboration with my advisor, and then redesigned the differentiated

instruction professional learning session for the next partnership. The differentiated

instruction professional learning sessions were implemented from Summer through

Fall of 2021. I used what I learned from this try/fail/redesign process to guide the

content and design of Appendix G: Multi-Use Canvas Differentiated Instruction

Training Course. I describe each iteration beginning on the next page.

DI Model Partnership 1: Ignite! Reading

Ignite! Partnership Details

Partner Type	Private tutoring company
PL Dates + Duration	May 22-23, 2021 Full days
PL Participants (n = 30)	Classroom teachers from varied instructional settings (e.g., charter, public) and with varying teaching experience levels Undergraduate teaching candidates Volunteers with varied experience in educational settings School leaders Ignite! leader team
PL Focus	Training to implement DI lessons in one-on-one, virtual tutoring sessions with elementary students
Partner's DI Implementation Format	One-on-one virtual tutoring via Zoom* platform
Student Grade Level Focus	K-5
PL Format	Virtual delivery via Zoom* and Canvas** One session with content for the PAWR and WRAF stairstep groups of the DI Model
PL Presenters	Me

Note: PL = professional learning. DI = differentiated instruction. PAWR = Phonological Awareness and Word Recognition. WRAF = Word Recognition and Fluency. *Zoom (n.d.). **Instructure (n.d.)

Reflection on Ignite! Professional Learning Sessions

What Failed

  The overarching issue impacting the success of this first design of the DI model professional learning sessions was a failure to clarify leader roles for myself and the Ignite! leader team ahead of time. Specifically, the Ignite! leader team and I had differing (and unspoken) expectations as to who would lead the training days. The Ignite! leader team believed they oversaw the training days in terms of pacing, schedule management, participant interactions and involvement, session timings, and leading each component of the sessions, and that I was to take my cues from them. However, my expectations were aligned with the business-as-usual leadership PDCE Literacy Instructional Specialists typically take on during training sessions, which is that we manage all aspects related to implementing the trainings, and partnership leaders manage only questions or elements outside of PDCE's purview, such as expectations for implementation that are unique to their instructional setting or how to determine scheduling protocols for beginning-of-year assessments.

  Another issue impacting the success of these sessions was misalignment between participant learning needs and session content. Specifically, I included a module to teach participants how to use the digital tools required to teach the differentiated learning lessons in a virtual environment. However, that turned out to be largely unnecessary as nearly all participants were well-versed in how to use Zoom and its accompanying tools such as video settings, screenshare and annotate. I also failed to accurately account for the literacy knowledge base of the participants, by

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including too much literacy research content that was often too detailed for participants to follow, and by including too little practical application support through time to engage in structured lesson delivery practice sessions.

What I Learned

At PDCE, our professional learning sessions are carefully planned and designed, often down to the minute, to ensure participants receive all the information necessary for successful implementation of the DI model in their classrooms. The lack of clearly defined roles for implementing the Ignite! professional learning sessions resulted in frequent interruptions to the flow of the trainings, conflicting direction presented to the participants requiring a lengthy meeting between myself and the Ignite! leader team after the first day of training to clarify roles, and a subsequent last-minute restructure of the schedule and content for the second training day to allow for the time and content lost on the first day.

In my focus on providing well-designed professional learning on the DI model for the Ignite! participants, I neglected to carefully consider this partnership's audience and their specific learning needs. By not having a mechanism in place prior to implementation to determine participants' knowledge base for technology tools and literacy pedagogy, my content and design was not able to meet those needs.

Parameters Which Framed the Redesign

One problem I was trying to solve was that an unclear Ignite! leader team role created lost time and content in the professional learning session (e.g., the leader team added content that required time which was unaccounted for in the session

timeframes; leader team frequently interrupted my session presentation; leader team changed their requested support focus mid-session). My solution was to redesign the next differentiated instruction professional learning session by organizing a series of session planning and expectation meetings between myself and the KIPP North Carolina leadership team well before their DI model professional learning sessions were implemented. During those virtual meetings via the Zoom platform, I had prepared questions ready for the KIPP North Carolina leader team, aimed at helping us to collaboratively define our respective roles regarding preparation, planning, and implementation of the professional learning sessions.

Another problem I was trying to solve was a misalignment between presenter expectations, session content, and participant learning needs. My solution was two-fold. First, during the virtual meetings previously mentioned, I included prepared questions designed to determine participants' facility with the technology tools required for session participation and their literacy pedagogy knowledge and experience. And second, I revised the professional learning session structure and content following the meeting, to more closely align with participant needs. In this case, that meant reducing (but not eliminating) the time devoted to literacy research content and increasing the time devoted to lesson delivery practice components and including more follow up question-and-answer components.

DI Model Partnership 2: KIPP North Carolina

KIPP North Carolina Partnership Details

Partner Type	Three charter schools:
	    KIPP Change Academy
	    KIPP Gaston
	    KIPP Halifax

PL Dates + Duration	August 5-6, 2021 Full days
PL Participants (n = 119)	Classroom teachers Paraprofessionals School leaders KIPP North Carolina leaders
PL Focus	Training to assess and group students, implement DI lessons, and evaluate student progress, in an in-person classroom setting for grades K-4
Partner's DI Implementation Format	In-person in the classroom Virtual small group via Zoom* platform Hybrid small group (in-person and virtual students via Zoom* platform together)
Student Grade Level Focus	K-4
PL Format	Virtual delivery via Zoom* and Canvas** Three simultaneous sessions: one for kindergarten content, one for Grades 1-2 content, and one for Grades 3-4 content
PL Presenters	Me 1 Literacy Instructional Specialist 1 Senior Associate Director of Literacy

Note: PL = professional learning. DI = differentiated instruction. *Zoom (n.d.). **Instructure (n.d.)

Reflection on KIPP North Carolina Professional Learning Sessions

What Failed

In this version of the DI model professional learning design, one issue impacting success was video content, quality, and placement within modules. One video, which provided information about the Cognitive Model of Reading Assessment (Dougherty Stahl et al., 2020) and how it informs the DI model, had necessary content but the sound was too low for participants to hear. Other videos were improperly placed. For example, the module introduction videos provided very detailed content but no visuals to support that content, resulting in confusion for participants. Another video provided considerable detail about assessing students for group placement at the beginning of the year but overwhelmed the participants. In addition, the videos used in this design were selected from among several which were recorded for multiple different audiences, giving the sessions a somewhat disjointed feel.

Another issue impacting success was the virtual engagement tools and strategies. One strategy was to incorporate Padlet boards (Padlet, n.d.), which gave participants the opportunity to reflect on their learning in writing and to engage with each other's written reflections in real time, but participation was very low. Another strategy was to provide additional blocks of time for lesson implementation practice or to discuss text readings in small groups. However, while the practice/discussion blocks allowed for more opportunities for participants to engage in their learning, the time allotment for each block was still insufficient since too few participants had the

opportunity to practice teaching the lessons and discussions often had to end before participants felt they had fully explored the topic.

What I Learned

I learned three things from implementing this professional learning design. First, materials that are rich in content but poor in presentation quality, not properly placed, or which have too much content for participants to effectively understand in one sitting result in a frustrating participant experience. Second, for videos to be most impactful, they must be filmed in ways which maintain audience continuity. Even if the video content is high quality and highly relevant to the session focus, participants can discern whether those videos were produced specifically for their professional learning session or were pulled in from multiple other sessions designed for different audiences. And third, adequate time for participants to engage with and practice using the DI model materials must be a priority to ensure that participants feel effectively prepared to teach the differentiated instruction lessons.

Parameters Which Framed the Redesign

I was trying to solve several problems with my next redesign: video content and placement were hindering rather than supporting participants' learning, practice time was insufficient to support participant learning, and engagement tools had low participation. My solution was to implement a series of changes in the professional learning design. One change was to remove the video with poor sound and replacing it with a PowerPoint-supported (Microsoft, n.d.) live content delivery by a Literacy Instruction Specialist. Doing so will ensure that the sound issue is resolved yet

participants can still engage with the necessary content. Delivering this content live in a virtual synchronous environment also provides opportunities for the Literacy Instructional Specialists who deliver this component to customize the presentation in the moment to address participants' questions and discussion comments. Another change was to re-design the differentiated instruction group teaching modules so that the video supports followed a specific component sequence – first a video presenting an overview of the differentiated instruction group, then a video model of the differentiated instruction group being taught virtually, then time to practice in breakout rooms. To increase participants' opportunities to actively practice teaching each lesson, practice session times were increased, and each breakout room was limited to three participants who rotated between three roles – teacher, student, and observer. Participants were encouraged to take time to discuss what they noticed after each person had their turn as teacher. A third change was that after each video and practice session, Padlet boards were replaced with synchronous question-and-answer sessions, to address participant learning needs of each component as they progress throughout the module. For the final change, videos with highly detailed content were placed at the end of their respective modules as optional material to extend participants' learning. These videos included text guidance for how they might work through that content.

One problem that required a delayed solution is the video audience continuity. Time constraints of the condensed period in which each of these professional learning partnerships was delivered precluded re-filming. However, in discussion with my

advisor, we established that a long-term goal – for the summer months preceding the next beginning-of-year professional learning sessions – was for PDCE's Literacy Team to refilm each video. Ideas for the re-filmed videos are to address not only the continuity issue, but also density of content, filming several versions to fit varying audience needs (e.g., a focus on implementation of each group vs a focus on the research informing the design of each group). Videos were subsequently re-filmed in summer 2022 and embedded in the corresponding "Deepen Your Learning" modules of the Canvas course described in Appendix G: Multi-Use Canvas Differentiated Instruction Training Course.

DI Model Partnership 3: Lake Forest East Elementary School

Lake Forest East Partnership Details

Partner Type	Public school
PL Dates + Duration	August 23, 2021 Half day
PL Participants **(n = 32)**	Classroom teachers Content area teachers (e.g., art, music, physical education) Literacy specialist Paraprofessionals School leader
PL Focus	Training to learn the research and evidence-based practices which frame the DI model, and the structure and components of the DI lessons in the PAWR and WRAF stairsteps of the DI Model in an in-person classroom setting for grades K-3
Partner's DI Implementation Format	In-person in the classroom
Student Grade Level Focus	K-3
PL Format	In-person delivery via PowerPoint*** presentation and Canvas** resources One session with content to support understanding of the PAWR and WRAF stairstep groups of the DI Model
PL Presenters	Me

Note: PL = professional learning. DI = differentiated instruction. PAWR = Phonological Awareness and Word Recognition. WRAF = Word Recognition and Fluency. **Instructure (n.d.). ***Microsoft (n.d.).

Reflection on Lake Forest East Professional Learning Sessions

What Failed

This session required a significant redesign in presentation, content, and delivery. The partner requested an in-person versus virtual session, a half-day delivery, and a focus shift to the science of reading and research that support the DI model and the PAWR and WRAF stairstep lessons. In response to these requests, I redesigned the professional learning session so that the Canvas course shifted from being the main content delivery vehicle to a supplemental support which included only one module from the sessions from Partnerships 1 and 2. In addition, I developed a live PowerPoint presentation (Microsoft, n.d.) as the main content delivery vehicle. In this version of the DI model professional learning design, only one issue impacted success: participants' difficulty managing multiple resources to support their learning. Some resources were virtual and housed in Canvas, some were supplied via digital or paper handouts according to participants' preference, and some were physical materials [e.g., the *How to Plan Differentiated Instruction* text (Walpole & McKenna, 2017).]

What I Learned

This session was very successful! Though this professional learning session required a nearly full redesign due to content requested, method of delivery, and time allotted for delivery, I was still able to apply what I had learned from Partnerships 1 and 2. First, I had multiple planning meetings with the partnership point of contact over several weeks prior to the session date to ensure the content matched participant learning needs. And second, I included increased time for participants to engage with

the materials, discuss what they learned, and ask questions. What I learned from implementing this session is that participants can become overwhelmed and confused if they must manage too many support materials. I need to minimize the number of resources teachers will be using and be more intentional about how those resources are selected and designed.

Parameters Which Framed the Redesign

The problem I was trying to solve for the professional learning session delivery was that participants' materials management was overwhelming and confusing. My solution is to redesign the next differentiated instruction professional learning session by consolidating materials such as notetaking sheets and PowerPoint slide handouts into one integrated document. In this way, participants will need to reference and manipulate only one document, and the content will be sequenced so that participants encounter everything they need for active participation in the order in which I present it.

DI Model Partnership 4: Thomas Edison Charter School

Thomas Edison Charter Partnership Details

Partner Type	Charter school
PL Dates + Duration	August 31, 2021 Full day
PL Participants (n = 31)	Classroom teachers Paraprofessionals School leaders
PL Focus	Training to assess and group students and implement DI lessons in an in-person classroom setting for grades K-5
Partner's DI Implementation Format	In-person in the classroom
Student Grade Level Focus	K-5
PL Format	Virtual delivery via Zoom* and PowerPoint*** presentation Two simultaneous sessions: one for Grades K-2 content, and one for Grades 3-4 content
PL Presenters	Me 1 Literacy Instructional Specialist

Note: PL = professional learning. DI = differentiated instruction. *Zoom (n.d.). ***Microsoft (n.d.)

Reflection on Thomas Edison Charter Professional Learning Sessions

What Failed

This partnership had advanced planning, but I was not a part of those meetings due to the quick turn-around time in which the partnership was established. A Literacy Instructional Specialist colleague and I collaboratively designed and presented this professional learning session based on what I learned from Partnerships 1-3 and on the information conveyed to us by the PDCE colleague who attended the planning meetings. However, from participant reactions in-session it became evident that participants felt we were presenting information they already knew. Since we trusted our PDCE colleague to accurately share the partner's content requests, our speculation was there could be two possibilities influencing participants' reactions. One possibility may be that school leadership did not consult with participants to determine their learning needs. Another possibility may be that participants' mindsets were closed at the outset to the idea that the session would support them with content matched to their learning needs. Since the participants neglected to fill out PDCE's post-session survey, we have no way to know for sure what caused the reactions we encountered.

What I Learned

My colleague and I were intentional about designing the session materials to ensure the content was accurately sequenced in one virtual handout document. This improvement to the design seemed to support participants, as we did not see evidence of confusion or frustration due to materials management. However, there were indications through participants' facial expressions, body language, and carefully

worded question responses that their learning needs were not being met. Further, interpreting those indicators accurately was difficult, as my colleague and I noted participants still actively engaged in the discussions and activities in the session design. There were two circumstances in the partnership that may have influenced these indicators: stakeholder attendance at the planning meetings and teachers' choice not to complete the post-session survey. The events of this session added to what I learned from Partnership 1 – that advanced planning is necessary, but it is also important to ensure that all stakeholders are present in those planning meetings in order to ask questions and clarify participant learning needs. This includes session presenters and teacher representatives.

Parameters Which Framed the Redesign

The problem I was trying to solve was that the session participants' reactions indicated a mismatch between their learning needs and the session content presented. My redesign solution to this problem is two-fold. First, I will add a line item to my session planning checklist to indicate that if initial planning meetings occurred prior to my receipt of the partnership details, I need to arrange for any session presenters to have at least one additional planning meeting with the partnership point of contact. In that way, we can more accurately design the session content to meet participant learning needs. And second, I will develop pre-and post-session surveys designed to determine participants' literacy knowledge base. By administering the pre-session survey at least a week in advance of the session date, I can evaluate the survey data and use the results to ensure the content matches participants' indicated needs. By

administering the post-session survey, I can evaluate the post-session survey data, then

compare the pre- and post-session results to determine the degree to which the session

met participants' needs. Such evaluation and comparison will allow me to design

follow-up support more accurately (e.g., coaching, subsequent professional learning

sessions) to address any unmet participant learning needs.

DI Model Partnership 5: New York City Schools

New York City Schools Partnership Details

Partner Type	Two public schools: PS 112 The Bronxwood School PS 045 Clarence Witherspoon
PL Dates + Duration	PS 112: September 10, 2021 Half day PS 045: September 24, 2021 One-fourth day PS 112: October 14, 2021 Full day
PL Participants (n = 4)	Classroom teachers
PL Focus	Training to assess and group students and implement DI lessons in an in-person classroom setting for grades K-2
Partner's DI Implementation Format	In-person in the classroom
Student Grade Level Focus	K-2
PL Format	Virtual delivery via Zoom* and PowerPoint*** presentation One session for all participants per each PL session (see PL Dates + Duration)
PL Presenters	Me 1 Literacy Instructional Specialist

Note: PL = professional learning. DI = differentiated instruction. *Zoom (n.d.).
***Microsoft (n.d.).

Reflection on New York City Schools Professional Learning Sessions

What Failed

The PS 045 session was successful barring one issue that made it difficult (though not impossible) for the Literacy Instruction Specialist to accurately determine participants' level of engagement. Due to the COVID-19 pandemic, the participants were all in one classroom but socially distanced and sharing one Zoom account and camera. Such a situation made it difficult for my colleague to get a sense of the extent to which participants were engaging with the session activities.

The PS 112 session had several issues. One issue was that two days before the session date, the school leader requested a half-day session versus the planned full-day session, necessitating a reduction in content and a change in session focus. This left little time for me to redesign the session in a way that would fit the shortened time frame. Further, redesigning the session to match the new focus was unexpectedly labor- and time-intensive. Another issue was materials availability. Session materials needed for participants' active session engagement, shipped via a third party, did not arrive at the school until the day of the session. This left participants with no time to familiarize themselves with the materials ahead of time. A third issue was that participants logged into the Zoom call nearly 20 minutes late (due to school scheduling issues out of their control), further shortening an already abbreviated session and requiring on-the-fly revisions to the content and timing to account for loss of time. A final issue was that my redesign did not allow for enough time in the question-and-answer components, relative to the volume of questions asked and the

amount of explanation necessary to satisfactorily address those questions. As a result, I was unable to fully deliver all content needed for successful DI model implementation.

What I Learned

Despite being unable to fully evaluate participants' engagement in the PS 045 session, my colleague noted that participants indicated satisfaction with their learning, including that the session felt comprehensive in nature, and that they appreciated having time to practice the lessons and to think about how the DI model can be most effectively implemented in their classrooms. It may be that a carefully designed, high quality professional learning session which is closely aligned to participants' learning needs and provides multiple and varied opportunities for participants to read, learn, practice, discuss, and ask questions may be enough to mitigate a partnership's lack of one-to-one technology availability.

There were indicators early on that communication would be an issue for the PS 112 session. While inconsistent communication from a school leader is largely out of my control, I learned that I am not without tools to mitigate such an issue. I can learn to recognize any communication issues early, and then mitigate them through proactive advance planning. I also learned that even when physical materials availability is out of my control, I can mitigate the issue by having digital versions of the materials available for last-minute sharing as needed. And finally, I learned that to provide the quick pivots often necessary due to communication issues or last-minute change requests, having a selection of DI model professional learning versions from

which to select would have made the work of pivoting less time-intensive and more efficient.

Parameters Which Framed the Redesign

The problem I was trying to solve was that nearly all the issues evident in the PS 112 session were beyond my control. My solution was to redesign the next differentiated instruction professional learning session by developing protocols for proactive planning in preparation for a small set of adverse circumstances. To mitigate communication issues, I will check in with the partnership point of contact at planned, regular intervals leading up to the session. To mitigate physical materials availability, I will have digital PDF versions of all necessary virtual training materials quickly accessible and ready to share in the event the physical materials fail to arrive on time. To mitigate last minute session changes for timeframe and content focus, I developed multiple modules in the Multi-Use Canvas Differentiated Instruction Training Course described in Appendix G. My colleagues and I can choose from among those modules when designing customized DI model professional learning sessions. The course will be designed to support participant learning relative to the content needed for participants to successfully implement the DI model in their setting, and relative to the varied audiences, learning needs, session foci, and timeframe issues encountered during Partnerships 1-5. In this way, I hope to enable both myself and my Literacy Instructional Specialist colleagues to successfully plan for and deliver high-quality professional learning sessions for the DI model in ways that fit within PDCE's

financial model for planning time and in ways that are customized to each

partnership's unique settings, needs, and circumstances.

Conclusion

Taken together, these experiences guided my work as I developed and

incorporated the following elements into the design of the Multi-Use Canvas

Differentiated Instruction Training Course (Appendix G). Including these elements in

my professional learning design increases the likelihood of a successful outcome for

all stakeholders:

- I developed a protocol (Appendix E: Evidence-Based Practices Needs Assessment), Appendix F: Teacher Needs Assessment Summary Tool, and Appendix H: Evidence-Based Practices Design System) for establishing clear roles in all stages of the planning and implementation of the professional learning session for all stakeholders: partnership leaders, PDCE Literacy Instructional Specialists, and professional learning participants.

- I developed a set of guidelines (Appendix H: Evidence-Based Practices Design System) for establishing pre-training meetings with partner leaders to collaboratively plan for and confirm:

    o Session dates

    o Session duration

    o Method of training delivery (e.g., in-person, virtual, hybrid)

    o Technology availability

    o Content expectations

- I created a survey (Appendix F: Teacher Needs Assessment Summary Tool) to administer at least a week in advance of the training, to determine participants' learning needs and pre-training knowledge base for:

- o Literacy pedagogy and content

- o The DI model

- o The technology tools to be used in the training

- I created a survey (Appendix G: Multi-Use Canvas Differentiated Instruction Training Course) to administer post-training, to determine:

  - o The degree to which the session met participants' needs

  - o The content necessary for follow-up support (e.g., coaching, subsequent professional learning sessions) to address any unmet participant needs

- I collaborated with my advisor, Dr. Sharon Walpole, my supervisor Dr. Jaime True Daley, and my literacy team colleagues to replace videos with poor presentation quality or videos that were filmed for a variety of audiences with either:

  - o Google Slides to be presented synchronously by a Literacy Instructional Specialist, or

  - o New videos intentionally designed and filmed to be part of this DI model professional learning architecture

- I embedded lesson delivery materials in the Guide Sheet documents for each Canvas course module (Appendix G: Multi-Use Canvas Differentiated Instruction Training Course) in the event those materials are missing or unavailable at the time of the training

- I designed modules (Appendix G: Multi-Use Canvas Differentiated Instruction Training Course) for participants to learn how to teach each differentiated instruction group with a specific content sequence:

  - o Video presenting an overview of the instructional steps of the differentiated instruction group

  - o Video model of the differentiated instruction lesson being taught

- Small group practice session (no more than 3 participants per group), which allows enough time for each participant to cycle through three roles (teacher, student, observer) and discuss afterwards

- Whole-group synchronous Question-and-Answer session focused on the practice experience

- Optional asynchronous activities containing video and reading selections with highly detailed content, aligned with notetaking documents (guide sheets), to extend learning for interested participants

- I designed multiple modules which support participants in learning how to successfully implement the DI model relative to varied audiences, learning needs, session foci, instructional settings, and timeframes.

- I established protocols and a template for consolidating guide sheets from each module into one continuous document per training, with content presented in the order it occurs during the training, to minimize and organize the number of resources participants must manage throughout the session.

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Appendix E

EVIDENCE-BASED PRACTICES NEEDS ASSESSMENT

I have designed two infographic needs assessment documents – one for school leaders, and one for teachers. Each infographic briefly shows the relationship between the DI model and the science of reading, and provides questions designed to invite school leaders and teachers to identify and share their current knowledge base and professional learning needs. The teacher infographic also includes a link to the Needs Assessment Summary Tool in Appendix F. Our Literacy Instructional Specialists will use partners' responses to this infographic and the summary tool to inform their content selections for the partner's customized DI model professional learning, using the Multi-Use Canvas DI Training Course presented in Appendix G. Engaging in this process will increase the likelihood that the DI model professional learning sessions our Literacy Instructional Specialists provide are more accurately aligned to the content and learning needs of the partnerships they serve.

The digital file for these infographics can be found at this link: https://www.canva.com/design/DAD7zMwz4Kc/S1sZf1OXIWkMP2p8I9cGYg/view?utm_content=DAD7zMwz4Kc&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink. I have also embedded each infographic below:

Let's build a customized professional learning experience!

Know the
Science

How is the Differentiated Instruction (DI) Model aligned with the science of reading?

Foundational skills

of

Massed practice: presented repeatedly in a short time

Logan, Castel, Haber, & Viehman (2012)

Alphabet Knowledge

Word Recognition

Phonemic Awareness

Decoding   Fluency

e.g., Walpole, McKenna, Amendum, Pasquarella, & Strong (2017), Foorman et al. (2016)

enables

Comprehension

Vocabulary

Knowledge-building

✳ *"the act of extracting and constructing meaning"*
Walpole and McKenna (2017)

✳ *"meaning aspects of word knowledge"*
Hayes and Flanigan (2014)
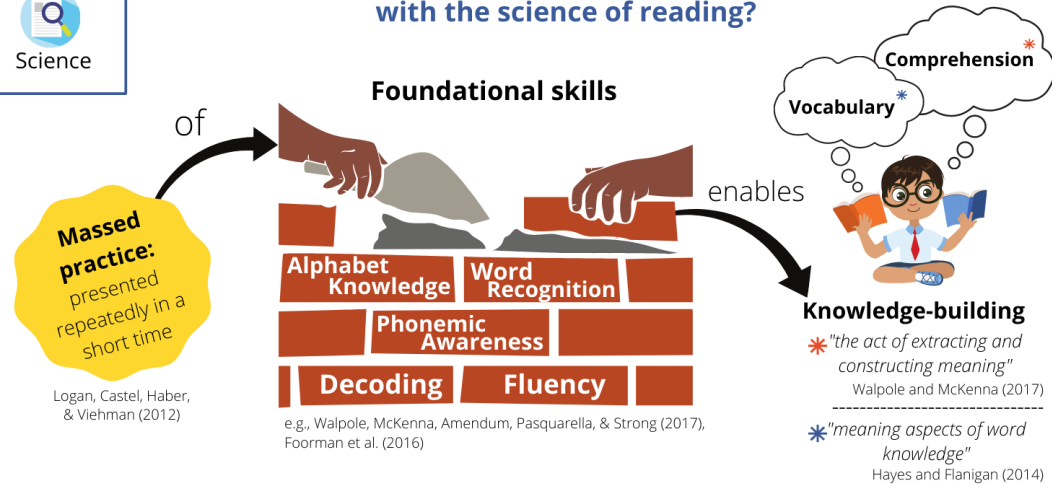
Know Your School

How do your teachers like to practice instructional procedures?

☐ pairs or small groups
☐ grade level groups

☐ virtual environment
☐ in-person environment

What are your goals for engaging teachers in this DI Model PL?

☐ Support/build **teacher knowledge base of evidence-based literacy instructional practices**

☐ Strengthen **student foundational literacy skills**

☐ Adopt an evidence-based Tier 2 instructional model to **strengthen your overall literacy program**

Know Your Teachers

What are your teachers' DI Model learning needs?

Enhancing lesson quality:
"How do we teach these lessons?"

☐ Learn how to teach the lessons as designed

☐ Learn how to accurately assess and group students

☐ Know the DI Model but need a refresher

Building teacher knowledge and expertise:
"Why do we teach these lessons?"

☐ Increase knowledge of evidence-based literacy teaching practices

☐ Increase foundational skills knowledge

☐ Increase literacy content knowledge

Expanding teacher knowledge and expertise:
"How do we become experts?"

☐ Improve lesson implementation quality

☐ Improve data-informed instructional planning

☐ Engage in professional reflection

213

Let's build a customized professional learning (PL) experience!

Know the Science

How is the Differentiated Instruction (DI) Model aligned with the science of reading?

Foundational skills

of →

Massed practice: presented repeatedly in a short time

Logan, Castel, Haber, & Viehman (2012)

Alphabet Knowledge

Word Recognition

Phonemic Awareness

Decoding

Fluency

e.g., Walpole, McKenna, Amendum, Pasquarella, & Strong (2017), Foorman et al. (2016)

enables →

Comprehension

Vocabulary

Knowledge-building

✳*"the act of extracting and constructing meaning"*
Walpole and McKenna (2017)

✳*"meaning aspects of word knowledge"*
Hayes and Flanigan (2014)

Know Your Students

What are your students' current literacy learning needs?

Know Yourself

What are your learning goals for this DI Model PL?
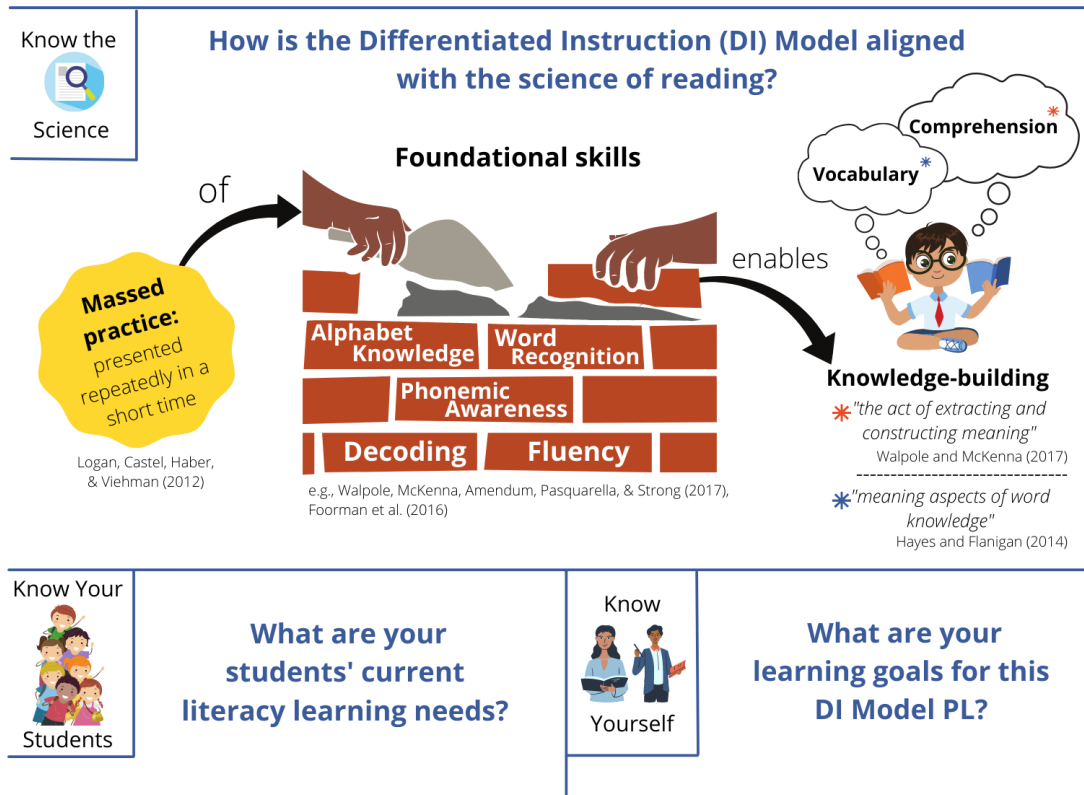
Tell us how we can help!

Please visit the link to the Google Form questionnaire below.
We'll use the information you share to build a customized professional learning experience for you and your colleagues.

https://tinyurl.com/CustomizeYourPL

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Elementary School Journal, 118*(2), 257–280. https://doi.org/10.1086/694219

Appendix F

TEACHER NEEDS ASSESSMENT SUMMARY TOOL

I have designed this tool in Google Forms. The view link to the form is here:

https://docs.google.com/forms/d/e/1FAIpQLSfJtC-xt2affAlDqFOv7Xkpx7WEISGmxH6zTC3IboB74as84w/viewform. This tool

incorporates detailed choice options described more generally in the teacher page of

the Evidence-Based Practices Needs Assessment in Appendix E, and which are

available in the Multi-Use Canvas Differentiated Instruction Training Course

described in Appendix G. Using Google Forms allows our Literacy Instructional

Specialists to aggregate and share the collected data in a simple way with school

leaders. These data will show school leaders what their teachers report as professional

learning goals and preferences and will allow our Literacy Instructional Specialists to

design DI model professional learning sessions aligned as closely as possible to those

goals and preferences.

Let's build a customized professional learning (PL) experience!

Hello teachers, specialists, and paraprofessionals, and welcome! Please share your Differentiated Instruction (DI) Model learning goals by completing this brief questionnaire. Our Literacy Instructional Specialists will use your responses to build a professional learning experience aligned as closely as possible to your goals and preferences.

This form is only collecting emails so that we can send a copy of your responses to you, and so we can make sure we don't double-count any responses. We will share the compiled data from the questionnaire with your school leaders, but we will not share emails or individual responses.

kwheedle@udel.edu Switch account

* Required

Email *

Your email

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After reading the graphic, please check the response below that most accurately reflects your understanding of the DI Model and the science of reading. (Select only one response.) *

How is the Differentiated Instruction (DI) Model aligned with the science of reading?

Know the Science

Foundational skills

of

Massed practice: presented repeatedly in a short time

Logan, Castel, Haber, & Viehman (2012)

Alphabet Knowledge | Word Recognition
Phonemic Awareness
Decoding | Fluency

e.g., Walpole, McKenna, Amendum, Pasquarella, & Strong (2017), Foorman et al. (2016)

enables

Comprehension
Vocabulary

Knowledge-building
✳ "the act of extracting and constructing meaning"
Walpole and McKenna (2017)
✳ "meaning aspects of word knowledge"
Hayes and Flanigan (2014)

○ I know the DI Model well and understand how it aligns with these literacy terms and concepts.

○ I know the DI Model, but need to know more about how it aligns with these literacy terms and concepts.

○ I understand many or all of these literacy terms and concepts, but I am new to the DI Model.

○ I am new to both the DI Model and to one or more of these literacy terms and concepts.

What are your students' current literacy learning needs? (Select all that apply.) *

Know Your

Students

☐ My students need to build missing phonological awareness and letter sound skills.

☐ My students need to strengthen their existing decoding skills.

☐ My students need to maintain their on-track fluency or comprehension skills.

☐ My students need to strengthen and expand their vocabulary knowledge, comprehension ability, and background knowledge.

What are your learning goals for this DI Model PL? (Select all that apply.) *

Know
Yourself

☐ Learn how to teach the lessons as designed

☐ Learn how to accurately assess and group students

☐ Get a refresher to make sure I'm teaching the lessons as designed

☐ Increase my knowledge of evidence-based literacy teaching practices

☐ Increase my knowledge of foundational skills

☐ Increase my literacy content knowledge

☐ Improve my lesson implementation quality

☐ Improve my data-informed instructional planning

☐ Engage in professional reflection

How do you prefer to engage in group work? (Select all that apply.) *

Know Yourself

☐ in pairs or small groups

☐ in grade-level groups

☐ in groups with a mix of grade levels

☐ with colleagues in my own school (if other schools are also attending)

☐ with colleagues from other schools (if other schools are also attending)

When you learn about a new instructional procedure, which learning structure below would you most prefer? (Choose only one.) *

Know Yourself

○ First tell me about the procedure, then show me how to teach it, then give me a chance to practice teaching it, then give me a chance to reflect on it.

○ First show me how to teach the procedure, then give me a chance to practice it, then give me a chance to reflect on it, then tell me more about it.

When you have opportunities to reflect on your own learning, how do you prefer to do this work? (Select all that apply.) *

Know Yourself

☐ individually

☐ in pairs or small groups

☐ in whole group

☐ using digital tools such as discussion boards, Padlet boards, or Google documents

☐ using real-world tools such as notepaper, charts, or sticky notes

☐ verbally

☐ in writing

If there is anything else you would like us to know about your learning goals for this DI Model PL, you are welcome to share that information below. (This is an optional question.)

Your answer

Thank you very much for completing this questionnaire. We appreciate your time and your willingness to share your learning goals and preferences with us!

A copy of your responses will be emailed to the address you provided.
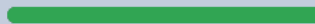
Submit   Page 1 of 1   Clear form

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S., Streke, A., Wagner, R., & Wissel, S. (2016). *Foundational Skills to Support
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Appendix G

MULTI-USE CANVAS DI TRAINING COURSE

Guided by what I learned from researching and writing three of the artifacts in this ELP (Appendices B, C, and D), I built a flexible professional learning architecture and accompanying implementation tools to support teachers learning to implement the DI model in their classrooms. This multi-use training course is housed in the University of Delaware's Canvas learning management system, and is designed to support customized, synchronous training in effective implementation of the DI model, led and implemented by one or more PDCE Literacy Instructional Specialists.

Design Principles

I began building this course by framing its design around a core set of six evidence-based design principles. I developed these principles from what I learned about the affordances of in-person, hybrid, and virtual professional learning models from Appendix B: Building a New Normal: Virtual and Hybrid Professional Learning Introduction. The evidence suggests that such affordances support teachers' knowledge-building, self and collective efficacy, and effective implementation of evidence-based instructional practices.

Design Principle	Description
Focus on content	Course content aligns with evidence-based classroom literacy practice, HQIM use, building teacher knowledge, and supporting students' foundational literacy needs
Center around active learning	Course provides opportunities for teachers to actively engage in learning through cycles of knowledge-building and discussion, simulation and practice, and analysis and feedback
Provide opportunities for collective participation	Course structure allows for content organization aligned with specific school groups, grade levels or grade level bands, and/or professional role groups (e.g., administrators, teachers, specialists)
Incorporate choice	Course structure allows for ease of access, convenience, and flexibility (e.g., providing synchronous and asynchronous learning opportunities, optional and required learning activities, and individual and collaborative learning opportunities)
Provide technical support options	Course includes content designed to support how to navigate the course modules, locate and access course content and resources, access and use required and optional online or technology tools, and identify and locate technical support resources
Provide opportunities for extended learning	Course provides options which allow course content and activities to connect or integrate with subsequent coaching and PLC support following course completion (e.g., supplemental support via optional asynchronous Module work, extension of learning and support via follow-up coaching)

Note: HQIM = High quality instructional materials

Build Parameters and Organization

Course participants are first greeted by a welcome page introducing them to

the DI model authors, and to the learning work in which they will engage:

Multi-Use Canvas Differentiated Instruction Training Course

✎ Edit

Welcome!

We are excited to partner with you as you learn about the Differentiated Instruction model developed by Dr. Sharon Walpole and Dr. Michael C. McKenna.

Our **literacy coaching team** ↗ at the **University of Delaware** ↗ 's **Professional Development Center for Educators** ↗ **will guide your learning experience.**
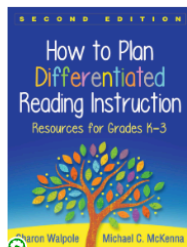
In this course, you'll experience customized support for implementing the DI Model in your classroom, school, and/or district, with topics selected from one or more of five different focus areas:

- *Understanding the DI Model structure*
- *Learning about the research informing the DI Model design*
- *Learning how to assess and place students into instructional groups at the beginning of the year*
- *Learning how to teach and progress monitor each instructional group*
- *Supporting DI block planning and preparation*

Ready to dive in to your customized learning experience?

Click here to get started!

Next, using what I learned about effective ways to plan, design, build, deliver, and evaluate professional learning sessions from Appendix C: Measuring the Effectiveness of Professional Learning and Appendix D: Try/Fail/Redesign Process, I developed and used a set of build parameters for training length options, sectioning strategy, and general structure of each learning module. The course can be used to develop a one-, two-, or three-day training structure. One training day includes four 75-minute training sessions plus four 15-minute breaks, for a total of 6 hours of professional learning support per day. The course's Daily Schedule template, which our Literacy Instructional Specialists will customize to align with the school partner's module and content selections, is designed to help school leaders and teachers visualize the course structure:

Daily Schedule

Here is the breakdown of how we will spend our time together during each day of our DI Model training:

Note to Literacy Instructional Specialists: TEMPLATE FOR FOUR, 75 MIN SESSIONS with FOUR 15 MIN BREAKS - adjust breaks and lunch as needed. Delete columns as appropriate if training is less than three days. Delete this red text before publishing.

Date_____	Date_____	Date_____
Session 1 (_____ AM - _____ AM) Session title	Session 1 (_____ AM - _____ AM) Session title	Session 1 (_____ AM - _____ AM) Session title
15 min BREAK (___ AM - _____ AM)	15 min BREAK (___ AM - _____ AM)	15 min BREAK (___ AM - _____ AM)
Session 2 (_____ AM - _____ AM) Session title	Session 2 (_____ AM - _____ AM) Session title	Session 2 (_____ AM - _____ AM) Session title
15 min Optional Q&A (_____ AM - _____ PM)	15 min Optional Q&A (_____ AM - _____ PM)	15 min Optional Q&A (_____ AM - _____ PM)
One hour LUNCH	One hour LUNCH	One hour LUNCH
Session 3 (_____ PM - _____ PM) Session title	Session 3 (_____ PM - _____ PM) Session title	Session 3 (_____ PM - _____ PM) Session title
15 min BREAK (_____ PM - _____ PM)	15 min BREAK (_____ PM - _____ PM)	15 min BREAK (_____ PM - _____ PM)
Session 4 (___ PM - ___ PM) Session title	Session 4 (___ PM - ___ PM) Session title	Session 4 (___ PM - ___ PM) Session title
15 min Optional Q&A (_____ PM - _____ PM)	15 min Optional Q&A (_____ PM - _____ PM)	15 min Optional Q&A (_____ PM - _____ PM)
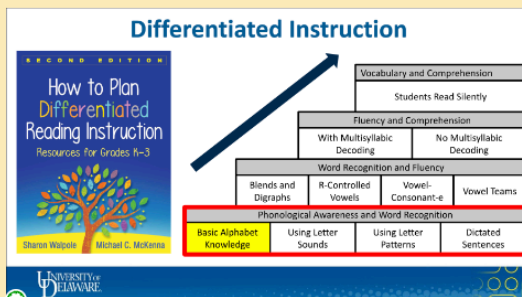
The course is sectioned into 30 modules – four designed for asynchronous use, and the remaining 26 designed for synchronous delivery by Literacy Instructional Specialists. Each synchronous module comprises one 75-minute training session, with content pages organized into one of two learning structures: knowledge-building/simulation/practice/reflection (KSPR), or

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simulation/practice/reflection/knowledge-building (SPRK). For example, the

following series of screenshots show the KSPR structure I used to present the Basic

Alphabet Knowledge instructional group content:

Now try it out! In groups of three, use the roles and structure below. If you finish one practice session before time is up, switch roles and repeat the process.

Teacher	Student	Observer

• In your Guide Sheet, go to the Basic Alphabet Knowledge Lesson Practice Script.
• Teach the lesson, using the script.
	• In your Guide Sheet, go to the Basic Alphabet Knowledge Lesson Practice Student Materials.
	• Participate in the lesson as a student.
		• In your Guide Sheet, go to the Basic Alphabet Knowledge Lesson Practice Script and Student Materials.
		• Observe the lesson, comparing what you see to what is listed in the script.
		• Take note of what you see:
		  ▪ What went well?
		  ▪ What could use some polishing up?

Finally, let's reflect: Take a few moments to record your thoughts in our DI Model Reflection Padlet.

Respond to these questions, focusing on what you learned about the Basic Alphabet Knowledge Group:

- What does skill modeling look like in the lessons?
- What does student practice look like in the lessons?
- What is necessary for lesson preparation?

In contrast, this next series of screenshots from the Canvas course show the SPRK

structure I used to present the same Basic Alphabet Knowledge group content. The

content remains the same. The only change is the order in which that content is presented:

Reflection	Next, let's reflect: Take a few moments to record your thoughts in our **DI Model Reflection Padlet**. Respond to these questions, focusing on what you learned about the Basic Alphabet Knowledge Group: • What does skill modeling look like in the lessons? • What does student practice look like in the lessons? • What is necessary for lesson preparation? Kim Wheedleton • 1mo ☆ ⇄ ➤ ☒ **DI Model Reflection MASTER DOCUMENT TO DUPLICATE** This is our ongoing reflection tool to support our learning about the Differentiated Instruction Model. **How to post your thoughts to this Padlet** ⋮ **What have you learned about the structure and content of the DI Model?** ⋮ **What quest have about Model?** Kim Wheedleton 1mo ⋮ **How to post your reflections:** Under the column you are responding to: Kim Wheedleton 4mo ⋮ **Differentiated Instruction** Kim Wheedleto **Differentia** **How to Plan**
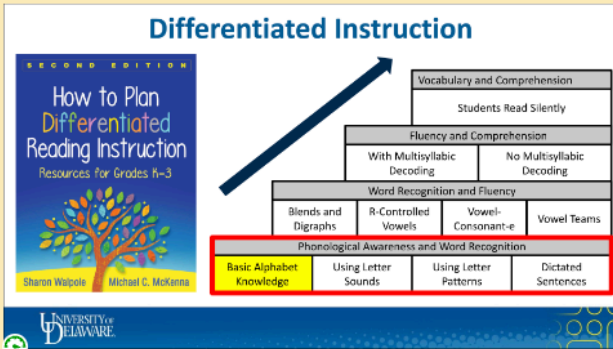
Knowledge-Building	Finally, let's get some more detail about the Basic Alphabet Knowledge Group. **Differentiated Instruction** How to Plan Differentiated Reading Instruction — Resources for Grades K-3 Sharon Walpole Michael C. McKenna University of Delaware Vocabulary and Comprehension — Students Read Silently Fluency and Comprehension — With Multisyllabic Decoding / No Multisyllabic Decoding Word Recognition and Fluency — Blends and Digraphs / R-Controlled Vowels / Vowel-Consonant-e / Vowel Teams Phonological Awareness and Word Recognition — Basic Alphabet Knowledge / Using Letter Sounds / Using Letter Patterns / Dictated Sentences As you watch, use your Guide Sheet to jot down some notes: • Who needs instruction in Basic Alphabet Knowledge? • What do we know about students in this group? • What decoding approach does this group use? Why? • How do we know whether a student has become proficient in the skills in this group?

In addition, each of the 26 synchronous modules contain a Specialist Tools page with embedded links to digital tools Literacy Instructional Specialists and teachers will use as they engage in each module. The course contains a total of 31 Google Slides presentations for Literacy Instructional Specialist use, 31 Google Docs Guide Sheets for teacher use, 13 planning checklists for teacher use, and 14 additional digital tools (Google Jamboards, Google Docs, and Google Slides) for Literacy Instructional Specialist or teacher use during lesson simulations and practice sessions.

Module Content

The course contains four asynchronous modules, each with a different support focus. "Resources for PDCE Literacy Instructional Specialists" provides pages with tools and guidance to support Literacy Instructional Specialists in using the course to customize DI model professional learning for their partners.

"Learn How to Use Canvas" and "Introduction and Overview" provide pages and discussion boards presenting teachers with a Canvas orientation and a brief overview of the course.

Learn How to Use Canvas

- 📄 Canvas Orientation
- 💬 Teacher's Lounge
- 💬 Ask the Literacy Instructional Specialists
- 📄 Warm Up Those Tech Muscles!

Introduction and Overview

- 📄 Meet your UD Coaches!
- 📄 Training Schedule and Zoom Information
- 📄 Community Before Content

And "End-of-Training Evaluations" provides tools to gather teacher feedback about their training experience and offer teachers an opportunity to self-assess their learning.

End-of-Training Evaluations

- 📄 PDCE post-training evaluation form
- 🏃 Participant Self-Assessment Form

The course's 26 synchronous modules support DI model content learning for teachers – one topic in each module. School partners can choose which synchronous modules they wish to include in their training days. Each synchronous module addresses support in one of five learning categories: (a) understanding the DI model structure, (b) learning about the research informing the DI model design, (c) learning

how to assess and place students into instructional groups, (d) learning how to teach

each instructional group, and (e) support for differentiated instruction block planning

and preparation. Three topics in these modules are only offered in the KSPR learning

structure:

- Differentiated Instruction and the Cognitive Model

- Stairstep Model Overviews

- Grouping Students and Preparing Them for the Differentiated
  Instruction Block.

The remaining topics in these modules are offered in both KSPR and SPRK structures:

- Administering the Assessments

- Phonemes and High Frequency Words

- Basic Alphabet Knowledge lessons

- Using Letter Sounds lessons

- Using Letter Patterns lessons

- Dictated Sentences lessons

- Blends and Digraphs and R-Controlled Vowels lessons

- Vowel-Consonant-e lessons

- Vowel Teams lessons

- Fluency and Comprehension lessons

- Vocabulary and Comprehension lessons

In addition to required information and learning experiences, each content

module also offers a "Deepen Your Learning" page, where teachers can choose to

engage in optional learning experiences such as completing additional readings from

Walpole and McKenna's (2017) differentiated instruction text, engaging in

professional learning community book study of the Walpole and McKenna (2017)

text, and viewing videos and recorded webinars where Dr. Walpole shares additional

information about assessment and instruction in the DI model.

"Deepen Your Learning" pages also offer an opportunity for teachers to challenge themselves by completing brief Canvas quizzes that informally assess what they have learned from the module.

Test yourself by taking this brief quiz. What have you learned about the Cognitive Model?
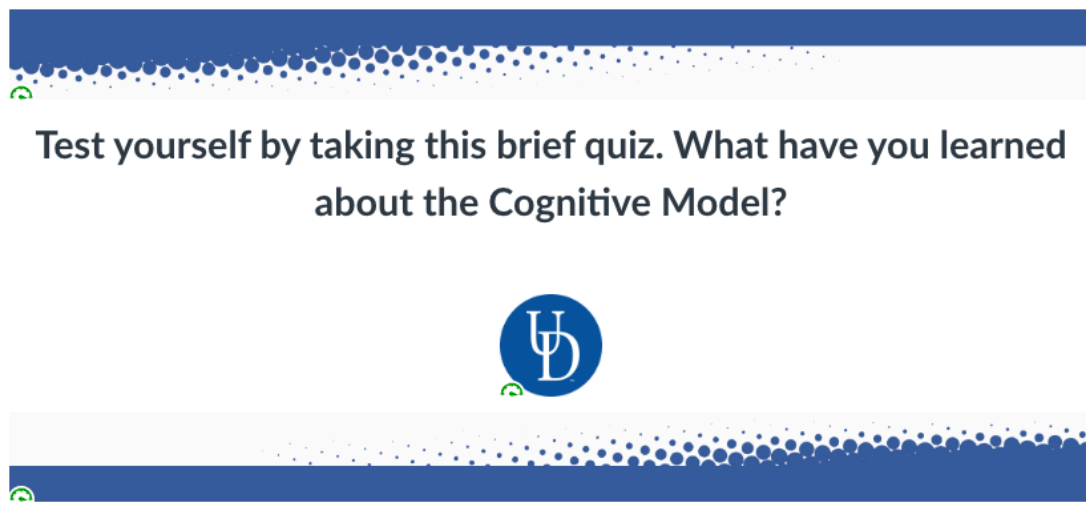
Question 1   1 pts

According to the Cognitive Model, what are the three pathways leading to Reading Comprehension?

○ The National Road, the Wilderness Road, the Erie Canal, and the Oregon Trail

○ PAWR, WRAF, FAC, and VAC

○ Automatic Word Recognition, Oral Language Comprehension, and Strategic Knowledge

Question 2   1 pts

What literacy skills are represented in Pathway 1: Automatic Word Recognition?

○ Background knowledge, Vocabulary Knowledge, Text and Sentence Structure Knowledge

○ Exploration, Preparation, Implementation, and Sustainment

○ Phonological Awareness, Print Concepts, Decoding and Sight Word Knowledge, and Fluency in context

Question 3   1 pts

What literacy skills are represented in Pathway 2: Oral Language Comprehension?

○ Vocabulary Knowledge, Background Knowledge, and Knowledge of Text and Sentence Structures

○ FAC, FAC with Multisyllabic, and VAC

○ General and Specific Purposes for Reading, and Strategy Knowledge

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Question 4   1 pts

Choose the three literacy skills below that are represented in Pathway 3: Strategic Knowledge.

☐ Specific Purposes for Reading

☐ Vocabulary Knowledge

☐ Fluency in Context

☐ Knowledge of Strategies for Reading

☐ General Purposes for Reading

Choice and Non-Negotiable Training Design Elements

Finally, consistent with my six evidence-based design principles, the course

includes both choice and non-negotiable elements. Choice elements are items or

design components which our partners can select to customize the training to their

teachers' specified learning goals and preferences, and to learning needs identified by

school leaders. Non-negotiable elements are those items which are necessary for

teachers to successfully learn to implement the DI model in their classrooms. Those

choice and non-negotiable course elements are listed below:

Choice Elements	Non-Negotiables

Professional learning delivery can be
• Virtual
• In-person
 	
Module learning structure choices
• Knowledge-building/simulation/practice/reflect (KSPR)
• Simulation/practice/reflect/knowledge-building (SPRK)
 	
Choice of which synchronous modules to include in the training
 	
Choice of presentation order of modules
 	
Lesson practice can be completed in
• Pairs or small groups
• Grade level groups
• Random groupings (e.g., multiple grade level teachers in a group)
• If multiple schools in one training, any of the above, plus:
    o Within-school groups
    o Cross-school groups
 	
While Literacy Instructional Specialists will select from predetermined reflection structure options (see non-negotiables), partners can share preferences for how they most like to engage in reflective work, so Specialists can align the tasks as closely to preferences as possible:
• Individual, small group, or whole group
• Using digital tools such as discussion boards, Padlet boards, or Google documents
• Using real-world tools such as notepaper, charts, or sticky notes
• Verbal reflection
• Written reflection
 	
Modules include optional "Extend Your Learning" pages, which may include:
• Videos of lesson simulations or classroom implementation
• Recorded webinars on DI model topics
• "Test Yourself" activity – fun quizzes for teachers to self-assess their learning
• Additional readings with notetaking
	Active participation of all attendees
	
	Lesson practice must include groups with teachers in three specific roles:
	• One as teacher
	• One or more as "students"
	• One or more as observers
	• If in pairs, one as teacher, one as both "student" and observer
	
	Module time block structure 75 minutes
	
	Three content modules offered only in KSPR format:
	• Differentiated Instruction and the Cognitive Model
	• Stairstep Model Overviews
	• Grouping Students and Preparing Them for the Differentiated Instruction Block
	
	Professional reflection structure and tools will be chosen based on best alignment with learning task, training environment, and partners' requested preferences, and may include:
	• Individual, small group, or whole group
	• Using digital tools such as discussion boards, Padlet boards, or Google documents
	• Using real-world tools such as notepaper, charts, or sticky notes
	• Verbal reflection
	• Written reflection

Note: KSPR = knowledge-building/simulation/practice/reflection; SPRK = simulation/practice/reflection/knowledge-building

This flexible, multi-use Canvas course incorporates tools to support both planning and professional learning delivery. It also invites professional learning design and content input from both our Literacy Instructional Specialists and school leaders and teachers. With these materials, our Literacy Instructional Specialists can learn about our partners needs and preferences and build the professional learning within the planning time our center reserves.

Reference

Walpole, S., & McKenna, M. C. (2017). *How to plan differentiated reading instruction: Resources for grades K-3* (2nd ed.). Guilford Press.

Appendix H

EVIDENCE-BASED PRACTICES DESIGN SYSTEM

I developed this tool to provide our Literacy Instructional Specialists with a sequence of action steps to follow when using the Multi-Use Canvas Differentiated Instruction Training Course (described in Appendix G) to design customized DI model training. Named "Specialists Guide to Planning and Preparing for DI Model Training," it is included as a page in the "Resources for PDCE Literacy Instructional Specialists" module of the Canvas course. Using this tool to guide their customization work allows our Specialists to build DI model training aligned with our partners' specified preferences and support needs, and to use evidence-based practices for professional learning design, content, and delivery. The tool is organized into the six segments described below:

Prepare Your Course

This segment lists the series of steps necessary for requesting a new empty Canvas course, importing all content from the Multi-Use Canvas Differentiated Instruction Training Course into their new course, and preparing initial participant access to their newly created course.

Prepare your course

Request a new Canvas course as soon as you are assigned the training for the partnership. To do that:

- Go to this link ⬀ .
- Select "Canvas Forms."
- In the drop-down menu, select "Miscellaneous Site Request."
- Follow the prompts to request your course.
  - Name your course "DI Model Training - [school or district name]"

Once your course is available to you:

- Import *all* content from the main DI training course into your new course:
  - Go to Settings in your new course.
  - Select "Import Course Content."
  - Click the "Content Type" dropdown window, then select "Copy a Canvas Course."
  - In "Search for a Course," enter " Multi-Use Canvas Differentiated Instruction Training Course."
  - In "Content," click the "All Content" radio button.
  - Click the blue "Import" button.
  - Wait for the import to finish.
- Prepare initial course access for participants:
  - Click "Home" in the left sidebar, then click the "Publish" button under "Course Status"
  - Then click "Modules" in the left sidebar.
  - Then click the circle/slash icon on the far right of the "Learn How to Use Canvas" module. This makes just that module immediately accessible to participants as you add them.
  - Leave all other modules unpublished for now.

Schedule Your Planning Meetings

This segment is a prompt to set up a three-series set of planning meetings with their partner: an initial meeting, planning meeting and final check-in.

Schedule your planning meetings

Work with your partner to understand their needs:

- Schedule an initial meeting, a planning meeting, and a final check-in.

To Do During the Initial Meeting

This segment describes the series of actions to take when conducting the initial meeting with the school leader, including confirming training dates and times, guidance for how and when to use the Evidence-Based Needs Assessment and Teacher Needs Assessment Summary Tool, explaining the Canvas registration

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process, and requesting names and emails of all participants who will engage in the training.

To do during the initial meeting:

1. Connect with your partner.
2. Confirm the training dates and times and the planning meeting dates.
3. Explain that each participant needs a personal copy of *How to Plan Differentiated Reading Instruction: Resources for Grades K-3*.
4. Ask your partner to complete the leader portion of our **Evidence-Based Practices Needs Assessment** with you during this meeting. Record their responses in this force-copy **Google Doc Checklist** . (Keep this doc and add to it during the planning meeting outlined in the next section.)
5. Display the **Teacher Needs Assessment Summary Tool** . Ask your partner to provide teachers with the link to that tool, with a completion deadline no later than three days prior to second meeting date.
6. Explain the Canvas registration process, and make sure your partner understands the time-sensitive nature of that process. Also share that the "Learn How to Use Canvas" portion of the course will be open early, so participants can get used to Canvas, Zoom, and Padlet prior to the training.
7. Ask the partnership leader to send you a list of names and email addresses of all training participants ASAP (so you have time to get them registered).

After this initial meeting, as soon as the leader gets you that name/email list:

First, send one blind-copy email to all participants with the below information:

How to Enroll in Canvas: Becoming a Blue Hen

You will soon receive an invitation to become a UD Guest Blue Hen! Check your email for a link from UD Guest Services. You will pass through two phases that ultimately grant you access to our DI Model Canvas course.

Here's what you'll need to do:

1. Open the email from UD Guest Services.
2. Create log-in credentials.
3. Set up security questions and password.
4. Wait about *24 hours*.
5. Check your email for a message from Canvas Instructure. Click on the link in the email.
6. Log into Canvas. Your username is your FULL EMAIL. Enter your full email and the password you created. Please *do not* use the alpha-numeric code provided by UD as your username.
7. This should link you directly to our Canvas course: [INSERT YOUR CANVAS COURSE HOME PAGE LINK HERE]

○

Then, add participants to your Canvas course . Follow up with participants as needed for anyone who hasn't accepted the course.

To Do During the Planning Meeting

This segment describes the series of actions to take when conducting the planning meeting, including updating the school leader on registration progress, establishing school leader and Literacy Instructional Specialists' roles throughout the

training days, reviewing data collected from the Evidence Based Practices Needs

Assessment and the Teacher Needs Assessment Summary Tool, and selecting the new

Canvas course modules and content aligned with that collected data.

To Customize Your Canvas Course

This segment lists the series of steps required to finalize the training, including

preparing the training schedule, Google Slides document and Google Docs guide sheet

for each training day, Reflection and Practice Padlet boards, and the selected Canvas

pages.

To customize your Canvas course

After the planning meeting and before the final check-in meeting, customize your Canvas course as noted below, and **continue adding participants** ⮺ as needed.

The course should be finalized and ready to share with the partner during the final check-in meeting.

1. Prepare your training schedule. It should align with:
   - Your partner's choices
   - The schedule template in the **Training Schedule and Zoom Information** page
2. Prepare your Google Slides document for each training day:
   - Begin with this **presentation starter template** ⮺ .
   - Copy and paste the slides from the selected modules' Google Slides templates into your training day's Google Slides document, in order from beginning to end of day.
   - Insert your own preferred slides for break times and lunch times.
3. Prepare your Google Docs guide sheet for each training day:
   - Begin with **this Guide Sheet starter template** ⮺ .
   - Copy and paste the content from the selected modules' Guide Sheet templates into your training day's Guide Sheet, in order from beginning to end of day.
   - **Create force-copy links** ⮺ for each guide sheet.
4. Prepare your Reflection Padlet:
   - **Make a copy of the template reflection Padlet board** ⮺ , then customize for your partnership's training choices. (You only need to make one reflection Padlet. Participants will use it throughout their training.)
   - **Get your Padlet's share link and embed code** ⮺ .
5. Prepare your Practice Padlet:
   - **Make a copy of the template practice Padlet** ⮺ linked in the **Warm Up Those Tech Muscles** page (in the "Tools You'll Use" section) and customize it, or create your own.
   - **Get your Padlet's share link** ⮺ .
6. Prepare your Canvas pages:
   - Revise your **Hello and Welcome** page by:
     - Embedding your introduction video
     - Deleting other names and videos
   - Revise your **Training Schedule and Zoom Information** page to include:
     - Your Zoom link
     - Your prepared training schedule
     - Your Guide Sheet link(s)
     - If delivering the PL in-person, delete Zoom content from this page.
   - **Replace all Padlet board template links and embeds** ⮺ with the ones you made in steps 4 and 5:
     - The Practice Padlet only appears on the **Warm Up Those Tech Muscles** page
     - The Reflection Padlet appears in all "Learn with your UD Literacy Instruction Specialist" section pages.

To Do During the Final Check-in Meeting

This segment describes the series of steps to take during the final meeting prior to training start, including previewing the finalized course content and structure, confirming training dates and times, and answering any final questions the school leader may have.

✓ To do during the final check-in meeting:

1. Preview the finalized course content and structure with the partnership leader.
2. Confirm training details.
3. Get any final questions answered.

This planning tool supports our Literacy Instructional Specialists in both planning and preparing customized DI model professional learning. By engaging in structured planning, meeting with school leaders, and gathering data shared by school leaders and training participants, our Literacy Instructional Specialists can engage in this customization work while staying within the planning time our center reserves.