THE ADOPTION OF PERFORMANCE SUPPORT SOLUTIONS IN ORGANIZATIONS

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The Adoption of Performance Support Solutions in Organizations

by

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Abstract

Performance support solutions integrate steps, procedures, information, and advice and make them available to learners at the moment of need in the flow of their day-to-day work. These types of solutions were introduced in the early 1990s but have not had significant traction in organizations despite many espoused benefits. This study examined detailed accounts of how 18 learning and development (L&D) leaders have implemented performance support in their organizations. The goal of this research was to identify common themes and best practices of successful performance support implementations and adoption that can better educate and assist learning leaders who are considering performance support. The results of this study culminated into a new adoption framework including organizational, innovation, individual, and external factors that influence adoption decisions and implementation. The organization's learning culture, the L&D leaders influencing skills, and the ability to experiment and demonstrate success are key factors that drive adoption. The Coates Performance Support Adoption Framework© can help accelerate successful performance support implementations in organizations. This research contributes to a limited body of academic literature on performance support and can help advance the discipline of performance support within the learning and development community.

Keywords: adoption of innovations, electronic performance support systems, human performance improvement, performance support

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CHAPTER ONE: INTRODUCTION

Eighteen to 24 months. That is how long it took for new business presentation specialists (BPS) at a global management consulting firm (the firm) to become completely independent in performing their job. Consultants from the firm work with clients to solve organizational problems. They provide clients with PowerPoint presentations, Word documents, and reports with data and recommendations. The consultants focus on the analysis, problem solving, and recommendation activities and send their documents to BPSs for further creative development and formatting. The BPS role is complex as the BPS needs to have strong capabilities in writing, critical thinking, and graphic design. However, taking eighteen to twenty-four months to become fully competent in the role was unacceptable to leaders. This was having a significant impact on overall department productivity, employee engagement, morale, and attrition.

In 2018, I was asked to analyze this performance problem, understand why it was taking so long for the new BPSs to become independent contributors, and to find a way to cut the time to competency in half. A few months prior to this request, I attended an industry conference and learned about performance-centered design and performance support. I was intrigued by this "new" way of approaching performance problems. The methods, strategies, and tools were very different from what I learned in my traditional training as an instructional designer, but the description and case studies from the conference were compelling and left me wanting to experiment with this approach. I just needed to find the right opportunity to try this and the BPS time to competency challenge was a perfect fit. Our learning team piloted our first performance support solution with the BPSs and were able to cut the time to competency to 6 months and increase overall capacity within the department by 35%. Given the success of this project, I became curious and wanted to learn more about performance support.

As I started exploring the literature, I discovered that the idea of performance support has been discussed amongst learning and development (L&D) professionals since the early 1990s. However, it became apparent that performance support is not widely understood or implemented in organizations. Nguyen (2013) surveyed 89 L&D professionals and only 38% responded that they have implemented performance support in limited areas of their organizations. Further, only 21% of 271 organizations that responded to a training industry survey (Training Industry Report, 2018) claimed to be using online performance support systems. This demonstrates that 30 years after being introduced to the concept of performance support, it is still considered a novel approach. The question is why aren't more organizations adopting performance support solutions if they can have such a significant impact? This study focuses on better understanding the benefits and effectiveness of performance support, exploring how organizations implement these solutions, and investigating why more organizations are not adopting performance support. In this introductory chapter, I will describe performance support, the rationale for implementing performance support, and the benefits of performance support, followed by a statement of the purpose and significance of the study.

What is Performance Support?

There are many definitions of performance support in the literature. The conceptual essence of performance support is to integrate steps, procedures, supporting information, and advice and make them easily available to employees at the exact moment of need to enable better job performance (Gery, 1991; Gottfredson & Mosher, 2011; Nguyen, 2012). Using support technologies, employees have access to everything they need to effectively perform their job tasks without stepping away to learn, reducing their need to ask for help. They are effectively learning in the flow of their daily work. This is a fundamentally different approach to supporting employees to do their job than traditional training methods.

Rationale for Implementing Performance Support

A key responsibility of L&D departments in organizations is to help employees develop the capabilities they need to perform and be successful in their job. It is estimated that organizations spend a total of over $200B per year on formal learning globally (Bersin, 2018). Formal learning is learning that is designed by a training department, instructional designer, and/or instructor and in which the learner steps away from his or her job to participate in the instruction. This could include an in-person learning program, an e-learning course, or a course delivered synchronously in a virtual classroom environment such as Zoom, Adobe Connect, or WebEx (Gottfredson & Mosher, 2011).

One of the biggest challenges L&D departments face is ensuring learners can apply what is learned in the formal training experience back on the job, thus having a positive impact on performance. The inability to transfer training to the job, results in a waste of time, money, and resources. Laker and Powell (2011) estimated the costs of training waste ranges from $50–$200B annually.

In addition to delivering and measuring the effectiveness of formal learning, organizations have new challenges. The world is changing. New technologies, including automation, artificial intelligence, and robotics are being introduced at an unprecedented rate, disrupting the current world of work (Schwab, 2017; van Dam, 2016). This era is being referred to as the Information Society, the Digital Age, and the Fourth Industrial Revolution. This new context requires a workforce with a wide range of deep knowledge and skills and an ability to quickly adapt and transition into new jobs as needed (Gottfredson, 2014). Internal L&D departments are under pressure to quickly develop priority capabilities and improve individual and organizational performance, and, at the same time, cut costs by reducing the number of in-person classroom days. Learning departments struggle to keep

up with the pace of change and provide the learning needed in a timely manner (Gottfredson & Mosher, 2011).

From an employee perspective, given the pace of change and increased complexity in job roles, it is more challenging for them to step away from their job to participate in learning unless it is vital to do so. They do not have the time to attend learning. When they do attend formal learning, they are faced with applying what they learned to their day-to-day performance, and they may have forgotten what they learned or misunderstood it. This delay between learning and actual performance on the job results in loss of performance and increased training waste (Chang, 2004). Additionally, there is a shift towards more self-directed learning. Employees want to own their learning and development and feel empowered to do more on their own (Bersin, 2018; Gottfredson & Mosher, 2011).

To address these organizational and individual challenges, internal L&D leaders need to reevaluate their learning strategy and consider what capabilities must be taught using more traditional learning methods. For example, they need to consider what types of learning address leadership transitions and mindset changes, what types of learning are best for helping learners build job-specific capabilities, and what can be learned on the job using performance support solutions. There is clearly a need to identify methods that avoid pulling people from their work for large periods of time and providing them more support in the natural flow of their work. It is evident that traditional training models must evolve and be combined with other disciplines to address new ways of working and new learner requirements (McCabe & Leighton, 2002; Nguyen & Yang, 2015; O'Driscoll & Cross, 2005; Rosenberg, 1995). Performance support approaches offer a solution to address these challenges.

The Benefits and Effectiveness of Performance Support

Since its introduction in the 1990s, the promise of performance support, or electronic performance support systems (EPSS) as they were called at the time, include increased productivity, reduced training time and cost, increased worker autonomy, self-sufficiency, empowerment, and confidence; increased work quality through consistent practices, improved methods for capturing organizational knowledge, the ability to easily scale the solutions to thousands of workers, new methods for training difficult to reach and distributed workers, and increased worker capacity as performance support should limit the number of help desk calls and informal asks for help (Altalib, 2002; McManus & Rossett, 2006; Raybould, 1995). It is important to note, however, that although the business case for performance support has been discussed since the early 1990s, there is limited empirical research available. Many of these assertions are based on the opinions, experiences, and beliefs of the authors. However, there is some peer-reviewed research available on the effectiveness of performance support that validates the notion that implementing performance support solutions can significantly improve individual performance and attitudes.

As early as 1985, Duncan conducted a meta-analysis of research on the application of job aids to train military personnel. Results showed that user performance improved in 20 of the 22 military job aids studies conducted between 1958 and 1972. Duncan (1985) concluded that job aids can produce more accurate performance in less time.

Hunt et al. (1998) conducted a meta-analysis on clinical decision support systems in the medical field. The researchers reviewed a total of 68 studies. The performance support systems ranged in application from patient diagnosis, drug dosing, and preventative care. The results showed that employee performance was improved in 42 of the studies reviewed, was not significantly impacted in 19 cases, and decreased in only 7 studies.

Darabi et al. (2004) explored the question as to whether performance support can assist graduate students in learning complex cognitive skills. The students used a performance support system during a performance analysis course to plan and organize their tasks and to report their results. Although this study involved a very small sample size, results indicated that the participants' attitudes towards performing a successful analysis improved significantly after using the performance support solution. Results demonstrated a 10% increase in students' confidence that they could conduct a human performance analysis and a 21% increase in confidence that they could conduct environmental and organizational analyses.

Nguyen and Klein (2008) conducted an experimental study to investigate the effectiveness of delivering training alone, delivering training combined with performance support, and providing performance support alone. They found that combining training with performance support produced the highest scores and was most preferred by the participants.

Even with the espoused benefits and the available research on effectiveness, performance support is still not a commonly implemented L&D solution, hence the purpose of this study.

Purpose and Significance of the Study

After being introduced in the early 1990s, performance support is still an evolving discipline. As revealed in the literature, there is no agreed upon definition of performance support. There is confusion around terminology. The terms electronic performances support systems, performance support solutions, performer support, performance-centered design, and workflow learning all emerge, with no one singular definition or agreement on the concept (Villachica et al., 2006). There is limited alignment on what performance support is, when to use it, how to develop it, what technologies are available, and how to successfully implement it. Additionally, many organizations are still unaware of performance support as an option, and others are struggling to

understand it and include it in their learning strategy (Bersin, 2018; Gottfredson & Mosher, 2011).

The purpose of this research is to study the adoption of performance support solutions in organizations and explore the following questions: Why do learning professionals in internal learning departments still focus on traditional learning methods? What are the events and experiences that lead senior L&D professionals to adopt and implement performance support solutions in their organizations? How have organizations adopted performance support solutions?

The significance of this study is to provide new research and insights to continue to advance the discipline of performance support within the L&D professional communities. There are a reasonable number of empirical studies available on the design and effectiveness of performance support solutions, but there is a gap in the academic literature focused on adoption. To guide L&D professionals pursuing the adoption of performance support, it is important to examine what is currently known about them. The outcomes of this study will provide senior learning leaders with recent and relevant information and best practices to help them learn more about performance support, and also help them make informed decisions when considering the adoption of performance support solutions. As Rosenberg (2006) stated, “Building successful performance support solutions is challenging, especially if you don’t think performance support is part of a learning strategy. So buying into the performance support paradigm is the first critical success factor” (p. 201).

CHAPTER TWO: LITERATURE REVIEW

Performance support has the potential to be a highly beneficial learning solution to help improve organizational and individual effectiveness; however, it is not widely used in organizations. The purpose of this study is to explore how learning leaders make decisions to adopt performance support solutions in organizations. Exploring and sharing the questions that leaders ask, the challenges and events that drive leaders to adopt performance support, and the experiences they have during the adoption processes can help other leaders make better informed decisions and advance the discipline of performance support in the L&D community. A review of the available research was undertaken to identify common themes in the body of literature related to the adoption of performance support. There are five sections in this chapter, beginning with an overview and definition of performance support. This is followed by sections focusing on the uses of performance support, potential benefits of performance support, and an examination of the available empirical evidence of its effectiveness. The review then shifts to explore diffusion of innovation theories and how they can be used to help understand the challenges of adopting performance support solutions. My core argument in this chapter is that performance support is an effective solution that can have significant impact on organizational performance. However, it has not been widely adopted in the L&D community. More research needs to be conducted to better understand the decisions L&D leaders make to implement performance support. The findings from this research can help advance the disciplines of performance support and performance improvement within the L&D community.

Performance Support Solutions: An Overview

In this section, I will describe the evolution of performance support and its connections to L&D. Understanding the relationship between learning and work has been an evolving

discussion through the centuries. One of the earliest approaches to workplace learning was the apprenticeship model when artisans and tradesmen learned from master craftsmen while doing real work (Gery, 1991; Laffey, 1995). As apprentices, workers started by performing simple tasks and progressed their level of expertise by working side-by-side and getting personalized feedback from the master craftsman. Once the apprentice demonstrated the required skills, the support would gradually be reduced and the apprentice would become fully independent (Gal & Nachmias, 2011; Gery, 1991). The apprenticeship method is considered a highly effective learning strategy. However, it requires significant time and effort from experts and is very challenging to scale to large numbers of workers. As the world of work evolved with industrialization, became more information-driven, and needed more specialized skills, the very hands-on and personalized apprenticeship model was no longer sustainable.

Apprenticeship models were replaced with a very different way of learning. Job-related skills training in classroom settings were conducted for workers before they were introduced to the actual work environment. In the 1940s, the military was faced with quickly training thousands of soldiers to prepare for World War II. This prompted the beginning of programmed instruction (Shrock, 1995). Within corporate settings, instructional systems design and training as an organizational function emerged as institutionalized, structured, and controlled versions of the skill transfer process (Gery, 1991). Today, corporate training is an over $200B global industry (Bersin, 2018).

Since the 1970s, organizational training has relied heavily on classroom instruction in which learners are treated as a homogenous group (Gery, 1991). This approach also mirrored the university model of learning. The “master” teaches the knowledge and skills needed to do the work using presentations and other classroom materials that try to represent reality. Workers

started learning the skills in a conceptual way. Opportunities for one-on-one learning, coaching, and feedback while actually doing the work were minimalized. This type of learning happens before doing the job, not while performing the job, arguably, when workers need the most support.

Critics argue that more structured, group-based learning that occurs before actual job performance has an impact on the transfer and application of the training to the job and, therefore, on overall organizational performance (Bastiaens et al., 1997; Gery, 1991). Laker and Powell (2011) asserted that the inability to transfer any form of training usually results in an extremely costly waste of time, energy, and money, estimated at $50–$200B annually. This is not to say that all training is waste. There will always be a need for structured, in-person learning. Organizations need to have a clear strategy that defines the full ecosystem of learning that is required for leadership and high performance (Rosenberg, 2014).

In the late 1980s, a new approach was forged. Gloria Gery, a learning and performance executive at AT&T, was exploring solutions to improve performance by bringing relevant knowledge and learning closer to the actual work and extending the concepts of apprenticeship, given new ways of working and technologies. She is widely credited for introducing the term Electronic Performance Support Systems (EPSS). Gery (1989) defined EPSS as

> An integrated electronic environment which is available to and easily accessible by each employee and is structured to provide immediate, individualized online access to the full range of information, software, guidance, advice and assistance, data, images, tools, and assessment and monitoring systems to permit him or her to perform with a minimum of support and intervention by others. (p. 65)

Gery (1991) advanced her thinking on EPSS in her seminal book, *Electronic Performance Support Systems: How and Why to Remake the Workplace Through the Strategic Application of Technology.* She advocated against traditional training programs and argued for

more on-demand or "just-in-time" learning that occurs in the context of real work. She asserted that rather than providing vast quantities of learning to workers outside of the context of work, for example, through computer-based training programs, learning portals, and so forth, we should provide individualized access to a full range of tools and systems to assist and improve job performance. Gery's work created a lot of excitement and questions within the L&D community. Several practitioners and academics began engaging in conversations and experimenting with performance support solutions in different settings. Through an examination of case studies and research, it is evident that performance support can be used to solve a wide range of performance challenges in organizations.

How Performance Support is Used in Organizations

Understanding the ways in which performance support is used could influence leaders in their decisions to adopt performance support solutions. Performance support has been implemented across a wide variety of organizations and industries including retail, advertising, financial services, manufacturing, healthcare, military, and education. When performance support systems were first conceptualized in the 1990s, the case study examples of how it was used were mostly online help tools embedded into large software systems, such as enterprise resource planning systems and customer relationship management systems (Chang, 2004). In the 2000s, performance support solutions have expanded into different areas including procedural support, sales support, and onboarding.

There are several examples of performance support solutions designed to help employees complete procedural tasks. For example, Kasvi and Vartiainen (2000) demonstrated four examples of how performance support was used to help workers complete complex build and assembly tasks in a manufacturing environment. One of their case study examples included a

system to help shop floor workers assemble a compact disc player. Chabrow (2005) described the use of performance support by an auto dealer who tested a wireless headset with a flip-down screen to allow mechanics to search and consult manuals to support auto repair procedures. McManus and Rossett (2006) provided details of an example from the U. S. Coast Guard of a mobile system that helps Coast Guard officers conduct law enforcement inspections by boarding officers. The system provides the officers with vessel details that they need to initiate a vessel inspection. Gal et al. (2017) created a tablet-based performance support tool to assist helicopter repair engineers perform maintenance tasks. Clearly, there are significant examples of how performance support can be used to help employees complete procedural tasks.

In addition to supporting the completion of procedural tasks, there are some examples of performance support being used to assist learners with more complex, cognitive activities, such as preparing for sales calls and onboarding. Hueftle (2005) created a performance support solution for advertising sales professionals. These professionals spent the majority of their workday out of the office on sales calls. To accommodate that work environment, Hueftle created a mobile performance support tool that could be used remotely for conducting market research and searching product information and sales information.

Nekvinda (2011) cited an example from the loss mitigation department within a large national bank seeking to reduce the onboarding time for new collectors. The performance support solution provided on-demand training, advice, and support as part of the bank's collection software application. Additionally, it provided a searchable repository of collection procedures and legal advice for each of the 50 United States. This solution shifted utilization from just software support to support of more complex decision-making processes.

In addition to the different uses of performance support across a wide range of settings and organizational challenges, the professional conversations around performance support espoused a number of benefits. The next section explores the potential benefits of implementing a performance support solution. These benefits could influence the adoption decisions of leaders in organizations.

The Promise of Performance Support

Performance support as a concept garnered much admiration in the early days. As the concept continued to evolve, there were high hopes of the benefits it could bring to organizational learning and performance. These included tackling the challenges of transfer and cognitive load in traditional learning, personalized learning and support, learner motivation and attitudes, improved productivity and quality, cost savings, and providing support to hard-to-reach workers. To fully understand the adoption issues with performance support, it is helpful to understand what has been promised by the implementation of these solutions.

Learning Transfer

An ongoing challenge in the L&D community is centered on how much of what an individual learns in a training program he or she can apply directly to their job performance. There has been significant research into retention and transfer. Herman Ebbinghaus (1885) was the first to study the relationship between how much learners retained and the time since their participation in training. Through his research, he theorized that depending on prior knowledge and experience, learners can rapidly forget up to 90% of what they learned unless there is repetition. Ebbinghaus called this diminishing retention of learning phenomena the *forgetting curve* (Lanese & Nguyen, 2012). Murre and Dros (2015) were able to replicate Ebbinghaus's study with similar results. Thalheimer (2010), a skeptic of Ebbinghaus's research, analyzed 14

peer-reviewed studies on memory and retention. He concluded that learning is a complex process, and the amount that a learner retains depends on many variables including the type and difficulty of material being learned, learner motivation, learning methods used, and so forth. He agreed that forgetting is a significant issue in learning and retention, and stated the following

> To be practical, while we as learning professionals won't be able to predict with certainty how much our learners will forget (unless, of course, we do multiple research studies on our own learners), we can still reliably predict that our learners will be faced with forgetting of the type represented in the forgetting curve. Without intervention or application, our learners will forget a higher percentage of what they learned soon after learning... (p. 28)

Despite the issues with forgetting and learning transfer there is still significant emphasis on traditional training in many organizations. However, organizations also report a failure to develop the skills required for effective job performance (Grossman & Salas, 2011). Grossman and Salas estimated that only 10% of training expenditures transfer to the job, highlighting a glaring gap between formal learning efforts and organizational outcomes.

One of the responses of the L&D community has been to develop and deliver just-in-time learning, to situate the learning in the actual job environment as close to the time of need as possible (Laffey, 1995). This is perhaps a step in the right direction. However, the learner still needs to step away from their work to participate in the learning and translate what they learned back to the job.

Gery (1991) argued that much of what we know, we learn on the job. She connected her conceptualization of performance support systems to situated cognition learning theory. The whole premise of performance support is that individuals learn while performing the task in the context of real work. There is no need to step away from the job to learn something in a formal way, but that the steps and easy to access resources are available at the exact moment of need. Situated cognition learning theory emerges from the constructivist paradigm which posits that

learning is an active process in which learners construct new concepts and ideas based on their current knowledge and experience. It also implies that the situation in which learning occurs makes effective learning possible and cannot be separated from the knowledge being taught. Ergo, learning happens most effectively while situated in meaningful contexts (Brown et al., 1989). Gery (2002) simplified the definition of situated learning as learning that occurs while doing. She defined characteristics that should be considered in the design of performance support systems to assist the learner in gaining relevant knowledge in a situated manner. These characteristics include providing (a) authentic context that reflects the way the knowledge will be used in real life, (b) authentic activities, (c) demonstrations of expert performances and model processes, and (d) coaching and scaffolding at critical moments. Gery argued that it is faster and cheaper to provide resources in the real work context than to attempt to simulate work in an instructional context. Habelow (2000) and Rosenberg (1995) concurred with Gery that performance support focuses on the performance of a skill, rather than learning about a skill. Some reports claim that more learning takes place while the worker is performing versus learning in a formal training environment (Laffey, 1995; Raybould, 1995). Gery's thinking and approach set the stage for shifting the paradigm from a focus on training and learning to a focus on improving performance using performance support systems to aid learners in the context of their real work.

Additionally, Gery (1995) claimed that performance support systems can be the "digital equivalent of the experience of working with a knowledgeable person who both anticipates needs and responds conditionally" (p. 76). A performance support solution can be designed to support learning and performance through cognitive apprenticeship. The performer assumes a role similar to that of an apprentice and learns the use of cognitive tools through the authentic activity

while being coached by an expert who provides support as needed (Brown et al., 1989). Both Brown et al. (1989) and Sherry and Wilson (1996) claimed that the best way to develop expertise is not through traditional formal classroom-based learning, but rather through cognitive apprenticeship. They emphasized that performance is learned though authentic problem solving in authentic contexts, by observing experts who role model the desired performance. Performance support solutions can be designed using this strategy to incorporate digital expert step-by-step instructions, best practices, and even in-the-moment feedback that can be invoked during actual job performance. What is significant about situated cognition and cognitive apprenticeship is the recognition that the knowledge we use in day-to-day work is predominantly acquired and shaped by the work. Knowledge and skills that are acquired in training programs that take employees away from the actual job performance are abstracted from real world experiences and may play less of a role in job proficiency than we have previously believed (Laffey, 1995).

Cognitive Overload

Cognitive load is a key issue in learning tasks. Many traditional training programs are packed with abundant content that makes it challenging for the learner to understand and retain all that is learned. This is closely connected to the inefficiency of transferring what was learned in a formal training event to job performance. Law (1994) contended that job performance requiring workers to use and to process large amounts of factual, conceptual, and procedural information and to recall skills infrequently utilized on the job, places high demands on long-term memory. Clark (2011) explained that after new data enter the working memory, they must be processed and integrated into a coherent idea. New ideas must then be integrated with preexisting knowledge and experiences stored in long-term memory schemas. This processing

requires bandwidth in the already limited capacity working memory. A performance support solution can provide an extension of long-term memory and reduce the working memory load. This includes strategically chunking the learning into smaller, manageable "nuggets" of learning and spacing the learning over time (Clark, 2015). Ebbinghaus (1885) first described spaced learning in conjunction with his forgetting curve theory. He posited that the spacing effect of distributing practice opportunities over time supports the learning process and further integration of the content by the learner. Using cognitive load theory (Clark et al., 2006; Sweller, 1988), performance support designers can provide the performer with just the right amount of information, tools, quick steps, and learning to support cognitive efficiency. Using cognitive load theory focuses on techniques for reducing working memory load in order to facilitate changes in long-term memory to accommodate the acquisition of new schema.

A major goal of any performance support solution is to minimize the effort put forth by the performer to accomplish a task in the time allowed. Cole et al. (1997) stated that performance support is actually a paradigm shift for learning organizations because, in effective performance support, "knowledge delivery takes place soon enough that it is applied to the appropriate situation and late enough that the user does not have to go through training or information overload" (p. 50).

Personalized Learning and Support

No two learners are alike. They are at different stages of knowing and understanding. Some learn faster than others. However, in the traditional, structured, group training solutions, all learners go through the exact same experience at the exact same time. Trainers have long struggled with how to support learners that want to move ahead and learners who need more time on certain topics. In a performance support solution, there is no predetermined sequence. The use

of performance support is determined by the need of the user (Gottfredson & Mosher, 2011). A novice and an expert may use it differently. Nguyen (2006) argued that a novice and an expert may use performance support differently. A novice may follow it step-by-step and access all of the resources, while an expert may only go to the system to access guidance on a task rarely performed or to trouble shoot a specific situation. Laffey (1995) contended that the beauty of performance support is that it provides contextually relevant information for a dynamic work environment and a variety of experience levels.

Related to this notion of "what you need when you need it" is the concept of scaffolding. Gery (2002) suggested that the concept of scaffolding is central to the design of performance support solutions. Cagiltay (2006) explained scaffolding as a process beginning with an expert or facilitator offering appropriate support structures that initiate and sustain learner interest. As learners gain more confidence and control over the task, the support is gradually withdrawn and the learner takes more control. Cagiltay also described four different types of scaffolding designs within a performance support solution, including (a) conceptual scaffolding, which guides learners through supporting knowledge indicating which concepts to consider when; (b) metacognitive scaffolding, which guides learners through what has been achieved and what is next; (c) procedural scaffolding, which guides learners to available resources and tools and how to use them; and (d) strategic or intrinsic scaffolding, which guides learners to solve potential problems. Clem (2007) recommended three characteristics of effective scaffolding. First, scaffolding should extend the knowledge and skills of the performer, allowing the performer to complete tasks that might not have otherwise been possible. Second, scaffolding should be available to the performer at the exact moment of need, allowing him or her to choose how to complete a given task. The third characteristic is that scaffolding is available for use at the

performer's discretion. The performer can increase or reduce the amount of support needed at any given time.

This definition and description of scaffolding, a design technique that enables personalized learning and support, applies directly to the performance support design pyramid (Figure 1) developed by Gottfredson and Mosher (2011). Using the pyramid, the designer creating a performance support solution analyzes all learning assets available for a given task and organizes them in such a way to allow effective scaffolding to occur.

Figure 1

The PS Design Pyramid

Note. From "What we got here is…an EPSS" by C. Gottfredson, 2013. Reprinted with permission.

Improved Motivation and Confidence

A worker's confidence in his or her ability to perform the job can, arguably, have a positive impact on motivation and job satisfaction. Bezanson (2002) claimed that having access to performance support can enhance a learner's confidence and competence. The learner's confidence increases because he or she has access to just-in-time support resources to handle any task presented to them. The learner's competence increases because he or she is learning while

doing, as opposed to learning and then doing, or trying to do. The learner is supported in their performance with just enough information, and just when they need it, to successfully perform their job tasks. Bezanson added that learners can develop their competence faster with performance support than by traditional means which can also increase job satisfaction. Raybould (1995) corroborated Bezanson's claims and asserted that performance support can increase employee self-sufficiency and empowerment. A few researchers have explored the relationship between use of a performance support system and learner confidence and motivation. Wild (1998) introduced a lesson planning performance support tool to a class of future teachers. In her research, students consistently stated they felt more confident in their lesson planning skills through the use of the performance support tool. Stoyanov and Bastiaens (2005) tested using performance support systems with university students. Via a post course questionnaire, the students using a performance support system to complete the course reported that the system helped their independent learning and increased their motivation to study. The students also recommended that performance support should be included in teaching other subjects.

Nguyen and Klein (2008) also explored user attitudes and performance support. Seventy-eight employees from multiple companies participated in the study and were randomly assigned to one of three treatment groups: training only, performance support only, or training and performance support. The task was to complete a corporate tax return form in a tax software application. Post the completion of the study, participants were sent an eight-item attitude survey asking about the usefulness of the training and support content, the quantity of learning provided, their satisfaction with the system, confidence completing the task, and rating the amount of time they spent learning the task. A subset of the participants was also interviewed. Results revealed

that participants receiving only performance support and performance support plus training had significantly higher attitudes than participants who received only training.

The assertion is that performance support solutions can improve a learner's confidence and motivation, which may also lead to improved job satisfaction. There have been a few studies that touch on this benefit, but more research is necessary to empirically validate this assertion.

Improved Productivity and Quality

There are many claims that performance support solutions have the potential to improve productivity and quality in job performance. Rosenberg (2006) and Altalib (2002) suggested that through the development and use of uniform work practices, performance support fosters consistent and reliable performance of job activities. This can, arguably, lead to reduced errors and waste.

Both Altalib (2002) and Villachica et al. (2006) inferred that performance support allows for increased worker autonomy which, in turn, allows the user to find answers to questions independently; therefore, requiring less supervisory time, help desk time, and informal peer questioning time. Nguyen et al. (2005), van Schaik et al. (2007), and Wild (1998) all conducted studies that revealed the use of performance support decreases time on task. They claimed this leads to improving overall organizational productivity and capacity, as well as cost savings.

Cost Savings

It would make logical sense that if users can learn to do their job via an electronic system, there could be a reduction in formal training, which could result in overall costs savings to the organization (Altalib, 2002; Brown, 1996; Raybould, 1995; Villachica et al., 2006). To help organizations calculate this, Desmarais et al. (1997) developed a cost-benefit analysis methodology for performance support solutions. Their approach relied on a number of factors

including an estimated 20–25% reduction of initial training due to implementation of performance support, the cost to develop performance support technology, and the cost to develop the support content itself.

Altalib (2002) also developed a return on investment (ROI) approach that examined the potential benefits derived from performance support systems, including reduction in the time required to perform a task, reduction in waste, improved morale, and competitive advantage. Altalib's method is a five-step process to convert measures into monetary value. Using ROI calculations, the author argued that the rate of return and breakeven point for a potential performance system could be calculated before design begins, assisting organizations in making adoption decisions. Cost is a key concern in most organizations and a factor in the potential adoption of performance support solutions.

Providing Support for Geographically Distributed Learners

Performance support arguably can address another challenge faced by learning professionals—workers that are hard to reach. An example of this challenge is an organization that needs to onboard a small number of employees that are distributed across office locations. Many times, these new hires will not attend any formal orientation or training with a group. Having performance support solutions available for these learners can help accelerate their learning and job performance (Brown, 1996; Raybould, 1995).

Another recent example of this is a global insurance company that created a robust performance support solution covering the job task requirements across most departments. As soon as the COVID-19 pandemic forced organizations to close office locations and shift to virtual work, this insurance company was able to seamlessly continue its operations because all

employees had access to the performance support they needed to effectively do their job (Mosher & Wagner, 2020).

In summary, since its inception in the early 1990s, many academics and professionals have purported several benefits of performance support as an L&D solution. These benefits include supporting the transfer of learning to the job, providing learners just enough information at the time of need to manage cognitive overload, improved confidence to perform work, improved productivity, cost savings, and a solution for hard-to-reach learners. However, most of what has been shared about performance support comes from opinions, descriptions, and anecdotal case examples. Although these case examples can provide insights into the benefits of performance support and how to design and implement performance support, there is very little empirical evidence to support these claims. Most of the available academic research has been conducted around the effectiveness of performance support solutions.

Performance Support Effectiveness

What is the evidence for the effectiveness of performance support as a means of organizational learning? The evidence is there; however, it is limited, and studies often produce mixed results. This section explores the available research on performance support effectiveness including comparing performance support to traditional training interventions, the effectiveness of different types of performance support, and the effects of performance support on user productivity and time to complete a task.

Comparing Performance Support to Traditional Training Interventions

Most of the available studies are comparisons of performance support solutions with traditional training interventions. Underlying much of this research is the notion that traditional training tends to be disconnected from the job context and therefore ineffective (Gery, 1991;

Nguyen & Klein, 2008). For the most part, this research concluded that the use of performance support solutions has a positive impact on employee performance.

An early study comparing performance support to traditional in-person training produced mixed results. Bastiaens et al. (1997) evaluated the effectiveness of performance support to enable learning and improve productivity of field agents in a large Dutch insurance company. They found no significant differences between performance support compared to traditional classroom training. They also found no significant impact on sales performance for those agents using performance support. In fact, Bastaiens et al. found that the participants preferred face-to-face training to the use of the performance support system. Many factors could have contributed to these results including the design of the solution, the technology being used, and the newness of technology-based solutions to the participants. Additionally, the findings of this study are difficult to interpret broadly due to a small sample size.

Mao and Brown (2005) conducted a study comparing the effect of both instructor-led training and performance support on learning how to use Microsoft Access. Ninety-two beginning Microsoft Access database users were randomly assigned to either instruction only or online task support only test groups. Participants in the instruction-only group received one hour of lecture and practice. The participants in the online task group worked through the online system to complete tasks. The researchers took great care to ensure that subjects in both conditions would be exposed to the same content. All participants were given a performance-based assessment to complete post their assignment. The researchers determined that learners provided with performance support outperformed the training-only group on higher-level tasks. However, they found no significant difference on the performance of lower-level tasks. They

concluded that, with regard to overall performance, online task support was comparable to and sometimes better than instructor-led training.

In addition to comparing performance support to instructor-led training, Barker et al. (2007) explored the differences between performance support and a web-based training game. In a study of 99 first-year undergraduate students, Barker et al. used a pretest/posttest design to determine what effect performance support solutions had on participants' posttest knowledge of a library classification system. One group of participants was provided with an online performance support tutorial and asked to complete a performance test of their ability to interpret book call numbers and place them in the right order. A second group of participants was asked to take the performance test after completing an instructional game. A third control group was asked to complete the performance test without using any learning solutions. The researchers found that although participants' knowledge did improve following the use of a learning solution, the type of solution had no significant impact on knowledge gained.

Taking the research a step further, Nguyen and Klein (2008) attempted to determine what combination, if any, of performance support and training would have a positive impact on performance. Participants were put into three groups. One group was asked to complete a tax preparation form after taking a web-based training course. The second group competed the tax preparation form using only a performance support system. The third group completed the form after taking the web-based training program and using the performance support. Using a posttest design with 78 total participants, the researchers found that participants using performance support performed better than those only taking the web-based course. Those receiving both the course and performance support performed slightly better than participants in the performance support-only group. Further, results indicated that participants who received training only took a

significantly longer time to complete a task than those participants that have access to the performance support tool. Nguyen and Klein concluded that the use of performance support had an impact on improved performance

Types of Performance Support

In addition to comparing performance support and traditional training methods, some research has been conducted comparing different types of performance support. Van Schaik et al. (2007) tested the use of a performance support system to help 20 undergraduate and graduate students better use library resources. In this experimental design, one group used a performance support system that was designed with step-by-step guidance and integrated access to resources and the control group used the standard library help website. Each group was given six tasks to complete using their assigned system. The use of the two sites were compared in terms of task performance, efficiency, and speed. The results indicated that overall correctness of task completion was 75% for the performance support group and 40% for the library website. Additionally, the performance support group was found to be significantly more efficient at finding the right material to complete the task than the library website group. Overall, results revealed that task performance and efficiency were improved when participants used the performance support system.

Gal and Nachmias (2011) assessed the performance of 294 call center representatives when using two different kinds of performance support: (a) intrinsic performance support that is completely integrated into the user interface of the system being used or (b) external performance support that is separate from the workspace, such as a knowledge management site or reference guide. Performance was measured in both the learning context and the actual work environment. Measuring participant performance against an absolute competency score, study

results indicated significant positive differences between the performances of the groups using intrinsic performance support compared to the groups using external performance support on time on task and quality criterion measures. When the results were limited to the use of the performance support system as a tool within the work environment, little difference was found between the impact of the external and intrinsic tools on task performance.

In a more recent study, Gal et al. (2017) continued to explore the effectiveness of performance support by researching the usefulness of a tablet-based performance support solution for the Israeli Air Force. Gal et al. compared the use of available paper-based technical manuals as performance support with the use of a tablet-based performance support system. In this study, helicopter mechanic trainees were randomly allocated to two groups. Both groups were assigned to the same task of conducting a maintenance routine of a helicopter engine without any prior training or instructor support. Group A conducted the routine first with the paper-based technical literature and again the following day using a performance support application. Group B conducted the routine only once, using only the performance support application. Both groups completed a test to demonstrate the quality of their task performance and a feedback questionnaire on the experience. The researchers found that the trainees who used the performance support received higher performance scores than those who used the printed materials. The trainees who used the performance support also completed the tasks in a shorter time than allocated. Those who used only printed materials did not finish the assigned tasks in the allotted time. Additionally, those who used the performance support tool reported the learning experience as being more enjoyable. They believed that the tool was motivational and that they were more likely to continue learning with the use of the tool. They also reported

feeling a higher sense of competence using the tool. Overall, the researchers asserted that the use of the performance support system had a significant impact on effectiveness.

User Productivity and Time to Complete a Task

A more granular measure of effectiveness, and a proposed benefit of performance support solutions, is the decrease in the amount of time it takes a user to complete a task. By decreasing the time on task, organizations can increase the productivity of employees and free up capacity to do more. Wild (1998) investigated the effectiveness of a performance support system to assist novice teachers in completing a lesson plan. The researcher directly observed four teaching students in a university teacher education program using the lesson planning performance support tool to complete six lesson planning tasks. Wild found that the time taken to complete a lesson plan task significantly decreased with the continued use of the performance support tool.

Nguyen et al. (2005) explored the effect of different types of performance support solutions by measuring time on task, performer attitudes, and tool usage. The study examined 72 professional employees of a semiconductor manufacturing company who were asked to enter descriptive information into a learning management system. Performance was measured by the number of correct pieces of information entered by the participant. Time on task was measured by calculating the difference between login and logout times of the participant into the learning management system. The study found that any type of performance support improved the scores on the performance and time-on-task, as compared to the control group with no performance support. Van Schaik et al. (2007) also found that students in the performance support group of their university library study demonstrated improved task performance as well as efficiency and speed when aided with performance support.

Overall, the base of empirical research on the effectiveness of performance support is small. What is available sheds mostly a positive light on performance support as a performance improvement solution. It highlights performance support as being as effective as, or more effective than, a formal training solution. However, many of these studies are limited by evaluating the solution in an inauthentic work environment, the use of short-term studies, and small sample sizes. Additional empirical research is needed to truly advance the discipline of performance support.

In summary, the concept of performance support has now been around since the early 1990s and has been viewed as having strong potential to improve job performance. However, the enthusiasm has not been enough to create real traction. Despite the solid rationale for implementing solutions and some compelling success stories, performance support has never been championed or totally embraced by enough organizations to truly shift the field. More traditional and accepted training solutions continue to be at the forefront and the existing training culture and infrastructure have not significantly changed. Many organizations have experimented with performance support. It has been perceived as interesting but not urgent (Rosenberg, 2014). Only 21% of 271 organizations that responded to a training industry survey (Training Industry Report, 2018) claimed to be using online performance support systems. The purpose of this study is to explore why performance support is not being widely adopted. Gaining a better understanding of the decisions leaders make to adopt or not to adopt performance support may uncover new advantages and challenges that can help further advance performance support in the L&D community. The next section examines adoption and diffusion theories and their relevance to the adoption decisions and potential implementation of performance support.

Diffusion of Innovation Theory

Diffusion is defined as the process by which an innovation, or something new, is adopted and gains acceptance by members of a population over time (Surry, 1997). Four key factors that influence the diffusion process are (a) the attributes of the innovation itself, (b) how information about the innovation is communicated, (c) the nature of the social system that is considering the innovation, and (d) time (Rogers, 2003). Diffusion research explores how these factors, and a multitude of other factors interact to advance or impede the adoption of a new idea, product, or practice among members of a certain community. Two theories that might help to explain the adoption of performance support solutions in organizations are Rogers' (2003) theory of perceived attributes and Wisdom et al.'s (2014) context-mechanism-outcome model of adoption. This section presents the substance of these two theories and how they might explain the adoption of performance support in organizations.

Rogers' Theory of Perceived Attributes

Everett Rogers is recognized as one of the leading diffusion of innovation scholars. One of his key theories is the theory of perceived attributes (Rogers, 2003). In this theory, Rogers argued that an innovation will experience increased diffusion if the potential adopters perceive that the innovation (a) has a relative advantage over other innovations, (b) is compatible with existing practices and values, (c) is not overly complex, (d) can be tried on a limited basis before adoption, and (e) offers observable results. The theory of perceived attributes has been used as a theoretical framework for studies on the adoption of technology (Surry, 1997). For example, Dooley and Murphrey (2000) conducted a qualitative study to determine how to increase the adoption of technology in education initiatives. They conducted 42 interviews of administrators and faculty who were familiar with distance education technologies. The results were

categorized as strengths, weaknesses, opportunities, and threats and were analyzed using the perceived attributes theory. The strengths of reaching new audiences and enhancing teaching and learning were found to be a relative advantage. The weaknesses of insufficient incentives were viewed as lacking compatibility with the current environment for participants. Technology was perceived as being too complex. Trialability was limited due to the time and effort needed to convert courses into the new distance format. Observability was found to be nonexistent. The authors concluded that the adoption rate of distance education technologies could be enhanced through revised policies and procedures and the development of new strategies to address the identified critical issues.

Taking a closer look at how potential adopters perceive the attributes of performance support, including the relative advantage, compatibility, complexity, trialability, and observability may provide insights into some of the potential challenges of the adoption and diffusion of performance support solutions in organizations. The next section explores each of these attributes and how it could potentially impact the adoption and diffusion of performance support in organizations.

Relative Advantage

The relative advantage of an innovation is the perception of an individual or organization that the innovation is better than the idea that is the status quo or an alternative idea that is available. Rogers (2003) argued that the degree to which an innovation is perceived as better, the faster the rate of adoption. Relative advantage can be measured in terms of social prestige, satisfaction, cost benefit, and convenience. For performance support to have relative advantage, it would have to be perceived as being a better alternative to traditional, in-person training

methods (Gottfredson & Mosher, 2011). Additionally, it would have to deliver on the promises of efficiency, effectiveness, and cost savings.

Compatibility

Compatibility is the degree to which an innovation is seen as consistent with the potential adopter's values, experiences, norms, and beliefs (Rogers, 2003; Oldenburg & Glanz, 2008). Innovations that fit into an individual's existing understanding will be more easily adopted. If potential learners have a strong preference for in-person training, they may resist the use of performance support, and this could impact the adoption of performance support in organizations. However, Oldenburg and Glanz (2008) built on Rogers' definition and asserted that if potential adopters can adapt, change, and modify an innovation to suit their own needs and context, the innovation will be more easily adopted. Engaging potential learners in the design of the system may support compatibility; and therefore, positively impact adoption.

Complexity

Complexity is the degree to which an innovation is viewed as difficult to comprehend and use (Rogers, 2003). Rogers claimed that innovations can be evaluated on a continuum of complexity from simple to highly complex. The simpler the innovation, the faster the rate of adoption. More complex innovations are less successfully adopted. The perceived level of complexity of performance support systems could be a significant barrier to the adoption of these solutions in organizations. There are several factors that influence this, including ease of use and access of the solution, perceived complexity in implementation, and available technologies. First, the user's ability to quickly access and find the information they need is critical to the usage and adoption of the solution (Gottfredson & Mosher, 2011). Second, the creation of performance support solutions is an interdisciplinary process involving skills from several domains including

instructional design, user experience design, visual design, information design, and technical writing (Carliner, 2002). Coordinating all these resources can make it more complex. Third, limited technology options increase the level of complexity. There are very few packaged technology solutions available and, in many circumstances, implementing a performance support system requires custom development. This requires significant funding. For organizations with smaller budgets, this makes it more challenging to figure out how to implement performance support using existing tools and technologies (Nguyen, 2007). Gery (1991) argued from the beginning that affordable technology options will need to be available as the discipline continues to grow.

Trialability

Trialability is the degree to which an innovation can be available for experimentation. Rogers (2003) posited that if an innovation can be tried, even on a limited basis, it is more likely to be adopted. The ability to try an innovation creates a sense of less uncertainty and risk. Given the lack of awareness and understanding about performance support systems, as well as any perceived complexity with regards to implementation or technology, L&D professionals may not think that it is possible to experiment with performance support systems. They may believe that they will need to incur significant expenses and risk just to try performance support. This could potentially hold back potential adopters from even exploring a performance support solution. (Gottfredson & Mosher, 2011).

Observability

Observability is the degree to which an innovation is visible to an individual. Rogers (2003) asserted that if the benefits of an innovation are easily identified and visible to others, the easier the adoption of the innovation will be. Additionally, if potential adopters can see the

results, they are motivated to communicate with others about the innovation. This can also increase the rate of adoption. Oldenburg and Glanz (2008) also claimed that if potential adopters perceive that everyone else has the innovation, the potential adopter is more likely to want it as well. Given that performance support is still a relatively new discipline and there is limited empirical research available (McManus & Rossett, 2006), the benefits are not as visible to L&D professionals which, according to Rogers and Oldenburg and Glanz, complicates the adoption of the innovation.

While Rogers' theories are robust in terms of the attributes of the innovation itself and the rate of adoption and diffusion in organizations, his theory does not address other important factors in the adoption decision-making process. The next section explores the context-mechanism-outcome model of adoption developed by Wisdom et al. (2014) that explored other key considerations in the adoption decision-making process including external systems, organizational systems, and individual attributes.

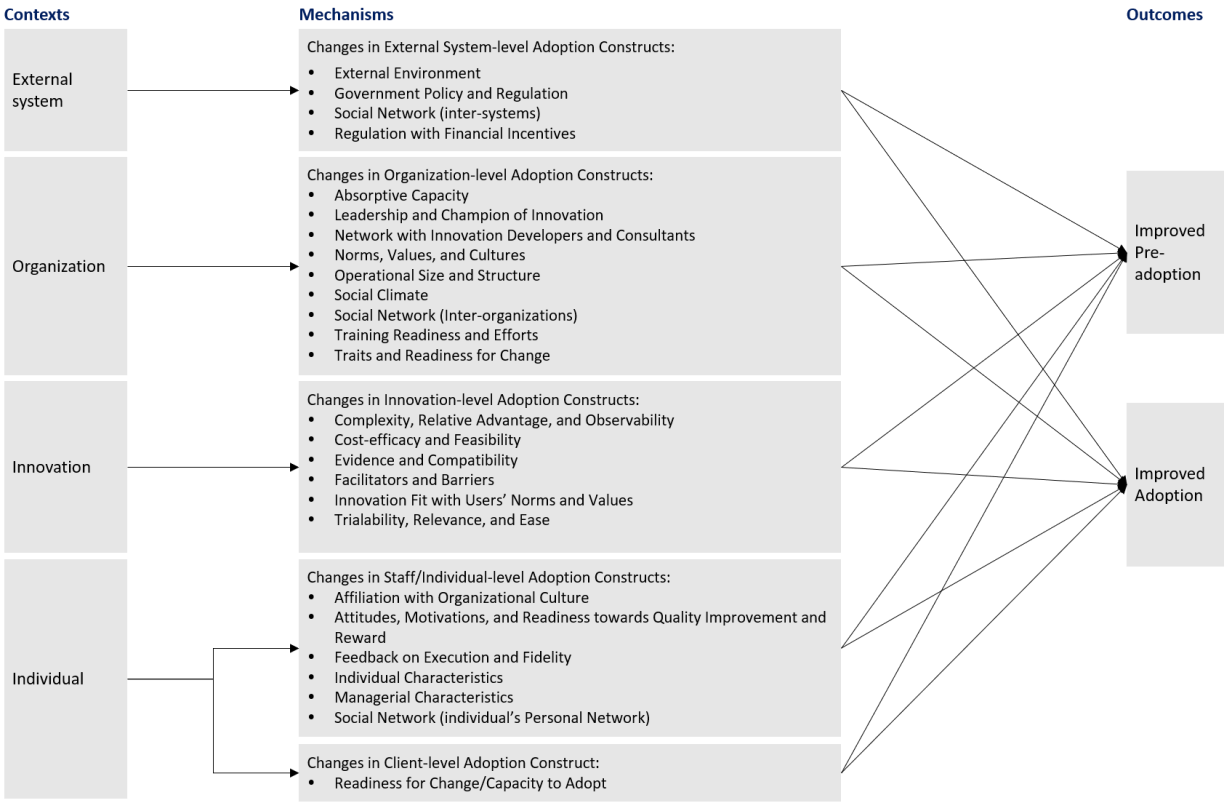
Context-Mechanism-Outcome Model of Adoption

Another model that focuses on both the decision-making processes and implementation activities of adoption is the Wisdom et al. (2014) context-mechanism-outcome model of adoption. Wisdom et al. reviewed the available academic literature on the adoption and diffusion of innovations, and they discovered that there is very little known about the factors relating to the adoption decision-making process. The overall goal of their research was to identify elements across the literature that could be modified and employed to improve evidence-based adoption practices. They synthesized their findings into a theoretical model they refer to as the context-mechanism-outcome model of adoption (Figure 2). The four key components of their model are external systems, organization characteristics, innovation characteristics, and individual

characteristics. The next section reviews the external systems, organization, and individual components of the model and how it could apply to the adoption of performance support. The innovation component in the context-mechanism-outcome model of adoption is based on Rogers' perceived attributes of innovations theory, which has been addressed in the previous section.

Figure 2

Context-Mechanism-Outcome Model of Adoption



Note. From "Innovation Adoption: A Review of Theories and Constructs" by J.P. Wisdom, et al., 2014. Reprinted with permission.

External Systems

As organizations operate within their context and external environments, adoption theories have identified external factors that can influence adoption. These include external

policies and regulations, social networks, and linkages among organizations. These factors can have a positive or negative impact on adoption (Wisdom et al., 2014). Although the concept of performance support has been in existence since the early 1990s, it is still considered a developing discipline (McManus & Rossett, 2006). There is no consistent definition of performance support and no consistent procedures, methodologies, and so forth (Villachica et al., 2006). Additionally, there is limited focus on performance support in the L&D community. As Gery (1991) suggested, in order to develop the discipline, there needs to be a critical mass of people with vision who have the knowledge and skills to proceed. There needs to be a community of practice for performance support.

Another external factor that potentially has an impact on creating common definitions, policies, and procedures, as well as building communities of practice, is the role vendors play in advancing performance support through technologies and services. Some vendors are selling technologies and services as performance support, without truly understanding what performance support is (Gery et al., 2000). For example, instead of helping organizations create integrated systems that support users in the flow of their daily work, vendors are selling them short e-learning modules or online documentation tools under the guise of performance support. This adds substantial confusion to an already confusing discipline (Carliner, 2002).

Organizational Systems

At the organizational system level, the adoption process can be complex. How an organization deals with change overall can have a significant impact on the successful adoption of innovations. Culture, leadership engagement and availability, and alignment of resources can impact adoption of an innovation (Wisdom et al., 2014).

Culture is the held norms, assumptions, attitudes, and beliefs of an organization (Clark, 2008). An organization's shared values can advance or deter the acceptance of an innovation (Wisdom et al., 2014). An organization's learning strategy and culture could hinder the adoption of performance support. If an organization delivers primarily in-person instruction and does not offer any digital learning to its employees, the shift to using performance support systems may be more difficult (Lanese & Nguyen, 2012). Introducing performance support could be challenging as it may threaten the status quo and organizational preferences.

Having the right organizational leaders involved in the adoption process is critical and required to support any change effort. Typically, an innovation is explored when a leader or sponsor feels dissatisfaction with the status quo (Rogers, 2003; Wisdom et al., 2014). It is important for the leaders to view the change as necessary. It also helps if the leaders have experience with innovation adoption (Wisdom et al., 2014). Gery (1991) claimed introducing performance support in an organization is a significant organizational change effort, which requires senior leadership and sponsorship. She defined sponsorship as the political, logistical, and financial leadership for an activity (Gery, 1991).

Another organizational factor that could affect the adoption of performance support is the cross-discipline nature of the solution. Resources from many departments need to be available to support the implementation and ongoing sustainability of the solution. They must also be aligned on the goals and approach. McManus and Rossett (2006) posited that different components of performance support systems are owned by different parts of an organization. For example, in many organizations, the chief information officer controls information; the chief technology officer owns software and products; the chief human resources officer owns motivation and learning; line managers own the operations and people. The availability of these resources and

gaining alignment requires sophisticated sponsorship, political savvy, articulated and shared goals, and collaboration.

Organizational factors, such as culture and shared values, leadership and sponsorship, and availability and alignment of resources across disciplines can advance or hinder the adoption of performance support in organizations.

Individual Attitudes and Motivations

Individual attitudes and motivation for adoption, particularly positive attitudes toward change and quality improvement, are also important for successful adoption (Wisdom et al., 2014). Individual characteristics such as level of skills and experience, innovativeness, tolerance of ambiguity, and tendency towards risk taking are associated with increased adoption. Understanding performance support systems usually starts with individual L&D professionals. Many L&D professionals are steeped in the traditional instructional systems design (ISD) paradigm. The main goal of ISD is to create repeatable, formal learning experiences, through detailed needs analysis, audience analysis, learning objectives, practice, and feedback—all of which takes place away from the workflow. These professionals may prefer and espouse training as the optimal solution and are not open to changing to a performance-centered focus on learning and development. They do not want to give up what they know and love. Rosenberg (1995) argued that performance support is a significant paradigm shift for the L&D profession. He criticized many L&D professionals because they are locked into a linear model and culture that focuses on learning as an event or product. Carliner (2002) adds that L&D roles need to change from creating and delivering training to improving workplace performance and business results. This traditional training mindset of L&D professionals can be a barrier to exploring and adopting performance support systems.

In summary, the combination of Rogers' (2003) perceived attributes of innovations theory and Wisdom et al.'s (2014) context-mechanism-outcome adoption theory provides a strong theoretical framework for exploring the adoption of performance support in organizations.

Chapter Summary

Gery's concept of integrated performance support was introduced in the early 1990s, with the hopes of shifting the L&D field in a new direction that focuses on workplace performance, rather than solely on traditional training methods. There have been numerous professional case studies, white papers, and opinion pieces on the merits of this paradigm. There have been some empirical studies conducted that demonstrate the effectiveness of the solution and shine a positive light on the potential of performance support. I have personally witnessed tremendous success from these solutions. Yet only 55 of 271 organizations responding to a training industry survey (Training Industry Report, 2018) claimed to be using online performance support systems. The question remains why are they not being adopted in more organizations? What is holding back the diffusion of an innovation that can potentially have tremendous impact on organizational performance? There is a significant gap in the academic literature addressing these questions.

The purpose of this research is to study this phenomenon and better understand the factors that drive organizations to adopt performance support. The research question being explored is, *What are the events and experiences that lead senior L&D professionals to adopt and implement performance support solutions in their organizations?*

CHAPTER THREE: METHODOLOGY

The purpose of this research is to explore and contribute knowledge on the adoption of performance support solutions in organizations. The specific research question for this study is, *What are the events and experiences that lead senior L&D professionals to adopt and implement performance support solutions in their organizations?* Given the exploratory nature of this study, it was grounded in the principles of qualitative research. This chapter describes the qualitative research approach, the selection and recruitment of the participants, ethical procedures, data collection methods, data analysis procedures, and lessons learned from the pilot study.

Qualitative Research Method

The goals of this research were to (a) examine the information, events, and criteria that leaders use to make decisions to adopt performances support solutions, (b) contribute to the academic literature regarding the adoption processes of performance support, (c) identify common themes and best practices of successful adoption that can better educate and assist learning leaders in making performance support adoption decisions, and (d) help advance the discipline of performance support in the L&D community. This was a deep exploration into the experiences that senior L&D leaders have had with performance support. The research method for this study was semi-structured, in-depth qualitative interviews. Qualitative researchers believe they can get closer to the participant's perspective through detailed interviewing and observation (Patton, 2015).

Merriam and Tisdell (2015) asserted that qualitative studies are common forms of research in education and organizations. They seek to explore, discover, and understand a phenomenon, a process, and the perspectives and worldviews of the people involved. Qualitative interviewing was ideal for this type of exploratory study as it uses open-ended questions to

collect rich, detailed descriptions and data in the participants' own words (Marshall & Rossman, 2016). Patton (2015) elaborated that there is a very practical side to qualitative methods that simply involves skillfully asking open-ended questions of people and observing matters of interest in real-world settings to solve problems, improve programs, and create policies. This form of qualitative research is called open-ended or generic qualitative inquiry (Merriam & Tisdell, 2015; Patton, 2015).

An open-ended qualitative research design was selected for this study for several reasons. First, a qualitative approach is appropriate to support the exploratory nature of the inquiry and to allow participants to describe their experiences (Patton, 2015). This study was exploratory and descriptive, which revealed an increased understanding of the decisions leaders make to adopt performance support. Second, this approach allowed for a variety of responses and opinions to surface during the inquiry, creating a rich set of data for analysis. Finally, qualitative research is not fixed or preemptive, but rather is typically an ongoing process, with understanding emerging from the data as the analysis unfolds (Richards & Morse, 2013). Thus, qualitative interviewing offered a degree of flexibility and the ability to further probe participants as necessary. In summary, using this method provided better access to what the participants consider to be meaningful and picked up on information that may not have been anticipated in their decision-making process. It provided a flexible approach allowing the opportunity to uncover new insights and make unique connections about performance support.

Selecting the right participants for the in-depth interviews was critical to gathering rich descriptive data for analysis. Marshall and Rossman (2016) stated that "The generativity of the interview depends on the individuals and their willingness to engage in a deep discussion about

the topic of interest “ (p. 148). The next section reviews the participant selection and recruitment processes for this study.

Participant Selection and Recruitment

The participants for this study were selected using purposeful sampling from my professional network. Purposeful sampling is the primary sampling strategy in qualitative research (Cresswell & Poth, 2018). It means that the researcher selects individuals for the study because he or she can purposefully inform an understanding of the research question and the core phenomenon in the study. Patton (2015) agreed, “Purposeful sampling is used to select information-rich examples to study that by their nature and substance will illuminate the inquiry being investigated” (p. 264). The specific selection criteria for this study were

- Senior L&D professionals, including chief learning officers, directors, and managers.
- Each leader must have experience leading large-scale L&D initiatives.
- Each leader must have implemented at least one performance support solution.

In addition, I selected participants from a variety of industries, including financial services, healthcare, insurance, manufacturing, and retail. The aim was to look for common themes across a variety of characteristics so that information relating to different circumstances and phenomena can be examined (Moore & Orey, 2008).

As far as sample size, Lincoln and Guba (1985) recommended sample selection “to the point of redundancy…If the purpose is to maximize information, the sampling is terminated when no new information is forth coming from new sampled units; thus, redundancy is the primary criterion” (p. 202). I invited 17 L&D leaders from my professional network that met the criteria to participate in the study. All 17 eagerly accepted the invitation, with one requesting that an experienced team member also joins the interview.

Ethical Procedures

Once potential participants were identified, I followed the procedures set forth by the Institutional Review Board (IRB) to conduct this research. The IRB approval ensured that the research was compliant with the ethical standards determined by the review board. This included obtaining informed consent from each participant, so that their rights are protected throughout the research process. The informed consent forms were intended to give participants the background on why the study was being conducted and information on the confidentiality of the data to guarantee their privacy. To start the communications with potential participants I sent them an email invitation to participate in the study. See Appendix A. Once I received a positive response from them, I sent them an email with the informed consent form attached for them to sign and return to me prior to the interview. See Appendices B and C. All participants signed and returned the informed consent form.

Participation in the study was completely voluntary. In the consent form, participants were notified that they may withdraw at any point in the research process for any reason. There would be no consequences for withdrawal and all data collected from them would be removed from the final study. There were no issues with any of the participants. All were very eager to participate and share their experiences.

Data Collection

Once the participants confirmed their participation and IRB requirements were satisfied, data collection began via semi-structured, in-depth interviews. Interviews were scheduled via email communications.

Each interview was set up for 75 minutes. Given the current environment with the COVID-19 pandemic, all interviews were conducted using video conferencing technology.

Sixteen of the interviews were conducted using Zoom. One participant was unable to use Zoom due to his company's security policy. Microsoft Teams was used for that participant interview. The interviews were recorded in Zoom/Microsoft Teams and then transcribed using an external service called Rev.com. I reviewed Rev.com's confidentiality and security protocols prior to engaging with them to ensure that all participant data were handled with respect. I received the transcriptions from Rev.com within 48 hours of submission. After comparing the transcripts to the video recordings, very few corrections needed to be made. A back-up plan using the telephone and recording device was also available in case there were any challenges with technology or Internet connections. There were no issues.

Interview Protocol

Prior to each interview, I meditated for 10 minutes to help me get centered and focused on the conversation. I also used this as an opportunity to reflect and remind myself to be curious and open to all new information, a strategy to help mitigate researcher bias. I began each call with a brief introduction, reviewed the agenda, and discussed the informed consent and ethical issues. As part of the informed consent process and interview protocols, I asked each participant if they approved the recording of the interview. Once they verbally agreed to the recording, I began the interview process by asking a few warmup questions about demographics, for example: What is your position? How long have you been in your current role? How long have you worked in L&D?

This was followed by an open-ended, semi-structured approach to gather as much detail from the participants as possible about their experience with performance support. Given the flexibility of qualitative interviewing, specific prompts and follow-up questions were used to

clarify points or go into more depth, depending on the previous responses of the participant. Example questions:

- Tell me about the first time you experienced the idea of performance support.

  Follow-up prompts: Where were you? What were your thoughts about it?

- Tell me about the first time you implemented a performance support solution.

  Follow-up prompts: How did you decide to get started? Tell me about the process.

I closed each interview by asking if there was anything else they would like to add, thanking the participant for his or her time, and discussing next steps and potential follow-up. See Appendix F for the full interview guide.

Data Analysis Procedures

Qualitative data analysis entails reading and reflecting on large amounts of transcripts and notes looking for similarities or differences, and subsequently identifying themes and creating categories. Thematic analysis was the method used to analyze the qualitative data from this research. Braun and Clarke (2012) defined thematic analysis as "a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set" (p. 57). Braun and Clarke (2006) recommended a six-phase process for thematic analysis: (a) familiarization with the data, (b) generating initial codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and (f) producing the report.

Phase 1: Get Familiar with the Data

Once I received the transcriptions of the interviews from Rev.com, I reviewed each transcript separately to get familiar with the information in each one. I wrote notes in the margins of interesting ideas that arose from the initial reading. In the next step, I reviewed each transcript against the actual video of the interview to ensure accuracy (Braun & Clarke, 2006).

Surprisingly, the transcriptions were very accurate. I believe the investment in using a quality transcription service paid off in the amount of time it saved in having to edit the documents. At this point, I had a good sense of the contents of the data and was ready to progress to coding.

Phase 2: Generate Initial Codes

One of the first decisions I needed to make in this phase was whether to manually code the data by hand or to use computer-assisted qualitative data analysis software. On the recommendation of professors and fellow students, I chose to use Dedoose, a web application for research data analysis. Dedoose allows the researcher to organize and analyze large amounts of data. It is used for qualitative, quantitative, and mixed-methods research. I set up a project in Dedoose, entered participant data, and uploaded the transcripts into the application. Once everything was organized, I was able to easily begin initial coding of the data.

Another key decision I needed to address was whether I was going to look for themes based on the data (inductive analysis) or based on theory (deductive analysis). This decision would have an impact on how the data were coded (Boyatzis, 1998; Braun & Clarke, 2006; Saldana, 2016). This research is theorized using the Wisdom et al. (2014) context-mechanism-outcome model of adoption, which includes four key categories that could impact the adoption of innovations in organizations: external systems, organization, innovation, and individual. It does provide a structure on which to base my research. However, I made the choice to start with open and inductive coding to allow for new ideas and insights to emerge from the data. I did not want to limit the research to this theory from the beginning.

The coding strategies I used were based on the recommendations of Braun and Clarke (2006) that include (a) openly work through the entire dataset to identify interesting items that could form patterns and themes, (b) be expansive in the coding and code for as many themes as

possible to not miss any potential idea or insight, (c) keep some of the surrounding data for context, and (d) individual coded data can be used across multiple themes. In this initial process, I produced over 60 codes.

Phase 3: Search for Themes

The next step was to look at the codes and the data across the data set to begin identifying themes and patterns. A theme "captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set" (Braun & Clarke, 2006, p. 82). Saldana (2016) calls this process second cycle coding. In this phase, I used a cutting and sorting method to organize codes into potential themes (Ryan & Bernard, 2003). I set up a code tree in Dedoose and started to collate codes into themes, mapping the data (quotes) across interviews that aligned with each theme. I developed a condensed list of themes and started looking at the data from different perspectives. In one iteration, I noticed that one way of seeing the data is that there are some themes that promote the adoption of performance support and other themes that hinder adoption of performance support. I viewed the data from the perspective of organizational influences and individual agency.

After reviewing the data inductively, I also decided to do a second round of analysis using the adoption and change theory that underlies this research. I conducted a deductive analysis looking at the themes across the Wisdom et al. (2014) context-mechanism-outcome model of adoption. Wisdom and her research team studied 20 theoretical frameworks of adoption and synthesized them into a model that can be used to improve the decision making around the adoption of innovation. The research team identified 26 "change mechanisms" or factors that can influence both adoption decisions and further implementation. As I analyzed the data from this research, participants discussed and described 15 of those mechanisms in relation to their

experiences with the adoption of performance support in their organization. Given the prevalence of data and the richness of the descriptions that naturally aligned to the context-mechanism-outcome model of adoption, I determined that this was the best way to organize and present the data from this study.

Phase 4: Review the Themes

This phase of analysis is focused on reviewing and refining the themes. As the researcher evaluates the themes against the data, he or she may discard a theme if not well substantiated, combine themes, or split a larger theme into smaller themes that better represent the data. This phase is essentially a quality check of the researcher's thematic development (Braun & Clarke, 2006).

I reviewed the candidate list of themes that aligned to the context-mechanism-outcome model of adoption; I refined those themes by writing descriptions for each one, leveraging the theory from Wisdom et al. (2014). I then reviewed the data extracts assigned to each theme again and evaluated if they accurately mapped to theme given the definition.

The frequency of data, or prevalence, is another important consideration to ensure there is enough data to provide evidence of the theme (Braun & Clarke, 2006). As I reviewed the integrity of the themes, I looked at the prevalence of data supporting each theme. I considered "many participants" to be equivalent to 12–14 out of 17 instances of the theme. "Most participants" was equivalent to 15–16 instances, and "all participants" was 17 instances. Braun and Clarke also argued that more instances do not automatically mean that the theme is more important. The researcher is also able to make judgments on the importance of data. One theme in this research had six instances, but I felt the significance of the data was crucial to the study and practical implications.

Phase 5: Define and Name the Themes

This phase was another round of refinement and analysis. The objective was to define the "essence" of what each theme is about and write a detailed analysis of each theme. During this process, I was starting to identify the story each theme tells and how it fits into the overall story I'm trying to tell with my data (Braun & Clarke, 2006). I was also careful with the names I gave to each theme. This was an iterative process ensuring that the descriptors were salient and easily understood. The work in this phase led to Phase 6 in Braun and Clarke's process, which is producing the report. The analysis from Phases 1–5 was then shared in Chapters 4 and 5.

Pilot Study

A pilot study was conducted to assess the research design prior to beginning the full study for the dissertation. The pilot provided an opportunity to test and practice implementing the research design, including communicating with and interviewing participants, using Zoom, recording interviews, using the transcription service, reviewing and validating interview transcripts, analyzing data, writing descriptive results of the data, managing and storing data for confidentiality, and testing the design of the study for process issues.

After receiving IRB approvals for the pilot, I identified and invited two L&D leaders who met the criteria to participate in the pilot. I scheduled 60 minutes with each participant via email. Both participants signed and returned the informed consent form prior to the interview. The results of the pilot study and analyses were positive. I was able to capture descriptive data with my data collection procedures and was able to analyze the data into coherent and descriptive themes. As I transitioned into the full dissertation research, there were a few modifications to the protocols to enable a better flow and ability to capture more descriptive information.

Data Collection

In general, the interview questions worked well. I tightened up Part 2 of the interview guide to focus on one critical incident (i.e., one implementation of performance support) and I slightly modified a few interview questions to be more focused on the critical incident. This allowed for a better flow in the conversation and the ability to capture more detailed and relevant descriptive data about their implementation of performance support.

In both pilot interviews, we talked about the definition of performance support. This was not included as part of the initial protocols, but it came up naturally in both interviews. I added a question asking the participant to define performance support to the final protocols, as it may develop into an important theme in the final research.

The pilot interviews were scheduled for 60 minutes, out of concern that participants would not be able to commit more time to an interview. However, both pilot interviews felt rushed. In my updated protocol, I increased the interview time by 15 minutes. This did not cause any issues for any of the participants and the extra 15 minutes allowed for more detailed and descriptive responses.

Data Analysis

A key decision in the analysis of the pilot data was whether to manually code the pilot data by hand or to use computer-assisted qualitative data analysis software. On the recommendation of my professors and Saldana (2016), I chose to hand code the pilot data. Given this was only data from two interviews and that I was new to the coding process, doing this by hand helped me to focus on the data and understanding of the analysis process.

During the pilot, I primarily used the open coding methods recommended by Braun and Clarke (2006). They suggest openly working through the entire dataset to identify interesting

items that could form patterns and themes. They also recommend being as expansive as possible to not limit any potential idea or insight. As I wanted to practice looking at the data from many perspectives, I also experimented with deductive analyses. As this research is theorized using the Wisdom et al. (2014) context-mechanism-outcome model of adoption, I coded and analyzed the data against the categories and mechanisms within the model. Using these methods, I was able to see the data from many different angles. I was able to transfer these approaches to the full dissertation study, with much richer results as there were 17 interviews to analyze. Overall, the pilot study was productive and enabled the full dissertation research process.

Chapter Summary

In this chapter I have addressed the research methodology for this study, participant selection and sampling, data collection, ethics, data analysis procedures, and results from the pilot study. As this was a deep exploration of the experiences, events, and perspectives of individuals involved in a phenomenon, open-ended qualitative methods, using semi-structured interviews, were used to study the research question: *What are the events and experiences that lead senior L&D professionals to adopt and implement performance support solutions in their organizations?* The next chapter reviews the results from the study.

CHAPTER FOUR: RESULTS

This dissertation research explored senior learning and development professionals' experiences with the adoption and implementation of performance support solutions in their organizations. The first section contains on overview of the study and research methodology. The next section describes the participant demographic information. This is followed by a detailed explanation of the themes identified in the study and a summary of the chapter.

Research Question and Overview of the Study

The research question was as follows: *What are the events and experiences that lead senior learning and development professionals to adopt and implement performance support solutions in their organizations?* An open-ended qualitative research design was used for this study. The sample size for this research was 18 participants from 17 organizations. The participants were selected using purposeful sampling and the specific criteria for participation. Criteria were that participants had to be a senior learning and development professional with experience leading large-scale learning and development initiatives, and each had to have implemented at least one performance support solution.

Data were collected using semi-structured interviews to capture knowledge, opinions, insights, and assessments of the participants' experience with adoption and implementation of performance support in their organization. An interview guide was used that included warm-up and demographic-related questions and 10 semi-structured questions with additional prompts to probe on the participant's experience with performance support. The interviews were scheduled via email and conducted via Zoom video conferencing software. The interviews were transcribed using Rev.com, an external transcription service.

Summary of Participants

Eighteen learning leaders were identified that met the criteria to participate in the study. I collected demographic data from each participant, which helped to better understand the context of each individual and why they developed the perspectives and insights they shared during the interview process. Table 1 lists the demographic data collected from the participants.

Table 1

Key Demographic Descriptors of Study Participants

Name	Role	Years in Role	Years in L&D	Region	Gender
Ann	Sr. Vice President, Performance Support	6	38	NA	F
Blake	Senior Learning Resource	5	34	NA	M
Carrie	Manager Unit Learning & Development	5	20	EUR	F
Deborah	Staff Advisor	13	15	EUR	F
Denise	Learning and Development Consultant	24	24	EUR	F
Dennis	Director of Global Supply Chain Learning	11	25	NA	M
Edward	Executive Director	5	36	NA	M
Etienne	Project Manager	6	35	EUR	M
George	Learning and Talent Director	3	24	NA	M
Henry	Director of Learning	4	10	NA	M
James	Reskilling and Upskilling Leader	>1	7	EUR	M
Logan	Sr. Manager of Employee Development	23	23	NA	M
Ned	VP of Learning, Quality and Leadership	9	35	NA	M
Patri	Sr. Manager Aftermarket Training	13	13	NA	F
Rachel	Education Specialist	31	31	NA	F
Rene	Global Commercial Capabilities Manager	4	4	EUR	F
Sandra	SVP, Learning and Development	9	25	NA	F
Zane	Chief Learning Officer	6	30	NA	M

Note. NA = North America; EUR = Europe

The 17 organizations represented in the research study varied in industry, size (based on number of employees), and size of the learning and development department (Table 2).

Table 2

Descriptors of Participants: Organizations by Industry, Employee Size, and L&D Organization Size

Industry	Total by Industry	Employee Size	L&D Org Size
Coatings	1	10,001–25,0000	0–20
Consumer Products	1	25,001–50,000	21–50
Energy	1	5,001–10,000	21–50
eCommerce	1	100,001+	100+
Financial Services 1	2	100,001+	100+
Financial Services 2		50,001–100,000	51–100
Furniture 1	2	5,001–10,000	51–-100
Furniture 2		100,001+	51–100
Government Agency	1	10,001–25,0000	0–20
Healthcare 1	3	10,001–25,0000	0–20
Healthcare 2		1-5,000	21-50
Healthcare 3		1-5,000	0-20
Insurance	1	10,001–25,0000	51–100
Life Sciences	1	5,001–10,000	0–20
Professional Services	1	25,001– 50,000	100+
Restaurants	1	100,001+	100+
Truck Sales	1	5,001–10,000	21–50

Description of Individual Participants

The following section includes brief descriptions of each participant in order to contextualize their responses. Pseudonyms have been assigned to protect individual identities.

Ann

Ann is a seasoned professional with over 38 years of experience in learning and development. She was a senior vice president at a major financial institution before recently retiring. Her experience with performance support began 12 years ago and she led the adoption of performance support at the bank. Under her leadership over 300 team members were trained in how to design and deliver performance support and the bank implemented five significant solutions.

Blake

Blake is a learning leader at a company that manufactures and distributes coatings in a wide variety of industrial applications; for example, automotive paints. Blake has over 34 years' experience in learning and has been working on performance support solutions for over 10 years. His focus is on building performance support for customers to effectively use the coatings products his company produces.

Carrie

Carrie started her career as a nurse and eventually shifted into nurse education in the late 1990s. She currently manages the learning team responsible for the professional development of healthcare workers in a large hospital in Europe. Her team pioneered the use of digital learning solutions in the hospital system. When the COVID-19 pandemic happened, there was an urgent need to reskill healthcare professionals, and Carrie and team quickly responded with a performance support solution.

Deborah

Carrie requested that Deborah join the interview as she was integral to the implementation of performance support at the hospital. Deborah was also a nurse and transitioned into the hospital's academy 15 years ago. She plays many roles including content development, project manager, and facilitator. Deborah worked closely with Carrie in the rapid design and deployment of performance support solutions to assist with urgent reskilling of professionals during the COVID-19 pandemic.

Denise

As a learning and development consultant for a mid-size hospital in Europe, Denise is responsible for educating, coaching, and mentoring all healthcare professionals including doctors

and nurses. Denise also started her career as a nurse and shifted into learning and development in the late 1990s. Denise designed and deployed the first performance support solution at the hospital in 2017. Since then, the hospital has implemented five additional solutions and has three more currently in design.

Dennis

Dennis is the director of global supply chain learning for a large consumer products company. He has a strong background in supply chain and has been in learning and development for over 25 years. Dennis started working with performance support in 2017 to address a factory-level learning and performance strategy.

Edward

Edward has been an executive-level learning leader at a government agency for 5 years. In 2016, Edward decided to transition to this agency because he believed he could successfully design and deploy performance support solutions to the professionals in this organization, which he had not been able to do in his previous role. He and his team have one solution fully implemented and are currently working on two additional solutions.

Etienne

Etienne is a learning project manager for an energy company in Europe. The company has significant regulatory responsibilities. He is part of the learning organization which is responsible for new hire orientation and job skills and safety training for all technicians. In 2018, he started exploring performance support to assist with a mandatory certification program for technicians. So far, Etienne has launched three solutions and has two more in development.

George

George has held many learning leadership/chief learning officer roles in his career and has designed and implemented several successful performance support solutions. His interests are in helping organizations effectively use technology and learning to accelerate or enable organizational transformation. He is currently the director of learning and talent development at a large e-commerce organization.

Henry

Henry is the director of learning at a global professional services firm, based in North America. He has been a learning leader for 10 years and leads teams to define the skill development requirements and learning solutions for new consultants, team leaders, and senior managers. He led the implementation of a global performance support project to help consultants learn how to write clear, concise, and compelling client presentations. This performance support solution was offered to new consultants during the new hire orientation program. The project was a good entry into performance support but there were significant challenges with adoption. Henry has not worked on additional performance support solutions.

James

James has 7 years of experience in learning and development and is currently the reskilling and upskilling manager for a large retail organization. James' leadership supported his experimentation with performance support. There were many lessons learned from the experience and progress in shifting the learning team's focus from training to performance. However, the solution did not have broad leadership support to move forward. The organization was not ready for the cost to scale the solution to over 200,000 employees.

Logan

Logan is the senior manager of employee development and learning solutions for a global furniture manufacturing company. He has been a learning and development leader for over 23 years. He introduced performance support to his organization over 10 years ago and it has been widely adopted across many departments to address a variety of content areas and challenges.

Ned

Ned has been in learning and development roles for over 35 years. He is currently a senior executive at a large insurance company. Ned joined his current organization to lead the implementation of performance support. He and his team have scaled performance support across the business and integrated it in such a way that all work processes are reflected in their solutions. They have branded their tool, and it is so widely known across the organization that they also got it patented.

Patri

Patri is a senior learning and performance manager with a large truck sales organization. She has 13 years of experience in learning and development, all with her current organization. In Patri's role, she provides training for dealerships across North America. Patri has implemented performance support to help the dealers deliver a consistent, end-to-end service experience.

Rachel

Rachel worked in the healthcare industry for almost 40 years and recently retired. Thirty-one of those years were as an education specialist, responsible for house-wide training for the entire hospital system. This included everything but clinical education. Rachel's legacy at the hospital is a very successful performance support solution and supporting infrastructure. In her retirement she is now consulting and helping organizations design performance support.

Rene

Rene joined a global life sciences company 10 years ago. She has spent the past 3.5 years as a global learning and development manager supporting the sales/commercial organization of one division. In her current role she is responsible for the development, implementation, and communication of the organization's performance support platform that enables the salesforce of that division.

Sandra

Sandra is currently the leadership development leader at a large utility company in the United States and has been there for 18 months. Previously, she spent 9 years as the senior vice president of learning and development at a large bank, where she led teams to implement 13–15 performance support solutions across the organization. Her work in performance support earned her an Association of Talent Development Best Award and a spot on the Training Top 125 Organizations list. Both are prestigious awards in the learning and development industry.

Zane

Zane has over 30 years of experience in learning and development. He spent the last 6 years as the chief learning officer of a large global restaurant chain. In his early career, Zane worked directly with Gloria Gery, who introduced the concept of performance support in the early 1990s. Zane claims that his work with Gery frames how he thinks about and implements learning and performance solutions. He and his team began shifting the restaurant's view of learning to a more performance-driven approach. As part of this work, they implemented a global performance support solution that was introduced at onboarding to all employees worldwide.

During the data collection process, 18 learning leaders from 17 organizations were interviewed. The participants had different perspectives and experiences with performance support and were eager to share their insights and lessons learned. The next section reviews the data analysis procedures that were used in this study and reveals the themes that were synthesized from the analysis.

Data Analysis Procedures

The data for this research were collected via semi-structured interviews. All interviews were conducted via Zoom and were recorded and then transcribed using an external vendor, Rev.com. The transcripts were then printed and each one was reviewed against the video recording for accuracy. After this review, the coding process began. The transcripts were uploaded into a computer-assisted quantitative data analysis software called Dedoose. The first level of coding was an inductive analysis or open coding to begin describing, naming, and classifying the data. The goal was to allow for any new ideas and insights to emerge from the data. The next step was to look at the codes and the data across the full data set to begin looking for themes and patterns. In the second coding cycle, the data were sorted, organized, and synthesized into themes. As part of this second level of analysis, an a priori or deductive analysis was used to review the themes against the adoption theory that is the conceptual framework for this study. The themes were aligned to the context-mechanism-outcome model of adoption (Wisdom et al., 2014), which includes four categories that could impact adoption decisions and implementation: (a) organizational characteristics that influence adoption, (b) innovation characteristics that influence adoption, (c) individual characteristics that influence adoption, and (d) external/environmental factors that influence adoption. As the research question is focused on the events and experiences that lead senior learning and development professionals to adopt and

implement performance support solutions in their organizations, a fifth category was added to describe the significant data collected explaining the impetus to explore performance support as a solution. Table 3 shows the final categories and themes from the data analysis.

Table 3

Categories and Themes

Category	Theme
IMPETUS TO EXPLORE PERFORMANCE SUPPORT	1. Performance support can solve many organizational problems
	2. Most leaders learned about performance support from external resources
ORGANIZATIONAL CHARACERISTICS THAT INFLUENCE ADOPTION	3. Shared learning culture and professional values
	4. Leadership as champion of performance support
	5. Engaging with performance support experts and consultants
	6. Resources are available for implementation and maintenance
	7. Targeted communication and training
INNOVATION CHARACTERISTICS THAT INFLUENCE ADOPTION	8. Demonstrated cost benefit of performance support
	9. Perceived complexity of the solution
	10. Ability to experiment and demonstrate success
INDIVIDUAL CHARACTERISTICS THAT INFLUENCE ADOPTION	11. Individual attitudes towards performance support
	12. Individual awareness and skill levels with performance support
	13. Leader ability to influence others
	14. Leader assessment of adoption progress and results
EXTERNAL/ ENVIRONMENTAL FACTORS THAT INFLUENCE ADOPTION	15. COVID-19 accelerated the adoption and usage of performance support

The next section reviews each theme, including data that support the theme in the form of compelling quotations from the participants.

Themes

Category 1: The Impetus to Explore Performance Support

The purpose of this research was to explore the events and experiences that lead senior learning and development professionals to adopt and implement performance support solutions in their organizations. All participants talked about the business and performance challenges in their organization that propelled them to find performance support as a solution. Most participants learned more about performance support as the solution via external resources such as conferences and vendor and technology experts.

Theme 1: Performance Support Can Solve Many Organizational Problems

In all 17 interviews, the participants shared the types of business and performance challenges for which performance support has become the solution in their organization. Examples included

- Provide access to consistent work processes to increase efficiency and quality (Ann, Blake, Carrie, Denise, Dennis, Edward, Etienne, George, Henry, Logan, Ned, Patri, Rachel, Rene, Sandra, Zane).
- Support professionals' time-to-competency during key transitions such as new hire onboarding and leadership role transitions (Carrie, Dennis, Henry, Logan).
- In-person training is not an option due to budgets or external factors (Blake, Denise, Etienne, George, Rene, Sandra, Zane).
- Provide in-the-moment product, pricing, technical support for service/help desk/sales professionals (Ann, Blake, George, Logan, Patri, Rene, Sandra, Zane).

- Provide training to employees quickly during a merger/acquisition (Logan, Rene).
- Provide current information, when information changes quickly; online performance support is easier, faster, and cheaper to update than manuals or digital courses (Logan, Ned, Zane).
- Ability to quickly reskill/cross-train people to increase organizational capacity (Carrie, Denise, George, Rachel).
- Support hybrid working models; as more employees are working from home, they need performance support (George, Ned).
- Support when there is a critical impact of failure, like safety regulations and compliance (Dennis, Denise, Etienne, James, Rachel).

Theme 2: Most Leaders Learned About Performance Support from External Resources

Several of the participants learned about performance support from external vendor experts at industry conferences or in-house presentations.

Ann learned about performance support when her chief learning officer (CLO) invited her to a meeting with an external vendor expert.

> I guess I've always known about performance support, but I think the huge, big aha moment came actually, I was in a meeting in [United States] with our CLO, and she invited me to this meeting because [external vendor expert] was coming to talk to her and she knew I had a relationship with him. He came in and started talking about performance support and his methodology, which I never heard about, and the whole transfer sustainment. And I just sat there, my jaw dropped. It was like, "This is exactly what I've known what was wrong with learning and development."

Denise talked about her experiences with an external vendor expert in Europe that helped her better understand performance support and how to implement it.

> At the time, we met [external vendor expert] and they explained to us the methodology and how that can be used to solve performance challenges. That part, they told us the part that from the moment of apply, the part that is in the workflow, on the job, on the work, and that gives us an aha moment. That was the part we were missing. We have a lot of

> formal trainings. We have a lot of practical trainings, but it's all in the moment. You are going to some kind of classroom or sometimes a laboratory or an exam classroom. There wasn't a follow up to the place where you work. And they explained to us and we got excited and enthusiastic, and we have to dive into the methodology. We learned about it and studied it.

James shared his experiences learning about performance support from external vendor experts at a conference and by doing his own research.

> It was in a conference, either it was a Next Learning conference in [Europe] or it was maybe in [the United States]. But at least it was a presentation from [external vendor expert]…At that moment I was really open for a new methodology and a new approach to learning and development. And those two moments came together and I signed up for the [external vendor methodology certification] and I have to say that I did a lot of research and browsing on the Internet to find as many templates, documents, presentations, recordings as I could find…So, what I find very strong, especially about [external vendor expert], that it is definitely spreading the word and being part of those conferences and trying to inspire people.

Category 2: Organizational Characteristics that Influence Adoption

Organizational characteristics present the intersection of environment and employees (Wisdom et al., 2014). All participants described aspects of their organization that supported their ability to adopt performance support, including a shared learning culture and professional values, leadership sponsorship of performance support, experts and consultants available for implementation of performance support, availability of organizational resources for implementation and maintenance (e.g., line managers, information technology resources, and subject matter experts), and organized and relevant communications and training.

Theme 3: Shared Learning Culture and Professional Values

Shared professional values and organizational culture and norms have an impact on adoption of new innovations. Most participants described the learning culture of their organizations as being focused on in-person, classroom-based learning. In many cases, the learning and development teams were grounded in traditional instructional design methodologies

and were focused on creating learning events in response to requests from the business to solve a particular learning or performance problem.

In Henry's case, the organization is focused on classroom learning. It was described as "sacred" to the leaders and consultants, therefore making it more challenging to introduce other types of learning, especially digital solutions like performance support.

> Some of the rightful skepticism about the profitability of performance support to our world that's preventing that because I think at the end of the day, our learning is still mostly thought of in terms of instructor led experiences, which are fantastic, and which everyone loves, including our senior leadership. It's our culture.
>
> I don't think our learning organization is yet fully wired to embrace performance support. I think a lot of people's default is to still think about formal learning as the go-to default way to support our people via L&D. There are proponents of performance support sprinkled around, but I feel like there's always a lot of pressure to build out more formal learning ahead of performance support.

Edward has similar challenges in his organization.

> We've been doing this the same since kindergarten. "What do you mean we're not going to put people in an eight-hour class Monday through Friday? Huh?" That's top layer. Then in the application, in my organization, all that stuff filters down. You're overcoming that tradition and beliefs that have to be unlearned and relearned, and that's really hard to do.

Several participants referred to the shift to being a more performance-driven culture that easily adopts performance support solutions as being a significant change effort and in some cases a transformation.

Rachel shared her experiences in her organization.

> So, it's changing slowly, but it's even after 10 years of this, the first gut reaction in many cases is to build a class, put people in a classroom. You have to have a different mindset to get this built…and I don't think people are ready. It's a change. It's a huge change.

Theme 4: Leadership as Champion of Performance Support

All participants talked about the need to identify and engage the right leadership to sponsor the performance support projects and to champion further adoption.

Rachel described how she worked with senior leaders as she introduced performance support at her hospital.

> We had a really good working relationship with the senior leadership at the hospital. They trusted that we would do the right thing for the education of the staff. We would show two pages and say "This is what we want to build. This is what we think it's going to look like." And we got buy in so quickly from every single group that we worked with. Almost all of them said, "Hey, this would be really god for…" And they would name another project that they were working on. So, we had tremendous support right from the start with what we were doing. And our CEO/President even said to me, "I just don't know why the network isn't doing this. It's such an incredible project." That's what he told me when he approved the budget for the technology platform.

Dennis talked about engaging senior leaders to get started with performance support and keeping them engaged as he rolled out additional solutions.

> You just need one, we were lucky. We got one director of manufacturing who was interested and willing to take a look and then it has moved forward from there.
>
> We had a meeting with all of the VPs of each of the [organizational] categories and the technical directors and we explained the strategy. As we were progressing, we began to engage the supply leaders. When he had success from over one year in ABC plant, we're communicating what was happening and the results we're getting.

Denise shared her experiences with leadership at her hospital. She was convincing leaders to support the development of a performance support system to help nurses with some higher risk skills.

> One of our stakeholders, she managed many different wards within our hospital, and she was the chairman of a committee within our hospital that decides and asks questions about the dangerous skills you perform when you are a nurse, giving injections, giving medications, doing little surgery skills…she was for us a very important person to give her approval to do it in a different way but be safe. Because performance support can be explained as you do it yourself, on your own time and there's nobody who looks at what you're doing, so we have to convince her that it's another way of learning but also very safe. She was very positive, and she gave her approval to start the project.

Ned shared how he worked across business leaders to gain buy-in and create excitement for performance support with his leadership.

> We got buy in by the line of business leaders…They wanted performance support really bad because they knew it could help them. I think their role is like a gatekeeper of the content…Then once we got that all wireframed, we're able to go to decision makers and they're probably AVPs or Directors, process people and say, "Look, here's how they laid out the job step by step, area by area, workflow from beginning to end. Do you agree that this is the way you want them to do your work?" Once you got that buy in, everybody was like, "Holy crap, this is cool!" They've never seen their content laid out like that in such a straightforward fashion.

Sandra's direct manager was supportive of her pursuing performance support and gave her a lot of latitude to explore the possibilities.

> My leader at the time was really intrigued by the whole thing and very supportive, so I was kind of given carte blanche to just have at it and see what we could do with it.

Later, after presenting performance support to a senior leadership team, the chief executive officer (CEO) saw the benefits of performance support and championed additional projects.

> We were invited in the project, and she got it, like totally got it. Invited us to come in front of the executive leadership team and we made a presentation, five slides. Demonstrated the tool. The CEO walked over to the Chief Information Officer and said, "You need this in the next big loan origination system that was coming," which was going to hit all the bankers and a major moneymaker for the organization. "You need this. Get involved." I mean, he just ... He's a brilliant man, but he got it down.

George has implemented several performance support systems in his career, and he advised, "You can have the best idea in the world and all of the data behind it but if you don't have the right people bought in and the right relationships, nothing happens."

Theme 5: Engaging with Performance Support Experts and Consultants

Collaboration with experts, consultants, professional associations, and potential users are positively associated with adoption of innovations. Many of the participants shared examples of how working with internal and external experts accelerated their implementations and adoption of performance support. The experts and vendors helped in multiple ways from convincing

senior leaders of the value of performance support, educating the team on methodologies and best practices, and providing implementation services.

Henry talked about the network of professionals who were involved in his first performance support project.

> We had a couple of folks from our design center of excellence involved with the project…we had pulled in some external help to really jump start the effort, make sure we were following a good process for thinking about the design and the content of this thing. We also ended up pulling in potential users themselves to give us insight into how they look at the problem and give shape for the kind of situations they find themselves in and where they would find a tool like this useful.

Sandra shared her experiences with a vendor expert to get started.

> They [external vendor experts] spent a lot of personal time with us…They socialized the concept with me and my team. They socialized it with some senior leaders. I mean, we actually conducted meetings with them walking through the benefits. But what they did enable me to do was to have the language to talk to people about because it wasn't the first time they'd heard it. They heard it from an expert.... At least open that door.

Etienne talked about how critical external experts were to the success of his first project.

> They [external vendor experts] were my counterpart in it. Without them I could not do it. It was impossible. Not only did they deliver the technology platform, but also extra hands, and real expertise about it. That is what I needed. Don't think you can do it alone. You still need help from outside.

Patri described how she engaged with multiple external vendors to learn how to design performance support solutions and develop them within a specific technology platform.

> We contacted [external vendor expert], and we actually contracted 10 days of his time. And so he came and we had some kickoff meetings and things like that and we identified a very low hanging fruit project…[External vendor] was able to take us through the entire process. And he recommended [technology platform] as the EPSS solution. So, we had [external vendor for technology platform] doing another presentation for us. He did a great job of explaining things.

Many participants spoke about how overwhelming the initial phases of the performance support project could be. Rachel commented, "I would encourage folks to ask for help from

people who have been there before. [External vendor experts] are always more than happy to help people along this pathway. Because it is challenging at first for most folks."

Theme 6: Resources are Available for Implementation and Maintenance

In addition to having external expert resources available to support the introduction into performance support, most participants discussed having the right internal resources available for any performance support project and post-project maintenance. This included access to subject matter experts from the business and colleagues from the information technology department.

Rene talked about how she engaged with the business to secure the right resources for the design and development of the performance support system.

> And for each department, we asked them for one member to join our core team. Basically everyone directly gave us one…but we really get amazing support from these SMEs and we included them right away. So, whenever we had any workshops where we needed to figure out like a specific use case or functionality and look and feel, any tasks that we had…we always included them. We made clear that these are our key contacts in their department. They are our voice into the department. And from my perspective, what really made is successful is that we hear their voice and they also feel that whatever they are saying is going to be implemented.

Rene said most departments were excited about being part of the project, but it was challenging for some to commit the time to fully participate.

Dennis shared that resources could be a constraint on making progress in the development of the performance support solution.

> We're short on headcount at the plant. So, I think it's always a constraint in finding time on people's calendars to be able to be freed up. Subject matter experts, a maintenance person, operations person need to be freed up to support this. Which is why in this implementation phase, it is really important that we identify the resources upfront, the people who are going to own, manage and drive it locally.

Ned requires that the business provides the right resources to support the implementation and ongoing maintenance of the performance support system.

> We ensure that we have what's called a business designate for the [performance support solution]. It could be one of a couple. If it's a big one, it depends, but we consider that

> business designate a gatekeeper. They're not a designer, but they clearly are somebody who is going to say "Yes, that belongs there. Yeah it's in the right place. Get rid of that. Get rid of this'" that type of thing. That's really helped. They were a little reluctant to give us resources for gatekeeping. That isn't a problem today though. That was a problem way in the beginning. They wanted us to do it and we're like, 'Your people own the content. We're just the curators of your content. You have to ensure that it's being used the right way.'

Logan talked about the challenges with finding resources to maintain the performance support content over time. There is a need for resources to monitor the content and ensure it is current, relevant, and accurate.

> We will bring together these product launch teams, and then at the end of the project that we created this tool, okay, who on your team, Product Marketing, is going to care for this over time? After a while, I actually would not propose a performance support solution, unless the client was willing to give the appropriate FTE to maintain it, because I had seen too many start to die on the vine. And then you get to a point where, it's starting to do more harm than good because it's out of date.

Several participants also discussed the importance of having access to and engaging with information technology (IT) colleagues. Most performance support solutions are delivered via a technology platform and many organizations have protocols for budgeting, security, and so forth. There can be a long waiting list to get the support needed to implement a technology-based solution.

Dennis highlighted working with IT as one of his biggest lessons learned.

> The one thing that we didn't do so well, we could have done better, was to engage IT and systems upfront. We had a creative person in ABC plant when we were getting ready to implement and everything in IT was not yet approved, which caused significant delays.

Ann recommended getting IT involved early in the process.

> Get them [IT] involved early and get the business to help you push your IT department. When we wanted vendors to come in and share their wares and stuff, we actually included our IT people in those presentations. And it was interesting. I mean they were a pain to work with, because it was cloud based and that was new to them, but interesting once they started to understand what performance support was, they bought into in their own perspective…But we finally had a couple that were advocates and really helped in our final implementation. The IT pieces are not easy. And it was probably a 10-month journey to get it implemented.

Patri shared that lack of IT support was a significant issue and resulted in one of her projects being perceived by leadership as a failure.

> So that really, from end to end was our first real project. We had that low hanging fruit with the warranty project that was really, the first deliverable with an EPSS, and it was a resounding success on one side, and a terrible loss on the other. Because it brought up the fact that our IT department wanted no part of this. They absolutely were not going to help us. That's a huge challenge for us.

Logan asserted, "It's always been a partnership with IT…I always stress that IT is probably either your biggest enabler or your biggest barrier in this work."

Theme 7: Targeted Training and Communications

Most participants talked about the availability of training and targeted communications as part of the adoption process for performance support.

In Sandra's case, the solution was built and fully integrated into a training program to support the roll out and adoption of the solution.

> We created a training solution to deploy this new tool and did it with the teller supervisor. We did a train the trainer with the teller supervisor, walked them through a 10-day model, hour-long each day with practice applications in the tool we built to try it. So, the applications, they had step by step. They had demonstrations with screen captures. They had demonstrations of videos. And then they had these Captivate simulations we put right into the tool. It looked like you were in the system.

George talked about how to help new employees learn to best use performance support in their day-to-day work.

> There still is an important one, helping new employees during training understand what it is and why it's there, how to use it. We actually moved far more towards scenario-based learning with performance support than we did prior because we tried to give them, again, frequent or critical situations they'd run into and then how to use it…it's more about training them how to use the support than training them what to do.

Rachel used a top-down approach to educate and communicate the launch of her performance support solution to the hospital. She was very careful to only communicate to

audiences that had performance support available. She did not want to turn away future users because they did not see anything available for them.

> When it went out live we introduced it to the leadership first and they have a monthly meeting and we showed it to them…And then we had a tutorial, online tutorial that we built again using Storyline to introduce it to the staff…We put out [performance support solution] with just a couple of performance support items for different roles, and when we put it out, we only put it out with advertising to those people in those roles. Because we didn't want people who didn't have anything there to go look at it and say, "Oh there's nothing here for me. I don't need to use this." So as things got added to [performance support solution], we did advertising to those groups that now there was something for them to use.

Denise talked about the importance of communications as a tool to generate excitement for the new performance support solution.

> We went live…we did some kind of party. We make within our hospital, posters and balloons and everything, we are going to do something very different and we are going live and it's very important. We have a little flyer, a brochure to explain what it is and what's going on. It was much fun.

Most participants have branded their performance support solution to create a consistent name, to set the tone for the new solution, and provide some marketing to help with the adoption of the solution. Some common brands included Digital Coach, Navigator, and MyHelp. Others were tied to the organization's corporate colors or industry taglines.

Ann and her team wanted to distinguish between the learning portal and performance support so they created a new brand.

> We actually rebranded to be MyHelp, as opposed to calling it performance support. Because we were creating a new MyLearning portal. That helped a lot of people understand the difference between learning and performance support.

As part of a full organization-wide implementation of performance support, Ned and his team created a brand for their solution. This created so much excitement, they got the brand patented.

> We got it patented. The way we were building and storing the content, we got it patented, so that got a lot of notoriety that people are getting something that's so unique.

Category 3: Innovation Characteristics that Influence Adoption

The participants talked about attributes of the performance support solution that played a role in the adoption of the solution. These attributes include the ability to demonstrate that the solution is better than current practice and cost effective, the users perceived it to be easy to access and use, the ability to experiment with the solution using pilots/proofs of concept, and the ability to demonstrate success from those experiments.

Theme 8: Demonstrated Cost Benefit of Performance Support

Many participants talked about the ability to demonstrate how performance support would produce cost benefits, exceeding the expected costs to implement. These benefits often accelerated the decisions to experiment with and adopt performance support solutions.

James shared an example of how he communicated the cost-benefit of the performance support solution to leadership to gain approvals to conduct a pilot project for the warehouses in his retail organization.

> As an example, if you increase the forklift operation skills of the people, they are more consciously operating the forklift. We will be able to decrease the amount of damages we make in the products we transport. We can decrease the amount of damage that we have to the racking in the warehouse. And if we started to calculate, we looked into some numbers and the cost of what it cost if someone damages the racking, the whole aisle needs to be closed down for weeks in a row before it's all stable and checked and measured again. If we can just decrease that for every store by a little bit, we can save so much money.

After Etienne learned about the power of performance support solutions and embedding learning into the workflow so that his employees could learn on the job, he had to figure out how to gain support to try it.

> I sat down and I said how can I do that? How can I make it work? Making a business case wasn't that difficult. Every day of schooling [in person training] less, were a few million Euros. So it wasn't that difficult. I made a nice business case and the first remark I get

> was nice, but you only priced my technicians with 35 Euro. They cost you 65 Euro. And I said, then my business case is growing!

Zane talked about the differences between the existing training solution and what he was proposing in terms of performance support.

> So, we use that, the printing and shipping for the manual, for example, was about a $700,000 a year expense because they would update it five times a year and then the e-Learning maintenance piece was more than a million dollars a year on 10.5 hours of coursework that we had. Because things would change, they're almost always in maintenance mode, actually yearly version mode. When you added those two together, and then looked at what it was going to cost us to implement this system, it was going to save us a ton of money. On top of that I was able to lay out sort of qualitative benefits in the context of, we could now update our content 365 days a year, and always be assured people have the latest content.

Theme 9: Perceived Complexity of the Solution

Most of the participants talked about the ease of access and ease of use of the performance solution as having an impact on the adoption of the solution. One of the key challenges many participants described is figuring out how much content to include to provide the right amount of support that is easy for the learner to find and use.

Carrie described a situation at her hospital as they were moving very quickly to roll out a performance support system to help nurses seamlessly transfer to different units during the COVID 19 pandemic.

> We were overwhelmed with information because they [subject matter experts] said this is necessary information. And we had to scrutinize, we had to say, "No, this is too much." We have little pieces of information, especially for the task and for the steps and no more. And on the other hand, we had the compliance officers who also were nagging a little bit…So, we say, hey hello, we are in a crisis…An ICU nurse knows how to turn on a respirator and how to turn it off. She knows what the respirator does to the lungs. Only she has to know is where are the buttons, very simple things, but the principles.

Dennis shared a story comparing the ability to find information in the existing performance support solution to the new platform he implemented in one of his organization's plants.

> When we first put it in at our ABC plant, the plant had an EPSS for 20 years. So, someone who didn't work on it at all was invited to come over and we said, "I want you to find in the existing EPSS a skimming and sanitization control document." This individual was pretty savvy with the old system and it took him two minutes and 43 seconds to find it. Then they took him over to the [new performance support platform], which he had never seen and asked him to find the same document and he found it in 23 seconds. Now, that tells you the way things are organized is going to help people use it. If they can quickly access it, they can use it.

Zane talked about a large-scale performance support roll out and the need to make it easy for the workers to access the performance support and easy for the franchise to purchase affordable equipment for access.

> You could access it on any device. It was also accessible via computer but part of the problem with the computer is that you had to walk away from the station. So, the ideal was the learning almost always occurred at the station.
>
> We wanted to ensure the franchisee has the choice in how much investment and infrastructure they want to make. So, when I first proof of concepted and prototyped it with the franchisees, I used a Kindle Fire. I went out and bought 25, $40 Kindle Fires, set them all up in a hotel room for a meeting and had them all sort of learn how to make [food] or learn how to teach somebody how to make [food] using the system. If you want to go buy a $1,300 iPad Pro feel free, but our goal, and our promise was it works on any device.

Logan talked about ensuring the performance support experience is seamless for the learners. The solution needs to be integrated as closely to the work as possible.

> So, it's in every solution, when you're in time and attendance, it's there. When you're in expense reporting, it's there…what we try to do is go to the most seamless user experience we can. Can we even present it in the same window? If it's actually not in the time and attendance system, can we make it look and feel like it is. And if it's just like a SharePoint page, it's all about how do we design the page, because there's a lot you can do with UI to intrinsically build in performance support.

Theme 10: Ability to Experiment and Demonstrate Success

All participants talked about the value of starting with a small pilot or proof of concept project, allowing the learning team to experiment and learn from the process. Most of the participants indicated that success with the pilot provided an observable case study for others to

see, which proliferated into more requests for performance support. Demonstrated success meant more projects and greater adoption.

George shared his experiences at one organization where starting with a very small project gave his team the ability to learn and then move faster.

> Sometimes people get tempted to go after the biggest problem to solve it. That's actually probably the last place to start. Where you want to start is a smaller problem, look for a willing customer that knows you, trusts you, is willing to take a little bit of a gamble on something with you and do that. The very first project I did at ABC organization, it was a tiny little application…It had five tasks in it…That was it.… it was like a proof of concept, learn and fail fast. We used it as a case study for other business groups. There's a temptation to start with the 900-pound gorilla but you should start with small things in the corner that no one is paying a lot of attention to because you learn a lot from that and you'll move a lot faster.

Dennis talked about starting small and focusing on the design process of one performance support system. After demonstrating the value of that process, the business wanted to move faster. This advanced to a proof of concept in one small area and then with positive results, expanded into a larger implementation.

> So, we funded the proof of concept at the site. And immediately the task analysis. The moment people did it, they said, "We've not done anything as powerful as this." And so, they came back with positive feedback that they wanted to do it for a few machines…that was the pilot, and after the pilot, they did one for the whole line. Getting results for a pilot is particularly important. And then, having those people who loved it and believe in it, go back and sell it, right? …This is a really great example of not overselling it, but slowly driving the change. The process of, let's get it in the door pilot, show the results, start implementing it, pulling people together, they can see the results, it's spreading systematically through the organization, people are hearing about it, people want it.

Carrie and Deborah talked about how fast things moved once people observed the benefits of the performance support system at the hospital.

> And when someone sees from another ward or another theme, they are looking for it, they want it too. And that's how it happens, bottoms-up. That's where we started, very small. People then asked, can you do it for the operation desk? Can you do it for the doctors? Can you do it for people working on the COVID wards? Can you do it…And also that some doctors came to us because normally doctors they don't come to our academy. That's a different part, there's a different organization.

Category 4: Individual Characteristics that Influence Adoption

Characteristics of the individuals involved in the introduction and implementation of an innovation in an organization can impact the rate of adoption of the innovation. These characteristics include individual attitudes and motivation for adoption, individual awareness of and skill levels with the innovation, individual (leader) sharing feedback on the adoption process, and individual (leader) ability to influence to advance the change (Wisdom et al., 2014).

Theme 11: Individual Attitudes Towards Performance Support

A key theme that many participants talked about is the attitude of the learning professionals towards performance support. Many learning and development professionals such as instructional designers and instructors are still focused on traditional learning programs. Performance support is a new paradigm and tends to threaten their way of knowing and working. George shared his perspective and experiences with classroom trainers and adopting new learning innovations.

> I think classroom trainers see a lot of different things as existential threats. I think e-learning looked like an existential threat; performance support looks like an existential threat. To some extent, what we dealt with over the last year and a half with virtual learning, for some, they might have seen it as an existential threat. They always tend to be, I don't know, no matter what project they're doing, the biggest change resisters to the projects. That's probably the most difficult audience to take through adoption in something like this.

Ann shared that she found it easier to work with business leaders than learning and development leaders to get started with performance support. She also indicated that it was critical to ensure instructors had a positive attitude towards performance support. She included her instructors in meetings and training on performance support to try and get their buy-in early on.

> It was easier, just convincing business leaders than L&D leaders…because the business leaders understand their business issues. They understand that things are changing so fast.

> And how do we keep people up to speed and all of that is much more than L&D…You need to get your instructor population bought in, in addition to your instructional designers, but at the end of the day, they're the ones if it's an integrated solution with classroom, they can make or break this.

As the CLO of the organization, Zane's strategy was to look for ways to reduce the amount of in-person training needed. His goal was to focus more expensive, in-person learning time on the most strategic things, such as leadership mindsets and attitudes, and use performance support to drive skill development on the job. As Zane talks with leadership, he is using business metrics, not L&D language. He believes this approach threatens L&D professionals and that is one of the challenges with the broader adoption of performance support in organizations.

> It depends on where you sit in the learning and development world. So, instructional designers tend to struggle more with performance support, because everything is some sort of training intervention. That can be particularly challenging…At the management level, there was an expectation that we adapted the strategy around finding ways to eliminate the need for training. In all my examples, I talk about cost, cost savings, impact and labor, all those different things. That is not the typical L&D profile. So, I think to some degree, it threatens the L&D space. So, people don't want to chase it and I think that's actually what the hold back has been.

Theme 12: Individual Awareness and Skill Levels with Performance Support

Many participants talked about the awareness levels of their L&D teams about performance support and the impact of developing the skills of L&D professionals supporting the adoption of performance support.

James talked about his own experiences learning about performance support and that it really takes time to shift your mindset. He believes the L&D community needs to develop new competencies for the future.

> But for me, it's a mindset. It's a totally different way of looking at your contribution as a L&D professional in your organization. And the thing is it takes time to understand that new mindset and to accept that this change is needed…I believe that with L&D, there's a longer term need for skills development, competence development, more to create the skills basically of tomorrow.

Ann shared her experiences working with the instructional designers and instructors to help them learn about and buy into performance support as a strategy.

> The instructional designers that we have on this project, were folks that had gone through training…and they were gung-ho and understood it… And we unfortunately, outsourced part of that project too. And so, there were little clashes here and there with the vendor because they were gung-ho on instructor led training…So, we had the team that was building performance support and the team that was building the instruction working together to help them see that they're not in competition…And that was how we got everybody that was just gung-ho on instruction to buy into this…So, we started training all of L&D from consultants to IDs, and instructors together.

Blake shared his experiences helping the technical instructors in his organization build awareness of performance support and the benefits it provides to them personally.

> We saw a reduction in workforce that eventually caught up with us. The locations that always had two instructors and a receptionist or an admin suddenly found themselves with an instructor and an admin or in some cases, just an instructor. They realized, "I can't do everything I have to do"... Our instructors have really started to embrace the performance support methodology, and I'm even hearing them now using phrases like, "Yeah, I want to create something that will be available just in time of need, just when they need it." The transition is happening.

Theme 13: Leader Ability to Influence Others

The L&D leader's knowledge and skills also contribute to the adoption of performance support. Most participants discussed their ability to influence as key to being able to experiment and implement performance support. One surprise in the data was how many leaders talked about the language they needed to use as part of the influencing and change management processes.

Etienne explained how he influenced his boss to get started and how he became an "evangelist" about performance support to influence change in the organization.

> My boss had to approve it of course. So, he was my first I had to convince and, of course, I let [external expert] do a presentation about it. I made a clear business case. I suggested how to start with it – I suggested that we don't drain the ocean, that this is not a revolution, but an evolution. I had to do be an "evangelist." Through the whole of the organization. Mostly with a very positive effect.

Edward talked about how he and his team presented performance support concepts to various committees and how challenging it was to use the right language that his leaders could relate to and understand.

> Then when we had something to show them, we're like, "Hey, look at this cool thing that you did. Look at what we produced." They're like, "Wow, that's really cool." They say, "You should take this to whatever committee." We go do that and do a dog and pony. You can see within just moments of the presentation that the heads were nodding…Then you get into the detail level and it's complicated…One of the things I've been trying to do is how do I boil this down to common language? Somebody said, "You really need a primer." Well, my primer turned out to be 20 pages of technical stuff. I was like, "Yeah, that's not it." Most recently I came up with something that was four slides and put it in as common language as I could. But changing to plain language is helping.

Zane, as an executive leader in his organization, shared how he talks to other senior executives about shifting from traditional learning to performance support. He also emphasized using the right language is critical to influencing others.

> My conversation about talking people out of training always would turn people's heads and I'm like, "Well, you're all critics of my work, so I think I should be a critic of my work first." Sitting there saying, do we really need to do this? Is this really going to get us the business outcome that we want? Is this really going to change the behavior or is there an easier way to do it? So, that's where you take people down a performance support road. That's all you need to do, because you are setting the expectations. So, I think that finding that starting point, and then using the right language is extremely important.

Patri shared advice from her experiences working with the business and influencing them to adopt performance support.

> It's going to take a long time to turn the ship around. Be patient, learn as much as you can, be careful of your words, because people are so ingrained into the traditional school room learning …Just be patient, understand that they don't have any other vantage point like you do, that you've got to convince them that is about their learners… that if their learners do a better job, than your business becomes easier.

Theme 14: Leader Assessment of Adoption Progress and Results

Perceived evidence that an innovation works has an impact on adoption (Wisdom et al., 2014). All participants talked about how they measured success of the performance support

implementation. The measurement data and how they communicated the outcomes had an impact on future implementations of performance support. Additionally, almost all participants talked about how challenging measurement is and there is more work to be done as performance support matures.

A key measure that many used to justify success of their projects was usage/engagement data; how many people were accessing the system, returning to the system, and what they were doing in the system.

Henry talked about the types of engagement metrics he collected on his performance support project.

> It's very difficult to quantify the actual why of this, if you will. We stuck more to just looking at engagement metrics. Who was using the tool, would they go back to using the tool more than once? And then, what parts of the tool were they going to? We were looking at those patterns and we could definitely see while not everyone who was introduced to it kept at it, we had a segment of people that they'll go back and sometimes go back a lot.

Sandra shared how she tracked usage data on a performance support system she launched to the teller population at the bank and how that data helped influence others to explore performance support.

> We launch it. Adoption for the teller pages went through the roof ... We were tracking through Google Analytics, and that's how we tracked adoption, was hit to page, time on page. We saw an immediate spike. Once we had success there, it was a train ... I mean, just took off. You could see it in the adoption. I have the numbers somewhere. I think over the time I was there, adoption increased 4,500%.
>
> At that point, you know yourself, when your users are asking for it ... We had businesspeople coming and saying, “Can we get support?” …but yeah. I mean, when I left, we literally had significant demand.

Given that Dennis is leading performance support in manufacturing, there are more specific key performance indicators (KPIs) that can be tracked. Dennis shared his experiences and a specific example of a trackable KPI.

> The first time we did the pilot line, the leader was very clear. He said, "On the pilot line in the first year, my biggest goals are to improve this and this KPI." And so, it was easy for me to track, to see what information related to that KPI was being sourced, how frequently, by how many people. And at the end of that one year, we made a dent in the improvement, we actually improved!

> Unplanned downtime in manufacturing is every time something that should not happen happens. The machine stops. There's a jam. There's a bottle that gets stuck. It is unplanned…When a stop is over a certain period of time, which is unusual, you should be asking a question, why is it taking someone so long…It should have been 20 minutes, it took 45…And if that time is unusual, you should be able to see if during that time any search was done to the self-performance support and if not, ask why not.

Another interesting result that Dennis shared is that when a line goes down in the manufacturing plant, the workers want to come to work on line one because it has a full performance support system in place. The employees like having access to performance support.

Ann talked about using engagement metrics pulled from the platform and also the power of correlating data to show results that can radiate adoption in the organization.

> There were many different measures, couple being easy ones, the number of hits to the performance support system. And with [platform] they had good analytics that we could see exactly what people were going to, who was going. And then we were able to do some correlations between those particular users, and their use of the system and error rates in the system and found then that those who use the performance support system have less errors or less need for help than those who didn't. And those analytics kind of help other businesses to begin to see the power of performance support.

Category 5: External / Environmental Factors that Influence Adoption

The external environment, including extra-organizational events and government policy and regulation, can influence adoption of innovations in organizations (Wisdom et al., 2014). In this study the organizations that are heavily regulated and have compliance requirements talked about the external organizations/policies having an impact on their performances support work. However, the impact of the availability of performances support during the COVID-19 pandemic, a completely external event, was discussed by more participants.

Theme 15: COVID-19 Accelerated the Adoption and Usage of Performance Support

Carrie and Deborah had been exploring the concept of performance support in their hospital in Europe, and when the COVID-19 pandemic hit, it opened the doors for them to address an urgent and critical need.

> We thought we really needed an example of how people can find information and things they need at the proper time when they are busy with the task. And so, during this COVID period, we heard that the academy had to close and we had to go online education. I thought, "Gee, this is a chance. Could we use the methodology for the people working on the operation ward who had to go to the ICU?" I just sent an app to my manager, "Do you think it is a good idea to start to make a workflow solution now?" And she said yes, immediately. And the next 10 days we were working night and day here in the academy with a couple of other teachers and advisors and with lots of people in the hospital.

Patri faced the same challenge in her hospital in the United States. The hospital was moving nurses around and needed to provide support to help with the transitions. An interesting aspect of this situation is that the vendor that supplies the technology platform for both Patri's hospital and Carrie and Deborah's hospital connected them, and they learned from each other.

> Just last year we added another platform for COVID. So, there are challenges where we needed a ton more ICU nurses than we had, because we had a lot of people in other places caring for these patients. So, we had to train nurses on how to be an ICU nurse…We had a trail of staff that we had to train in different ways to do new positions.
>
> And we had just started switching over to [technology platform] just before this all started. The vendor contacted me, and they had built a solution, a platform for a hospital in [Europe] and they asked me if I was interested in having something similar for my hospital. I said yes. And they showed me what they had done…And they offered to let us translate their site.

In addition to hospital settings, George shared an example from a large financial services organization and how performance support enabled them to shift resources from one division that was highly impacted by COVID-19 to another division that needed more help. The transfer took place with minimal training and access to performance support. This saved jobs.

> And early pandemic from like April of last year through towards the end of this year, they had all these travel call center agents, and they didn't know what to do with them because no one was traveling and so they sent them over to different parts of the organization, including credit card, and really did nominal training for them. They just gave them the performance support tools…they already know how to be a good customer service agent and then now they're transferring them back now that travel is opening up again. That had a material impact of not having to lay people off.

Ned had a similar experience in his organization.

> The leave space, the group benefit space where people were taking leave because they had COVID, we needed to bolster their ranks with handlers, so just doing it quickly said, "Look, we're going to teach almost exactly from the [performance support platform], or better yet, if you're going to bring on a group of people to help, could you just have them do one part of the workflow instead of the entire workflow?" When you break it down that way, it allows you to bring on people who aren't used to handling that stuff. This was a big benefit, being able to move people around when you needed them for specific parts of COVID.

Key Themes

This research uncovered 15 themes that influence L&D leaders' decisions to start a performance support project and the ongoing implementation and adoption of performance support in organizations. Four key findings stood out in the data, both by the number of participants that discussed the concept and the nature and impact of the events and experiences shared: 1. Performance support can be used to solve many organizational challenges. 2. An organization's current learning culture can impact the adoption of performance support. 3. The L&D leaders' skills and ability to influence play a significant role in the adoption of performance support. 4. The ability to experiment with performance support and show success accelerated the adoption of performance support. It is interesting that many of these themes also had interconnections in the data.

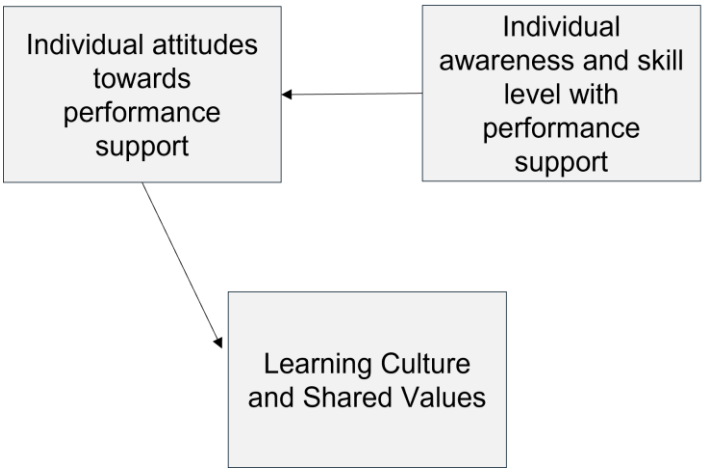
Interconnections of Themes

In the analysis of the themes, there were a few interconnections identified. There was a high code co-occurrence with Theme 11: Individual attitudes towards performance support and Theme 12: Individual awareness and skill levels with performance support. From the data, this could indicate that as learning and development professionals become more aware of and educated about performance support, their attitudes positively change.

Taking this further, there was a high code co-occurrence of Theme 3: Organizational shared learning culture and professional values with both individual attitudes towards performance support and individual awareness and skills levels with performance support. As the data confirm, in many of the organizations in this research, the learning culture is still focused on traditional, in-person learning. The shared professional values of the learning and development departments are based on traditional methods. It would make sense that individual attitudes of the learning and development team can be influenced by the awareness and skill levels of performance support that may, in turn, influence the organizational learning culture and shared values around learning and performances solutions. Figure 3 depicts this relationship.

Figure 3

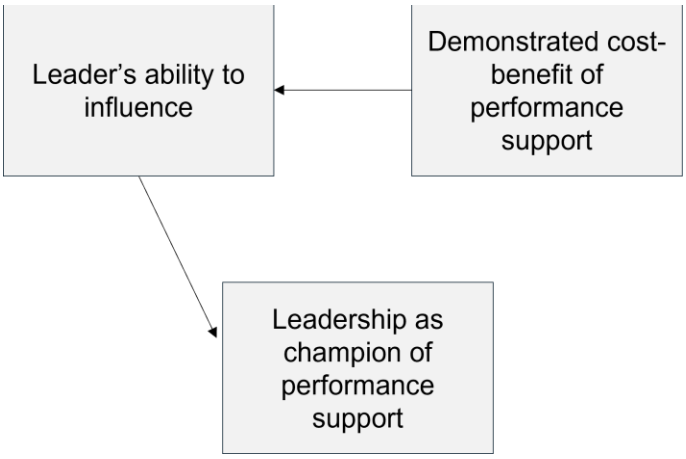
The Interconnections of Individual Awareness and Skill Levels, Individual Attitudes Towards Performance Support, and the Potential Impact on Learning Culture and Shared Values



Another significant code co-occurrence that was identified in the data was the relationship between Theme 8: Demonstrated cost benefit of performance support, Theme 13: Leader ability to influence, and Theme 4: Leadership as a champion of performance support. Figure 4 depicts this relationship.

Figure 4

The Relationship Between Demonstrated Cost Benefit of Performance Support, Leader Ability to Influence, and Leadership as a Champion of Performance Support



The data identified relationships between demonstrated cost benefit of performance support (the innovation), the leader's influencing skills, and gaining leadership support.

Chapter Summary

This chapter outlined a set of themes developed from the analysis of data from participant interview transcripts. Initial open coding filtered through Wisdom et al.'s (2014) context-mechanism-outcome model of adoption enabled a structured and systematic exploration into the events and experiences that lead senior learning and development professionals to adopt and implement performance support solutions in their organizations. From the data, five categories and 15 themes emerged. Themes were supported with examples of descriptive quotes from the participants. These quotes give meaning to the data and were helpful in addressing the research question for the study. The data also highlighted code co-occurrences showing connections between themes that influence adoption of performance support. A discussion of the findings, their relevance to the research question, limitations of the study, and suggestions for future research are included in Chapter 5.

CHAPTER FIVE: DISCUSSION

The concept of integrated performance support solutions was introduced in the early 1990s by Gloria Gery. The design and implementation of these solutions is still a developing discipline within the L&D community. Only one in five organizations surveyed in a training industry survey (Training Industry Report, 2018) claimed to be using performance support. There is a limited body of available research on performance support, most of it in support of the effectiveness of the solution (Nguyen & Klein, 2008). The discipline of performance support within the L&D community, including, a common philosophy, language, and methodology, is still emerging. The question at the center of this study was, *What are the events and experiences that lead senior learning and development professionals to adopt and implement performance support solutions in their organizations?* The purpose was to take a deeper look into organizations that have implemented performance support and to explore the strategies that L&D leaders used to implement and further adopt and diffuse performance support in their organizations to learn from them. This chapter reviews the key findings and implications of the research. The first section explores the themes in context of the literature review. The remainder of the chapter covers the following: practical applications, limitations, study significance, and implications for future research.

Key Findings

Overview

Eighteen leaders from 17 organizations participated in the qualitative research. Coding and analysis of transcripts produced 15 themes into five categories: (a) Impetus to explore performance support, (b) organizational characteristics that influence adoption, (c) innovation characteristics that influence adoption, (d) individual characteristics that influence adoption, and

(e) external/environmental factors that influence adoption. The categories used to organize the findings in this research are based on Wisdom et al.'s (2014) context-mechanism-outcome model of adoption. Wisdom and her colleagues studied 20 theoretical frameworks of adoption and synthesized them into a model that can be used to improve the adoption of innovation. The research team identified 26 "change mechanisms" or factors that can influence both adoption decisions and further implementation. In this research, participants discussed and described 15 of those mechanisms in relation to their experiences with the adoption of performance support in their organization. A few key findings stand out from the research: 1. Performance support can solve many organizational performance problems. 2. The learning culture of an organization is a significant factor. 3. The L&D leaders influencing skills are critical. 4. The ability to experiment and demonstrate success significantly influences the adoption of performance support.

The study participants described the business challenges they were trying to solve with performance support. Examples included providing in the moment product and pricing information to sales representatives, providing step-by-step guidance on work procedures, helping colleagues in the midst of a corporate merger onboard to their new organization, and learning how to write better documents. There is often a misperception that performance support only works with highly procedural tasks, which leads to missed opportunities for organizations. For example, Henry shared that there was a perception by his leadership that performance support was good for the help desk representatives, but not for consultants. The data from this research corroborate the assertion in the literature review that performance support can be used to solve many organizational challenges.

The current learning culture in an organization is another significant factor in the adoption of performance support. If an organization is focused on formal learning and traditional

instructor-led programs, it can be more challenging to introduce performance support into the organization. Most of the organizations interviewed talked about the challenges in shifting culture. Rachel shared, “So, it’s changing slowly, but even after ten years of doing this [performance support], the first gut reaction in many cases is to build a class, put people in a classroom.” George adds, “It’s a significant change in a well-established paradigm.” The discipline of performance support is still maturing. There is a need for more education and exposure to performance support solutions in the L&D community.

The data from the study also indicate that the L&D leaders’ skills and ability to influence play a significant role in making a case for performance support, shifting the culture, and driving implementation and adoption. Most participants talked about the importance of the language they use to talk about performance support. There is a need for L&D professionals to learn and use the language of business, not L&D language and buzz words. The leaders that are able to talk about business challenges and results and the cost savings and benefits in business terms are more successful in introducing performance support in their organizations.

The ability to experiment with performance support and demonstrate success was also a key contributor to successful adoption and further implementation of performance support. All participants talked about the choices they made selecting the first project and the need to be careful to consider the right size project and the right level of risk. It can be tempting to start with the biggest problem, but the recommendation from most leaders is to start small with something that has limited risk to experiment with. This provides the opportunity to learn from that project, demonstrate some success, and then move to larger-scale projects.

Performance support can solve many problems and it can be overwhelming to get started on a performance support project. An overarching theme from the data analysis is that

implementing performance support solutions is a significant change effort, which can be complex. Most participants indicated that getting started was challenging as there are so many factors to consider. There is much to learn about performance support and how to do it, many stakeholders to influence, and multiple resources to engage throughout the process. However, it is not insurmountable, as evidenced by the descriptions and examples from the participants in this study. Any organizational change requires careful planning. Adoption of any innovation is dependent on a variety of factors, including organizational, individual, technical, and social, that combine to influence the rate of adoption (Rogers, 2003; Surry & Ely, 2007). The insights from this research offer L&D professionals a starting point as they begin to engage with performance support and plan for implementation.

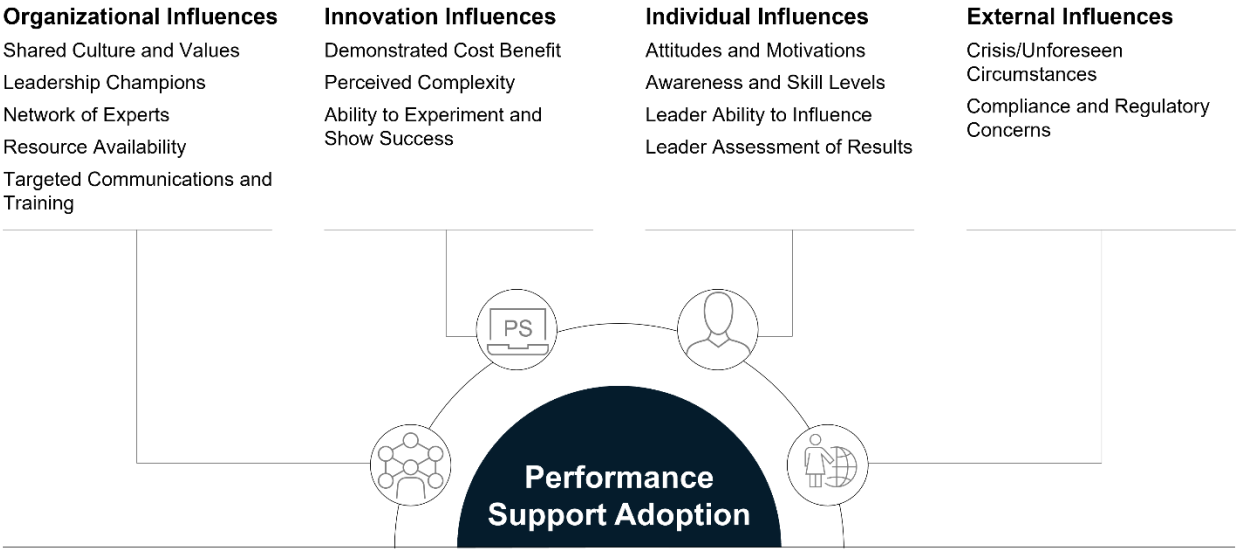
The remainder of this section introduces the *Coates Performance Support Adoption Framework*© and provides a deeper explanation of the strategies that helped L&D leaders make decisions to get started with and implement performance support.

The Coates Performance Support Adoption Framework©

The data from the study were synthesized and organized into categories derived from the conceptual framework for this study, the context-mechanism-outcome model of adoption (Wisdom et al., 2014). See Figure 2. This model was then modified to capture the specific data and themes from this research to create the Coates Performance Support Adoption Framework© (Figure 5). The following section describes the key findings within this new framework in the context of the performance support and adoption and diffusion of innovation literature from Chapter 2.

Figure 5

Coates Performance Support Adoption Framework©



Organizational Influences

Organizational factors have an impact on the adoption of innovations. The low adoption levels of performance support could be attributed to the lack of implementation planning and change management. Even though a performance solution may indeed demonstrate to improve performance, people may resist it, due to a range of issues including organizational/learning culture, lack of leadership buy-in, inadequate resourcing, and poor communications and training (Wisdom et al., 2014). Identifying these types of issues involves a thorough analysis of an organization's environment and a clear definition of the performance challenges (Stolovich, 2007). The data collected in this research provide examples of how learning leaders have considered organizational challenges as they implemented performance support.

Shared Learning Culture and Professional Values

As briefly described earlier, organizational norms, values, and cultures can have a significant impact on adoption decisions and implementation of innovations (Wisdom et al.,

2014). In this research, this was evident from two perspectives: the organizational culture that highly values traditional in-person learning experiences and the L&D team culture of traditional instructional design and training delivery. Performance support is a developing discipline within the L&D community. Many participants talked about the challenges shifting from an established traditional learning culture to thinking about performance first and using performance support. Henry described that his organization has a strong in-person learning culture. The leaders and the professionals have a strong attachment to classroom programs, and it has been very difficult to bring in any technology-based solution. The resistance comes from both leadership and the L&D team. Henry sees the benefits of performance support and believes that his organization will also get there, but it will take time, requiring significant change management.

James talked about the culture of his L&D department. He was "a lone wolf" in his department exploring performance support for a specific business challenge. He talked about his challenges convincing others on his team as their focus is on creating formal learning experiences. He said, "It's a transformation that is much bigger for the L&D department than for the people from the business, because you're more talking business language than L&D language." He continues, "It's a very big change that is tough for people in L&D to take, because you are basically saying to them, 'I will do something different, which I think is better than how you are doing things today.'" Introducing performance support into an already established learning culture requires significant education and change management (Gottfredson & Mosher, 2011).

Leadership as Champions of Performance Support

Having a senior leader's influence, an opinion leader's support, and leadership promotion are positively associated with the adoption process (Wisdom et al., 2014). Additionally, the

feasibility and long-term sustainability of a solution can be enhanced by using a collaborative approach that engages key stakeholders in innovation selection, implementation, and change management (van Tiem et al., 2012). All participants talked about the importance of identifying the right senior leader sponsors as they started with performance support. The participants spoke about finding leaders who have influence and who were willing to take a risk and experiment with them. Participants further noted that it was critical to spend time educating these leaders on performance support as a strategy, the cost-benefit of performance support to the organization, and how it is better than the current approach. Many participants conducted workshops with external experts and leaders to explore the benefits of performance support together and co-create the plan for the first project.

Several participants noted that it was easier for them to convince business leaders than their own L&D leadership, as L&D leaders in a traditional culture have predisposed notions of what a learning solution should be. This took extra time and effort to convince L&D leaders to try performance support. This aligns with Rosenberg (1995) and Carliner's (2002) argument that performance support is a significant paradigm shift for learning professionals and that a traditional training mindset can be a barrier to exploring and adopting performance support solutions.

Some of the participants also talked about the challenges when there was leadership turnover. As leaders moved on to new roles, there was a need to go through the entire education and change process again with new leadership. In the examples from this research, each leader was able to continue with performance support, but all indicated that it was not easy and took time. The key insights from the participants with regards to leadership sponsors, which is in alignment with recommendations from Gery (1991), is to carefully select the right leadership

sponsors as you begin to explore performance support. It is important to spend the time to educate and convince them of the benefits of performance support, and thoughtfully engage them in the implementation process.

Engaging with a Network of Performance Support Experts and Consultants

Given that performance support is a developing discipline in L&D, there is a gap in resources with the knowledge and skills to create a strategy, design, develop, implement, and measure performance support solutions (Carliner, 2002; Gottfredson & Mosher, 2011; Rosenberg, 1995). Many participants talked about the complexity of implementing performance support and being overwhelmed with the experience. In relation to that, many shared the benefits of having a network of external experts and consultants they could engage as they were getting started. These experts supported the L&D leaders in different ways. Many had external experts meet with senior leaders at the beginning of a project to help gain buy-in for performance support. This enhanced the credibility of the performance support as a solution. Many brought in external support to help create the organization's strategy and plan for implementing performance support. Most worked with vendors to explore the technology platform that would be used to deliver the performance support experience to learners. External experts were also actively involved in the implementation process, providing resources to do the design and development of the solution. Additionally, many shared that the external experts provided capability building to the L&D team and business subject matter experts as to how to design and develop performance support, so that they could eventually become self-sufficient. Another added benefit is that the external vendors were able to connect organizations with other organizations doing similar work to help them learn their best practices and lessons learned. The proven methodologies and tools, example case studies, network of others doing similar work,

and overall experience with performance support that external experts offered were instrumental in getting started. Etienne shared, “Don’t think you can do it alone – that’s what I said. You definitely need help from the outside. They were my counterpart in the whole project. I couldn’t do it without them.”

Resources are Available for Implementation and Maintenance

The availability of organizational resources to support the implementation and maintenance of an innovation impacts the adoption of the innovation (Wisdom et al., 2014). Most participants talked about having access to subject matter experts from the business, ensuring that the right resources from the IT department were available, and that resources were identified and committed to the ongoing content maintenance of the performance support solutions.

Subject matter experts from the business are critical to the development and implementation of performance support solutions. As performance support is meant to provide the user with access to the processes, tasks, steps, and supporting information necessary to do their job, it is critical to have experts from the business who are intimately familiar with work processes available to design the solution (Gottfredson & Mosher, 2011). Many participants discussed the challenges of getting subject matter experts time for the work that needed to be done. Participants discussed asking for subject matter expert time from organization leaders early on in the project. Not having access to the right subject matter experts can slow down the design and development process and requires ongoing communication with stakeholders to try and free up resources.

Resources from the IT team are also critical to the success of most performance support projects. Participants shared experiences working with IT departments. If the solution being

implemented includes a technology-driven platform, it is critical to identify and engage the right IT partners from the beginning of the project. Many IT departments have strict protocols for implementing new technologies and there can be significant queues for getting proper IT support. In one example shared by Rachel, she included an IT leader in the early conversations and thought her project was in the proper queue for IT support. When she was ready to launch, she discovered that the IT leader had not included her project in the queue, and this caused significant delays in the initial launch. Rachel realized she had not engaged the right IT partner at the beginning and that going forward she needed to stay in closer contact with IT as projects progress.

Having the right resources available for maintaining and sustaining the performance support solution is also critical to the successful adoption of the solution. As these systems are used by workers every day to do their job, it is imperative that the content is kept up to date and accurate (Gottfredson & Mosher, 2011). This requires dedicated resources that own the performance support content. Typically, this is a new role in the organization. Several participants discussed the challenges with maintenance and the need to identify resources for maintaining the solutions early in the project. Some participants prefer the L&D team to own the maintenance to ensure that it gets done. Other participants required the business to maintain the solutions. These participants started mandating that a business unit identify the maintenance resources and commit to doing it before building the performance support platform for that business unit. When starting to plan the implementation of a performance support solution, it is critical to ensure that the right organizational resources are available and committed to the project.

Targeted Communication and Training

A targeted communications plan and available training about the innovation are positive influencers of adoption (Rogers, 2003; Wisdom et al., 2014). All participants discussed their use of communications and training in educating leaders and learners about performance support. Wisdom et al. (2014) found that innovations that are embedded into training programs are positively associated with adoption. Sandra and Ann shared examples of how the performance support solution they created was directly integrated into in-person onboarding programs. The learners used the performance support system in the training program to complete activities, starting to get used to using it from day one. Rene also embedded her performance support solution but not into an in-person onboarding experience, but rather a web-based solution that incorporated the new content to be learned, a simulation of activities, direct links to the performance support platform, and gamification elements. All three indicated that they believed this strategy had an impact on further adoption of the solution. Henry shared an example of how his performance support system was not fully integrated but merely introduced in the onboarding program. The learners were shown the solution but did not access it in the training. Henry felt this was a deterrent to adoption of the solution. When planning the introduction of the performance support solution to the users, it is important to consider what training is needed and how to embed it into an onboarding/existing program for the user.

In addition to training, targeted communications are critical to the effective roll out and adoption of a performance support solution. When thinking of adoption and diffusion of an innovation, the messaging and communication channels are very important considerations (Rogers, 2003). Most participants talked about how they communicated about performance support to their leaders and learners. In Rachel’s case, her team was very targeted in their

communications approach. As they rolled out a new performance support tool, they communicated it to the leaders first before any further communication to ensure leadership alignment. As for the learners, her team was creating performance support for multiple roles in the hospital. As the performance support for a specific role was ready to be released, they communicated the availability of performance support only to the workers in that role. They did not want everyone to have access and think there is nothing there for them and then possibly never return.

Additionally, many participants talked about creating excitement for performance support and marketing the solution. Most of the participants talked about branding the performance support solution. The participants believed this would make it more memorable for the learner and easier for the learners to identify with performance support. Strong brands are thought to have a memory encoding and storage advantage in building brand awareness and image (Hoeffler & Keller, 2003). Some of the general brands used were Digital Coach, MyHelp, and Navigator. Some participants were creative and used elements of their corporate identity to brand the solution.

As part of celebrating and communicating the launch of a performance support solution, some participants held promotions and parties. This included sharing presentations and brochures about performance support, decorating with balloons, and handing out small, branded mementos like t-shirts and buttons.

The data from this study reveal that participants spent time planning how they would launch the performance support solution to their leaders and learners. They embedded performance support into onboarding training to begin the adoption process by teaching the user how to use the solution in context of their work. They created targeted communications to

introduce the solution to leaders and learners. They branded the solution to help learners associate with performance support, and they held celebrations and promotions to garner excitement for the new solution.

Innovation Influences

Rogers (2003) and Wisdom et al. (2014) claimed that an innovation will experience increased adoption and diffusion if potential adopters perceive that the innovation has relative advantage over other innovations, is compatible with existing practices and values, is not overly complex, can be tried on a limited basis before adoption, and offers observable results. The data from this research touched on all these factors. The prevalent themes focused on the following innovation attributes: (a) the ability to demonstrate cost-benefit of performance support (relative advantage); (b) the complexity of performance support; and (c) the ability to experiment and show results (trialability and observability).

Demonstrated Cost Benefit of Performance Support

As L&D leaders begin to explore performance support, one of the first steps is to gain leadership buy-in and funding to implement performance support. There are costs associated with external vendor support and potential technology platforms. In order to gain approvals for funding, the L&D leader needs to demonstrate the cost benefit of performance support and the advantages of performance support over any existing or other alternative solutions. Many of the participants discussed how they developed a business case demonstrating cost savings. Considerations included the cost savings due to a reduction of in-person training as a result of implementing performance support, the reduction of time to perform a task (time to competency), the reduction in the cost of maintaining an existing solution (e.g., paper-based manuals), and the reduction of errors and stoppage of work to fix mistakes (e.g., an assembly

shutting down). These data corroborate Altalib's (2002) return on investment model that reviewed the potential benefits derived from implementing performance support solutions.

Some participants also discussed the complexities of scaling a performance support solution and the cost considerations when you are dealing with large populations. For example, James created a business case to explore the performance support for forklift drivers in his organization's warehouse. He was able to show the benefits of performance support in reducing errors and work stoppage in the warehouses. He created a performance support solution and tested it in one location. The results were very positive; however, the organization was not ready to incur the cost to scale the solution to all warehouse locations globally and the project was put on hold. George also talked about scale as he considered more high-tech solutions such as virtual reality for a performance support solution. However, his population is several hundred thousand employees and that is cost prohibitive. The data from this study indicate that each leader needs to assess the performance support solution, identify the costs for implementing the solution (e.g., vendors and technology), and detail the potential cost savings as compared to an existing solution or alternative solution.

Perceived Complexity of the Solution

Rogers (2003) claimed that the simpler an innovation is to comprehend and use, the faster the rate of adoption of the innovation. In this study, participants talked about two aspects of complexity: the ease of access for the learner and the amount of content that is included in the performance support solution.

Many participants talked about one of the benefits of performance support, providing learners access to what they need, when they need it. A key design element that is part of a popular performance support methodology is to provide learners access to what they need in

"two clicks and ten seconds" (Gottfredson & Mosher, 2012). This means it should take no more than two clicks and 10 seconds for the learner to find what they need. Several participants referenced the importance of designing the solution using two clicks and 10 seconds to ensure that the performance support content was easy to find and use. Additionally, many participants talked about the benefits of ensuring that the performance support solution was as close to the workflow as possible. The preference is to create the solution in an existing system, so that the learners did not have to access yet another platform. Examples of this included creating the performance support within the SharePoint platform that is already the organization's central information portal, embedding the performance support into the hand scanner that forklift drivers already use or making performance support available on a mobile platform that sales agents already use in the field to process orders. This approach also eases maintenance issues. This also corroborates Nguyen's (2007) assertion that performance support solutions that are integrated and linked directly to existing work interfaces tend to be more effective than those that require users to search external systems for information and support.

In addition to making it as easy as possible for the learners to access performance support, participants talked about the design of the content. One key challenge most participants discussed was identifying the right amount of content and the right level of detail to include in the solution. Many participants described the challenges working with subject matter experts who would overwhelm the system with content and make it unmanageable for the learner to find and use what they need. Zane talked about the initial design of a performance support system that had 19 sections. The user experience was severely impacted, and it had to be redesigned. Blake talked about the first iteration of a performance support system that was built for clients by the subject matter experts that was so dense with content and complex that the users became

frustrated and did not use it. The implication from these data is that as L&D professionals begin to design a performance support solution, considering the complexity of the design early in the process can improve the user acceptance and adoption of the solution. The use of tools such as Gottfredson and Mosher's (2011) performance support design pyramid and the two clicks, ten seconds rule can help ensure the design incorporates the right amount of content and is organized and easy to access and use.

Ability to Experiment and Demonstrate Success

The degree to which an innovation can be implemented one step at a time with evidence of incremental success has a positive impact on adoption (Wisdom et al., 2014). Trialability is the degree to which an innovation can be available for experimentation (Rogers, 2003). Most of the participants in this study started small with a pilot or proof of concept project. There was agreement across participants that this is the best way to introduce performance support into an organization. Most participants talked about identifying the right project to start with and recommended starting with a project that was low to medium visibility and risk. This strategy provides the opportunity to learn how to effectively influence stakeholders, design and implement performance support, and show results. A few participants referred to this as a "crawl – walk – run" approach to technology adoption.

Many participants also talked about the ability to show results from the first project or proof of concept, leading to additional projects. The observability of an innovation is the degree to which an innovation is visible to an individual or organization and can have a positive impact on adoption of the innovation (Rogers, 2003). In many cases, the results of the performance supported proof of concept and the excitement from the leaders and users created momentum as other business leaders started requesting performance support solutions for their department. In

some cases, this overwhelmed the system as the L&D team was not prepared for the fast rate of adoption. The implication of this finding is that as L&D professionals begin to pilot performance support, they should consider governance and management processes for new requests. This will help with prioritization and resourcing as performance support expands within the organization.

Individual Influences

Individual characteristics such as attitudes and motivations for change, knowledge, skills and experience with the innovation, leader ability to influence, and leader assessment of results all have an impact on the adoption of innovations (Wisdom et al., 2014).

Individual Attitudes Towards Performance Support

Many participants also discussed the L&D team members' resistance to performance support. These data support Carliner's (2002) argument that the traditional training mindset of L&D professionals can be a barrier to exploring and adopting performance support solutions. Instructional designers who are grounded in traditional learning approaches may show some resistance to performance support. Additionally, several participants claimed that classroom instructors were the most challenging audience. They tended to see performance support as a threat to their jobs. If the organization starts to implement performance support and cut back on in-person training, they fear that they their job may go away. This supports Maurer's (2010) claim that emotional reactions create resistance to change, and that fear is a key driver of the resistance.

Ann recommended that when implementing a blended solution of performance support embedded into a classroom training program, involve the instructor population early in the project. This connects with Maurer's (2010) recommendation to remove as much of the fear as you can through involving individuals early and increasing the excitement about what is positive

about the change. The implication of this finding is that it is imperative to get the buy-in from instructors early in the process, as they can impact adoption of the solution if they are not positive about it in the classroom.

Individual Awareness and Skill Levels with Performance Support

As discussed in the literature review, performance support is a developing discipline that is not well understood in the L&D community. Many L&D professionals learn about performance support at external conferences or when someone in their organization introduces performance support as a solution. This theme is closely connected to individual attitudes and motivations. Most participants in the study indicated that when instructional designers become more aware of performance support and they develop their skills to design these solutions, they start to become believers. As Ann started to bring performance support into her financial services organization, the first thing she did was to create a performance support tool for the bank's instructional designers to learn how to design and develop these solutions. This was a strategic move on Ann's part to help shift the culture of the L&D team from thinking solely about formal programs to performance support. She viewed this strategy to be very successful as the instructional designers started to become the change champions for performance support.

Leader Ability to Influence Others

In addition to awareness and skill levels with performance support, a leader's skill in influencing others was a common theme in the data. According to Gilley et al. (2009), possessing skills in managing change has been connected to bringing about successful organizational change. A lack of understanding of change implementation strategies and the inability to flex one's management style or organizational functions are barriers to success. Other barriers

revealed by Gilley's research include poor communication skills, an inability to motivate others to change, and failure to recognize and reward individuals who make the effort to change.

Many participants in this study shared their experiences leading others through the decision-making processes and implementation of performance support. The L&D leaders also had to educate themselves on the benefits of performance support and develop skills in influencing others to gain approvals to experiment and potentially implement performance support. One key skill that most leaders discussed was the use of language in their communications with business leaders. They had to be thoughtful about using business language, and not learning and performance support lingo, when describing the benefits of performance support to executive leaders. They needed to put themselves in the shoes of the leaders to be able to effectively influence them to move forward with performance support. One leader shared a situation in which his senior leader gave him specific feedback. "I had one senior leader who told me flat out, 'You can be very pedantic. People tune out when you start talking about learning stuff, so you need to learn how to talk about business stuff.' That was a pivotal movement for me." The key insight from this data is that in order to effect change, L&D leaders need to be able to shift their styles and approaches to be effective in leading others and driving change, which is required in a performance support implementation.

In addition to influencing senior executives and leadership sponsors, L&D leaders need to be able to motivate and influence team members. Some participants shared strategies they used to motivate and recognize team members who made the effort to change. Sandra described how she set the tone for performance support in her team. She encouraged an environment of innovation and experimentation. She personally wanted to stay relevant and current in the latest L&D thinking and she expected that of her team as well. It was seen as prestigious when an

instructional designer was given the opportunity to lead a performance support implementation. Additionally, using performance support principles and participating in performance support projects became part of the team's performance review process. The impact of these strategies led to a fully engaged and enthusiastic team ready and motivated to drive performance support in the organization.

Leader Assessment of Adoption Progress and Results

As organizations start to mature in the adoption process of an innovation, decisions leaders make around how to assess progress and results of the implementation have an impact on continued adoption and diffusion of the innovation. Leaders need to determine how success/adoption rates will be measured, who is responsible for monitoring results, and how results are shared in the organization (Wisdom et al., 2014).

How to measure the effectiveness and success of training interventions has been a longstanding challenge and debate within the L&D community. According to Bersin (2021), most L&D leaders do not yet have a complete and actionable measurement program. This is corroborated by this study. Most participants indicated they are still working on their measurement plans for performance support. For the most part, L&D leaders are tracking and reporting on usage and engagement with the solution. This includes metrics such as how many people accessed the system, who accessed the system, how many returned to the system, what parts of the system they accessed, what topics were most visited, and did users comment on any part of the system. The amount of data that could be tracked depended on the platform used for the solution. Some performance support platforms have robust analytic capabilities. Others have very limited tracking and reporting. Some leaders were able to collect data on more "hard impact metrics" including reduced training time, reduced time to competency, reduced error ratings,

reduction in change over time, and so forth. These metrics were dependent on the type of performance support solution being implemented. For example, it is easier to collect these types of metrics from a call center or manufacturing environment that has existing key performance indicators in place. For other more knowledge-based solutions, it can be more challenging to acquire hard impact and productivity metrics.

In addition to usage and engagement data, and quantifiable impact metrics, most L&D leaders are also capturing qualitative feedback to support their efforts. Some leaders used "smile sheet" surveys to capture input on the usefulness of the solution, how easy it is to access and find what is needed, would the learner recommend it to others, and so forth. Others conducted detailed focus groups to explore the learner experience with the solution so that they could improve the solution to accelerate adoption.

All L&D leaders shared their assessment of the value and success of the performance support solution with their leaders, stakeholders, and line managers in support of continued implementation and adoption of the solution. As Henry shared, "There were too many variables and too much effort to quantify this into some sort of value or improved productivity. We stuck to engagement metrics and qualitative feedback, which was accepted by our leadership."

As L&D leaders create their strategy and plan for implementing performance support, they need to consider how they will measure the results of their efforts and share those results with others. It is important to revisit the business problem that is being addressed, ask the leaders and key business stakeholders what success would look like to create the measurement strategy. This strategy needs to include both how to collect usage and engagement metrics, qualitative feedback from users and line managers, and any hard impact measures, and how to report back to

leadership and stakeholders to continue to advance the adoption of performance support in the organization.

Other Findings of Interest

The biggest surprise and most interesting finding in the research was the use of performance support during the COVID-19 pandemic and the larger implications of this for organizations. This was an external, unforeseeable force that had an impact on the adoption and use of performance support. This is Theme 14 in this study. Only 6 of the 17 organizations talked about performance support during COVID-19. However, the stories shared and the impact that performance support had on those organizations during the crisis have the potential to significantly assist other organizations. In one example, a hospital was faced with upskilling nurses in less than 10 days. This was a life-or-death situation and offering in-person training to the number of nurses to meet the demand was not possible. The L&D team had no experience with performance support, but one manager had heard about it at a conference. She quickly engaged an external vendor to explore the possibilities. The hospital leadership approved the funding; and, in 10 days, a team of three people worked day and night with the vendor and were able to launch a performance support system to help nurses transfer from their current ward to the COVID-19 ward in the hospital. The hospital leadership and L&D team deemed the implementation to be a huge success. Both the ability to quickly reskill colleagues and the speed of the implementation are impressive.

In another upskilling example, a large financial services organization was able to save jobs by using performance support during COVID-19. In addition to credit card services, this organization also has a large online travel business. When COVID-19 temporarily shut down the travel business, the agents were reassigned to the credit card or other service divisions. They

already had the basic customer service skills needed to perform the role; they just needed to understand the products and services they were addressing in the new role. These agents could access the available performance support solutions to do their jobs. Reskilling these employees using performance support saved jobs and supported the business continuity of the organization during a pandemic crisis.

Another example of how performance support assisted with business continuity came from a large insurance organization. This organization has implemented a full-scale performance support and knowledge management system for all roles in the organization. When COVID-19 forced the organization to shift into a work-from-home environment, all employees had access to performance support to do their jobs. The business was able to continue to function virtually, with minimal disruption. An organization's ability to respond and have effective contingency plans in place is critical for business continuity and survival (Margherita & Heikkila, 2021). Performance support could be an effective part of an organization's crisis contingency plans.

COVID-19 has forced companies to operate in new ways that were unexpected as they are facing supply chain interruptions, shifts in customer demand, and risks to the health of the workforce (McKinsey Executive Briefing, 2021). The pandemic has accelerated existing trends in remote work, automation, and e-commerce. According to a 2021 McKinsey Global Institute report, up to 25% more workers than previously estimated may need to switch occupations. Additionally, the world is experiencing a significant transition as more people are exiting jobs. As organizations started returning to the office, employees realized they liked remote work and wanted more flexibility (Cook, 2021). Given these challenges, there will be a need to quickly train new hires and upskill and reskill existing employees. L&D organizations will need to be

more efficient and agile to accommodate these changes. Performance support can offer a compelling solution to address these challenges.

These powerful examples add to the existing benefits of performance support and are another important reason for organizations and L&D leaders to consider implementing performance support.

In summary, the findings from this study reinforce the existing research that performance support is an effective learning solution and can solve many business problems. Implementing performance support is an organizational change effort. And change is complex. The data from this study identified 15 factors that influence the adoption of performance support in organizations, organized across four categories: organizational factors, innovation factors, individual factors, and external factors. The next section discusses the practical applications of these findings for L&D leaders.

Practical Application

This study contributes to a better understanding of the factors that influence the adoption of performance support in organizations. Many L&D leaders interviewed in this research spoke about the complexities and challenges with implementing performance support. Their practical insights, examples, strategies, and best practices can provide support for L&D leaders and practitioners who are considering performance support. The insights collected from this research were synthesized and organized into the Coates Performance Support Adoption Framework©. Figure 6 depicts a job aid, based on the framework, that L&D professionals can use to get started with performance support. L&D leaders and practitioners can work through the job using the questions to think about the critical success factors to consider when planning for a performance support implementation.

Figure 6

Job Aid for L&D Professionals: The Process and Questions to Consider When Exploring Performance Support

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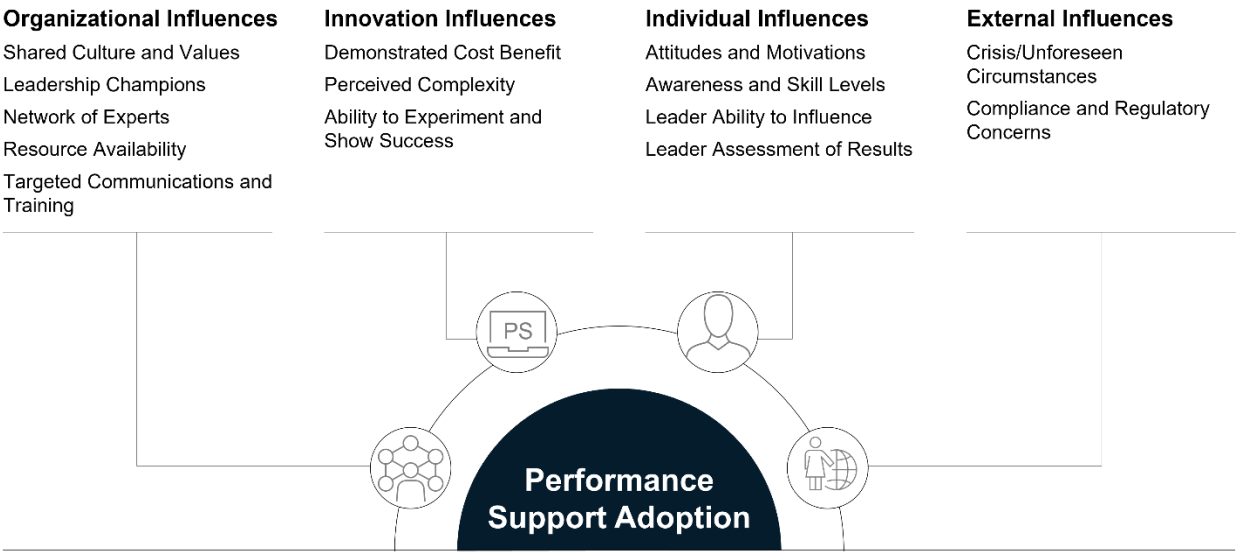
Getting Started with Performance Support

Step 1: Start with a performance problem you are trying to solve

Step 2: Learn about performance support and ask will this solve my problem?

Step 3: If so, start small and experiment

Step 4: Work through the Coates Performance Support Adoption Framework



Organization Influences:

a) How does this fit with my organization's culture? Is the organization accustomed to in person learning? Is the L&D Organization traditional or open to performance-driven solutions? What change management do I need to do to get started?

b) Who is a senior leader or stakeholder that will be willing to take a risk and partner on this project? Who will be a champion? What education / convincing do I need to do?

c) What expert support do you need? Who are the right vendors for this project? Technology vendors? Methodology vendors?

d) What internal resources do you need? Can you get the budget? Who from the business should participate as subject matter experts? Who from the IT department should be involved? Do you have the right L&D colleagues engaged? Who will maintain the solutions? Will organizational leaders support the team's time to implement and further maintain and sustain the solution?

e) What communication and training are needed to successfully implement and roll out the solution? Communications and training for senior leaders? Operations leaders? Users? Do you want to brand the performance support platform?

Innovation Influences

a) How can you demonstrate the cost benefit of the performance support solution to your leaders? How is this better than the alternative?
b) What do you need to think about in terms of delivery of the solution? What platform will you use? How will users access it? How do you ensure that it is easy to access and use for the learners?
c) What is the scope of the proof of concept/experiment to explore performance support? How will you demonstrate the success of the proof of concept to move forward?

Individual Influences

a) What are the attitudes of the learning managers, instructional designers, and instructors towards performance support? Are they supportive or do they feel threatened? What change management do you need to do? What incentives might you need to put in place?
b) What education and training do you need to provide individuals on your team to build their awareness of the benefits of performance support? What training do you need to provide to build capabilities in designing and implementing performance support?
c) How will you influence others to affect change? What strategies will you use to convince the organization to implement performance support? Are you being careful to use business language, rather than L&D lingo?
d) How will you measure success? What metrics will you collect and share with your leaders and teams?

External Influences

a) Are they any regulatory or compliance factors you need to consider?
b) Are there other external / environmental factors you should plan for?

Overall, this research has the potential to help organizations make better decisions about performance support and simplify the change process by being aware of the practical considerations early in the decision-making and implementation processes. Additionally, and more profoundly, it has the potential to help advance the discipline of performance support.

Limitations

As with any research, there were limitations to this study, particularly researcher bias. In exploratory qualitative research, the researcher is the primary instrument for data collection. Data are filtered through the researcher's experiences, theoretical positioning, and biases. Ultimately, the researcher decides what is important, what should or should not be addressed in the investigation. It is possible that a researcher may miss or exclude data contrary to the researcher's views (Merriam, 2001). I have been an L&D professional for over 30 years and have also implemented performance support solutions. The possibility exists that I may have transmitted unconscious biases throughout the research process. Key areas that could have been impacted by researcher bias in this study include selection of the sample, the interview protocols and process, and data analysis.

The sampling methods for this research may have created limitations. I used purposeful sampling, which is used in many qualitative studies. Qualitative researchers purposely select participants with the goal of increasing the richness of understanding of the phenomenon under investigation (Patton, 2015). I recruited and selected experienced L&D leaders from my professional network, who met the experience criteria for the study. I also used my personal judgment when choosing members of the population whom I believed would be able to share in-depth experiences about performance support to answer my research question. I may have made subjective or general assumptions in the selection of these participants. Given that, my results may not reflect a broad sample of L&D professionals.

Additionally, during the interview process, I tried to always maintain a neutral position. However, my experience and personal beliefs about performance support may have had an impact on how participants shared their perspectives and experiences. Researcher bias may have

also been present in the analysis and interpretation of the data. I may have looked at new information through the lens of my own knowledge and experiences, creating additional biases (Marshall & Rossman, 2016).

I made every effort throughout the design and implementation of the research study to remain neutral, test my thinking, and be reflective and reflexive about what I was learning to address potential researcher bias. Despite any shortcomings due to researcher bias, the study results contribute useful self-reported data that add to the very limited academic literature on performance support and provide practitioners with actionable considerations and advice.

Significance of the Study and Further Research

A key challenge faced by L&D practitioners and leaders is the limited and narrow scope of credible research and evidence upon which to make decisions regarding performance support solutions. L&D professionals are expected to recommend and implement solutions that are proven to work and will help solve organizational problems (Clark, 2006). This study adds to the limited base of research available on performance support and, at this point, is the first academic research specifically on the adoption of performance support solutions.

The focus of this research was to explore how L&D leaders made decisions to adopt performance support and the initial strategies they used to bring performance support into an organization. More research is needed on the long-term adoption and diffusion of performance support in organizations. Detailed case study analyses of organizations from initial decision to start with performance support through organizational implementation would provide richer insights into the full process. This would also address the user adoption and experiences with performance support. Using Rogers' adoption and diffusion of innovations theory to look at

diffusion over time would significantly add to the literature and further support L&D practitioners in implementing performance support.

The overall base of performance support literature could also be enriched and expanded by incorporating perspectives and experiences from related disciplines. Fields such as instructional design, user experience design, knowledge management, and information design have developed bodies of research that could offer useful evidence and insights that could be incorporated to create a stronger body of literature leading to a more complete picture of performance support solutions.

Advanced technologies such as artificial intelligence and virtual and augmented reality (VR) could also play a role in advancing performance support. Currently, the cost to scale these technologies can be prohibitive (e.g., need to spend $200 per employee for a VR device when you have 200,000 employees), but this is an area to continue to monitor for future research (Farrell, 2018).

While more research needs to be done, the findings from this study add to the existing base of literature on what is known about performance support. The limited awareness of this developing discipline, the complexity of performance support solutions, and the limited scope of available research present challenges, and provide rich opportunities to better understand how learning and performance interact in the work environment. With additional research and insights, L&D professionals will be better prepared to recommend and implement evidence-based performance support solutions that solve performance problems and demonstrate results.

Conclusion

The world is rapidly changing, and organizations are struggling to keep up with the speed of technological changes. Additionally, we are all faced with external/unforeseen circumstances,

such as we are experiencing with the COVID-19 pandemic. Organizations need a workforce that can quickly learn and adapt to produce results and stay competitive. Traditional learning solutions are an important part of an organization's strategy, but it is time for L&D departments to explore different and evidence-based solutions, such as performance support, to solve performance challenges.

To help advance the discipline of performance support, this qualitative study sought to gain insights from L&D leaders in a rigorous and systematic way by investigating the events and experiences that lead L&D leaders to adopt and implement performance support solutions in organizations. Data describing the experiences of 18 L&D leaders from 17 organizations were synthesized to create the Coates Performance Support Adoption Framework© that can be used by L&D leaders and practitioners to explore performance support for their organization. This framework can help L&D leaders make informed decisions about performance support and assist them in the initial stages of implementation and adoption. This study contributes to the literature as the first empirical study on the adoption of performance support solutions in organizations. Ultimately the goal is to provide L&D leaders, practitioners, and organizations with sound, evidence-based advice as they consider performance support.

Change is hard. Considering performance support as a potential solution to a learning challenge is a radically different way of doing business in the learning world (Rossett & Tobias, 1999). The implementation of any new innovation requires new knowledge, skills, and political savvy to help organizations shift away from the old ways of working to the new and more improved (Rosenberg, 2014). This takes planning, time, and patience. Gottfredson and Mosher (2021) advised, "It's easy to get caught up and stalled in the many requirements for performance support, but the MOST important requirement is just getting started! Keep in mind the

requirements, but don’t let them prevent you from starting your journey. It won’t be quick, and it won’t be without some degree of ‘failing forward’, but it will be worth your time and effort!” (p. 117).

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Appendix A: Invitation to Enroll Participant Email

Dear _____,

I am a doctoral student at Fielding Graduate University based in Santa Barbara, California, USA. I am conducting dissertation research to explore the adoption of performance support solutions in organizations. As part of this research, I am interviewing senior learning and development professionals who have implemented performance support. Given your experience with performance support, I would like to invite you to participate in this study. This research is being supervised by Dr. Annabelle Nelson.

Participation in this study is totally voluntary. Should you choose to participate, you would be asked to schedule time for an interview via Zoom. Zoom will allow you and I to see one another by camera, hear one another by speaker audio, and allow for a transcription to be logged from our conversation. The interview will take about ***75 minutes*** to complete. I will ask you open-ended questions about your views, decisions, choices, and experiences regarding the implementation of performance support in your organization.

The interview will be completely confidential. The time you commit to this study is greatly appreciated and will hopefully help us advance the discipline of performance support. You will not be financially compensated for your participation; however, I will gladly share the results of the study with you.

Please let me know if you are interested in participating or have any questions or concerns. I can be reached via my cell phone +1 484.639.4158 or via email at kcoates@email.fielding.edu. Once I hear from you, I will send you an informed consent document which explains the ways your information will be confidentially protected. After receiving your signed informed consent form, I will set up a time for the interview.

Thank you for your consideration. I look forward to hearing from you.

Best Regards,
Katie Coates

Appendix B: Informed Consent Form for Interview

Fielding Graduate University
Informed Consent Form

Research Study on The Adoption of Performance Support Solutions in Organizations

Researcher: Kathryn J. Coates, Student, School of Leadership Studies
Fielding Graduate University, Santa Barbara, CA
Email: kcoates@emial.fielding.edu Phone: 484-639-4158

Research Supervisor:
Dr. Annabelle Nelson, Faculty, School of Leadership Studies
Fielding Graduate University
2020 De La Vina Street
Santa Barbara, CA 93105
800.340.1099
Email: anelson@fielding.edu

Dear _____:

Thank you for agreeing to participate in this research study conducted by me, Katie Coates, a doctoral student in the School of Leadership Studies at Fielding Graduate University, Santa Barbara, CA. This study is supervised by Dr. Annabelle Nelson. This research involves the study of how senior learning leaders make decisions to adopt performance support solutions in their organizations. I selected you to participate in this research because of your role and experiences with performance support.

Before you agree to participate in this research study, it is important that you read and understand the information provided in this informed consent form. If you have any questions, please ask me for clarification.

Why Is This Study Being Done?

I am interested in understanding how learning leaders make decisions to adopt and implement performance support. Thirty years ago, the concept of an integrated electronic performance support system that helps employees become more efficient and effective at learning to do and actually doing their jobs was introduced to the learning and development community. However, performance support has not been widely accepted as a solution in organizations. The aims of this research are to (a) examine the information, events, and criteria that leaders use to make decision to adopt performances support solutions; (b) contribute to the academic literature regarding the adoption processes of performance support, (c) identify common themes and best practices of successful adoption that can better educate and assist learning leaders in making

performance support adoption decisions, and (d) advance the discipline of performance support in the learning and performance improvement community.

How Many People Will Take Part in The Study?

This study will involve 15-20 individuals.

What is involved in the study?

Should you choose to participate, you would be asked to schedule time for an interview through a virtual meeting room called Zoom. Zoom will allow you and I to see one another by camera, hear one another by speaker audio, and allow for a transcription to be logged from our conversation. The interview will take about ***75 minutes*** to complete. I will ask you open-ended questions about your views, decisions and experiences with the adoption and implementation of performance support in your organization.

All participants who complete the interview will be offered the opportunity to review, comment on, and revise their interview transcript. If you decide to validate the transcription of your interview and/or suggest any changes that may be necessary, it is expected that you will need no more than thirty minutes to do so.

How Much of My Time Will This Take?

The scheduled interview with me is expected to take about ***75 minutes***. If you decide to validate the transcription of your interview and/or suggest any changes that may be necessary, it is expected that you will need no more than thirty minutes to do so.

What Are the Risks of The Study?

There are no perceived risks in this study.

What Are the Benefits to Taking Part in This Study?

As performance support is a developing discipline within learning and development, the outcomes of this research may help you as you continue to implement performance support in your organization. Through the sharing of experiences and challenges, you may also become aware of areas that could stimulate positive change in your organization as a result of the interview process. Additionally, the outcomes of this research may assist future learning professionals and contribute generalizable knowledge to the broader learning and development and performance improvement communities

What About Confidentiality and Protection?

The information you provide will be kept strictly confidential. All responses will be confidential as allowed by the communication or delivery method used. Data collected will be accessible only to me as the researcher, my supervising faculty, and members and staff of the Institutional Reviews Board of Fielding Graduate University. The Zoom recordings and transcripts will be read and listened to only by myself. I will protect your anonymity by asking you to select a pseudonym and I will store this informed consent form and any identifying information separate from the rest of the study data.

The collected data will be stored electronically on a secure password-protected computer and a password protected back-up hard drive. All research data gathered will be destroyed within three years following the completion of the study.

The published results of this research will include the final dissertation, and possible subsequent journal articles, books, or professional presentations. Please be assured that all identifying information will be removed.

Participation in Research is Voluntary

Participation in this study is voluntary. You are free to decline to participate or to withdraw from this study at any time, either during or after your participation, without negative consequences. If you choose to withdraw, you may request that any of your data that have been collected be destroyed unless it is in an unidentifiable state. If you decide to decline participation you may email that request to me at kcoates@email.fielding.edu. As the researcher, I am also free to terminate the study at any time.

Compensation

No financial compensation will be provided for participation.

Study Results

The results of this research will be published in my dissertation and possibly in subsequent journals, books, or presentations. You may request a copy of the dissertation by indicating your interest at the end of this form.

Additional Information

If you have any questions about any aspect of this study or your involvement, please tell me before signing this form. You may also contact the supervising faculty if you have questions or concerns about your participation in this study. The supervising faculty has provided contact

information at the top of this form. You may also ask questions at any time during your participation in this study by contacting me. If you have questions or concerns about your rights as a research participant, contact Fielding Graduate University IRB by email at irb@fielding.edu or by phone at 805-898-4034.

Please sign below, indicating you have read, understood, and agree to participate in this research and return the signed form to me via kcoates@email.fielding.edu. The Institutional Review Board of Fielding Graduate University retains the right of access to the signed informed consent forms and any other study documents.

I have read the above informed consent document and have had the opportunity to ask questions about this study. I have been told my rights as a research participant, and I voluntarily consent to participate in this study. By signing this form, I agree to participate in this research study. I shall retain or receive a signed and dated copy of this consent.

Printed Name of Participant (please print) _____

Signature of Participant _____ **Date** _____

Printed Name of Researcher _____

Signature of Researcher _____ **Date** _____

Yes, please send a summary of the study results to the email address *or* postal address provided below:

Email Address (please print) _____

Street Address (please print) _____

City _____ State_____ Zip _____

Researcher: Kathryn J. Coates, Ph.D. Student, School of Leadership Studies at Fielding Graduate University, Santa Barbara, CA
7 Colten Drive
Cochranville, PA 19330
Email: kcoates@email.fielding.edu Phone: 484-639-4158

Appendix C: Email with Attached Informed Consent Form for Interview

Dear (Research-participant):

Thank you for agreeing to participate in this research study conducted by me, Katie Coates, a doctoral student in the School of Leadership Studies at Fielding Graduate University, Santa Barbara, CA.

The purpose of this research is to explore how learning and development leaders make decisions to adopt and implement performance support systems and solutions. Thirty years ago, the concept of an integrated electronic performance support system that helps employees become more efficient and effective at learning to do and actually doing their jobs was introduced to the learning and development community. However, the concept has not been widely accepted as a solution in organizations. This type of performance support is a developing discipline within the learning and development and performance improvement communities. There are several research studies on the effectiveness and uses of performance support but there is no academic literature on the adoption of performance support. The aims of this research are to (a) examine the information, events, and criteria that leaders use to make decision to adopt performances support solutions; (b) contribute to the academic literature regarding the adoption processes of performance support, (c) identify common themes and best practices of successful adoption that can better educate and assist learning leaders in making performance support adoption decisions, and (d) advance the discipline of performance support in the learning and performance improvement communities.

I have attached the informed consent for you to sign indicating agreement to participate in this study.

After I receive your signed informed consent, I will send an email about scheduling time for a ***75-minute*** online Zoom audio and video interview with you. Your responses will be completely confidential. I will protect your anonymity by asking you to select a pseudonym and storing any identifying information separate from the rest of the study data.

The attached Informed Consent form describes more details about your potential involvement in the study. If you have any questions, please reach out to me at 484-639-4158 or kcoates@email.fielding.edu.

Best Regards,

Katie Coates, PhD Student, Fielding Graduate University

Appendix D: Invitation to Schedule Interview Email

Subject: Schedule Interview on the adoption of performance support solutions in organizations

Dear (Research-participant):

I appreciate your interest in supporting my research on the adoption of performance support solutions in organizations.

Our first step is to schedule an interview together. The interview will take approximately ***75 minutes*** of your time. You do not need to prepare anything in advance. I am interested in learning about your experiences with the adoption of performance support in your organization.

To accommodate your busy schedule for an interview you can respond to this email and offer me dates and times that you are available. You can also call me at 484-639-4158 to set up a time to meet. When we agree on a date and time, I will send you the link to Zoom. You do not have to download an application to use Zoom.

The research is being conducted between [month/date/year and month/date/year]. If you could contact me in the next week about setting up an interview time, it would greatly assist my timeline for completing my doctorate degree.

I am looking forward to meeting with you.

Best Regards,

Katie Coates, Doctoral Student
Fielding Graduate University
kcoates@email.fielding.edu

Appendix E: Interview Confirmation Email

Subject: Confirm Interview

Dear (Research-participant):

Thank you for agreeing to be interviewed for my research study on the adoption of performance support in organizations.

I am writing to confirm the date and time of your interview: [day of week, date, and time].

Here is the link to our Zoom meeting:

The interview will last approximately ***75 minutes***.

Please contact me if you have any questions or need to change or reschedule the interview. I look forward to meeting you.

Best Regards,

Katie Coates, PhD Student, Fielding Graduate University

Email: kcoates@email.fielding.edu

Phone: 484-639-4158

Appendix F: Interview Guide

Name:
Interview Date:
Time: Start_____ End_____

PART 1: Welcome and Review of Informed Consent

Hello, (research-participant). Thank you for agreeing to this interview. I'm excited to talk with you. I'm also a learning and development professional. I have implemented a few performance support solutions in my organization, with great results. However, I find that it is still not a widely known solution and was intrigued to find out more about the adoption processes of learning professionals who make decisions to implement and adopt performance support. At the same time, I have decided to pursue graduate studies in the realm of Human and Organizational Systems. My curiosity about the adoption of performance support has led me to this study and a desire to help advance performance support in the learning and development community.

Our conversation will take about 75 minutes. Does your schedule still allow for that?

I'm grateful you decided to participate in this research. I imagine you are very busy. Let me know if you would like to take more time on a particular portion of our interview or to revisit a prior portion. I want to be mindful of your time and your experience. I want you to feel that you have been given ample opportunity to communicate your ideas and not overly taxed by the experience.

Do you have any questions that you have of me before we begin?

I sent you a form called Informed Consent and you kindly sent it back to me signed. Thank you for doing that! Did you have any questions about that form or the idea of Informed Consent? It's important that you know that everything we discuss here is confidential. As a learning and development professional, I'm sure you understand the importance of confidentiality, however this interview is a bit different because it has a transcript that will follow. This transcript will be attributed to a pseudonym you select rather than to your real name. That also applies to anyone else you mention by name.

If at any time you would rather not answer a question or would rather not continue speaking about something you have complete authority to make that decision. Also, if you would like to end the interview at any point that is an option available to you. You can ask to have your responses to be withdrawn from the study even after we complete the interview.

Since this is an interview and less of a back-and-forth conversation I many not comment very much throughout. At any time if you'd like me to clarify a question, please let me know. I'll be moving through a series of questions and you're free to respond however feels best for you.

With your permission, I will digitally record this interview and store it in a password protected digital media file. The purpose of the recording is so that I can accurately capture what you share, if the transcript has any errors. This will allow me to more fully listen to what you are telling me. I will take notes to capture my own thoughts and to capture resonant thoughts you communicate that will safeguard against technological failures. Both the digital recording and my notes will remain confidential. After the recording is transcribed, I will send you a copy of the transcript from the interview for your review and comment.

Do you have any questions about what I've just explained or any other aspects of the study? (Answer questions and confirm signatures).

Great! Do you mind if I begin recording now? Alright we are recording!

PART 2: Main Interview Questions

Section 1: Warm-up Questions:

I've been eager to interview you and learn about the work you do. It's great to have the opportunity to take advantage of technology and to meet in the convenience of the virtual space even though we are in different cities. How are things where you are? Have you ever participated in a research study before?

Section 2: Demographics

1. To get us started, tell me a little about yourself:
    a. What is your position? Job title?
    b. How long have you worked at your company?
    c. How long have you been in your current role?
    d. How long have you worked in learning and development?
2. How would you describe the company you work for?
3. Tell me about your learning and development department?
    a. How many people are in your L&D organization?
    b. What kinds of roles do you have in your organization?

Section 3: Exploring a Critical Incident

Great! Thanks for that information. Let's talk about performance support!

4. To get started, tell me about the first time you heard about or experienced the **idea** of performance support solutions: Where were you? What were your thoughts about it?
5. Tell me how you define performance support?
6. Tell me about the first time you implemented a performance support solution
    a. What was the impetus? How did you decide to get started?
    b. Tell me about the process. How did you get started?
    c. Tell me about who you worked with? Who on your team worked on the project? What were their roles? What other departments were involved (e.g., IT)?
    d. Tell me about working with leadership. Did you have to convince anyone? If so, who and how did you do it?
    e. Tell me about what went well with the project.
    f. Tell me about the challenges.
    g. Tell me about how you measured the effectiveness of the solution.
    h. Tell me about your perceptions of the project. How successful was it?

Section 4: Exploring adoption of performance support in the organization

Now, let's talk about adoption of performance support in your organization

7. After this first project, tell me about the adoption of performance support in your organization.
    a. Tell me about additional solutions. How many?
    b. Tell me about the type of performance support projects you are implementing.
    c. Tell me about the strategies you used to encourage adoption in your organization.
    d. Tell me about any challenges you encountered with adoption in your organization.
8. Tell me how your organization currently views performance support:

a. Your leadership?

b. Your learning and development team?

c. Your employees (users)?

d. How has that changed over time?

9. Tell me how you think your organization has been affected by the implementation of performance support?
10. Tell me how you think your learning and development team has been affected by the implementation of performance support?
11. Tell me about your current learning strategy? How has performance support changed your strategy?

PART 3: Closing Questions

Thank you for sharing your perspectives and experiences. I only have a few closing questions left.

12. As you think about the purpose of my research and the questions I have already asked you, is there anything else you would like to add?
13. Is there anything I have not asked you that you think I should?
14. From our interview time together, I'd like to ask if you have any advice to offer that would help me to improve the interview experience for others.

PART 4: Next Steps

Thank you so much for being part of this. The next step is fun, what pseudonym would you like me to use to help ensure the confidentiality of your information? If you can't think of one or don't have a preference, I will assign a pseudonym to your interview materials. SELECTED PSEUDONYM _____

It's going to take a couple of weeks for me to get your interview transcribed. When the transcription of your interview is completed, would you be willing to review it to validate it and make any corrections or additions that you feel are necessary? _____

It’s going to take several months for the results of the study to be completed. Would you like to receive a copy of the dissertation when it is completed? _____

Thank you for taking the time to be a part of this research. I really appreciate your contribution.

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