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EmpowerED: elevating early childhood educators for student success

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SARGENT COLLEGE OF HEALTH AND REHABILITATION SCIENCES

Doctoral Project

EMPOWERED:

ELEVATING EARLY CHILDHOOD EDUCATORS

FOR STUDENT SUCCESS

by

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DEDICATION

I dedicate this work to the tireless advocates for our youngest learners, including the devoted teachers and occupational therapists who sow the seeds of knowledge and compassion. To my supportive family, whose unwavering encouragement has been my foundation, and to my partner, Thomas, whose constant love and support has illuminated the path of my journey.

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ABSTRACT

This doctoral project introduces EmpowerED, an innovative professional development (PD) initiative set to revolutionize early childhood education by equipping educators with the tools to boost kindergarten readiness through enhanced teaching practices. Centered in the Commonwealth of Massachusetts, EmpowerED integrates key tenets from adult learning theory, social learning theory, and pedagogical principles. Its focus is to develop educators' skills in applying developmentally appropriate practices (DAP), specifically aimed at promoting fine motor skills and multisensory learning experiences.

EmpowerED is crafted as a user-friendly online training module, enriched with interactive elements including quizzes, video demonstrations, and case studies, to foster active participant engagement. It delivers a well-structured, evidence-based curriculum that equips educators with the strategies needed to create stimulating learning environments, thus enhancing the academic journey and lifelong success of their students.

Central to this project is a robust evaluation research plan designed to assess EmpowerED's impact on refining teaching methods and improving student outcomes. In anticipated partnership with the Department of Early Education and Care (EEC), the program aims to significantly influence early childhood education by providing educators with essential skills to meet the varied needs of their students. By offering valuable insights into effective professional development strategies, this doctoral project stands to significantly influence educational practices and policies. It underscores the program's potential for creating a scalable and sustainable enhancement of early learning frameworks, with the ultimate goal of significantly enhancing educational practices and student achievements in early childhood education.

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LIST OF ABBREVIATIONS

DAP.....Developmentally Appropriate Practice

EEC.....Department of Early Education and Care

IDEA.....Individuals with Disabilities Education Act

IEP.....Individualized Education Plan

OTP.....Occupational Therapy Practitioner

PD.....Professional Development

CHAPTER ONE – Introduction

Research indicates that early educational milestones are often predictors of grade school performance, lifelong achievement, and well-being (Kern & Friedman, 2008). As a school-based Occupational Therapy Practitioner (OTP) in the Commonwealth of Massachusetts, there is a discernible decline in kindergarten readiness skills, largely due to a lack of adequate opportunities for motor skill development and sensory-rich learning experiences in preschools. This issue is compounded by recent trends of decreased enrollment in early childhood programs and a significant reduction in early intervention services. In 2020, only 40% of three and four-year-olds were enrolled in early childhood programs, the lowest since 1996 (United States Census Bureau, 2021). Additionally, 80% of early intervention service agencies reported a substantial decline in services in 2021 compared to previous years, suggesting that many children with disabilities might not be identified in a timely manner for necessary special education services (Saffer, 2021).

Considering this context, it becomes increasingly vital for OTPs to equip those interacting daily with preschool-aged children with essential educational resources. This approach hypothesizes that providing early educators with comprehensive training and certification, which encompasses developmental, cognitive, motor, communication, play, sensory, and environmental aspects, will likely enhance kindergarten readiness skills. Additionally, this strategy is expected to facilitate the identification and support of children who might qualify for an Individualized Education Plan (IEP), in accordance with the Individuals with Disabilities Education Act (IDEA).

As larger efforts to enhance access to preschool continue, it is crucial to have support systems in place for early educators and their students. The U.S. Department of Health and Human Services and the U.S. Department of Education (2015) emphasize the need for early childhood educators to work under the guidance of specialists in disabilities. They advocate for inclusive education as a national goal, underscoring the importance of comprehensive training across various professional sectors. It is the shared vision of these two national departments that all individuals are meaningfully included in all facets of life. However, that cannot occur if opportunities to improve competency in working with children of all ability levels and cross-sector professional development (PD) trainings do not exist.

Substantial efforts to improve kindergarten readiness could lead to better collaboration and interaction among early educators, special educators, and service providers. The World Federation of Occupational Therapists (WFOT, 2016) stresses the role of school-based OTPs in unifying services at the preschool level and fostering connections between early intervention and K-12 sectors. Recognizing and reforming certification requirements as per the Department of Early Education and Care (EEC) can ensure that educational needs of all children are met effectively within the Commonwealth of Massachusetts.

Key Factors Contributing to the Problem

Understanding the root causes of the decline in kindergarten readiness in the Commonwealth of Massachusetts is essential to effectively address this multifaceted issue. This section delves into the key factors contributing to this problem, ranging from

the training and support of preschool teachers to systemic challenges within early childhood education. By examining aspects such as workforce dynamics, curriculum inconsistencies, resource limitations, and socioeconomic disparities, it is easier to comprehend the complexities of the issue and identify targeted strategies for improvement.

Limited Training for Preschool Teachers

The minimum hiring requirements set by the EEC focus on staffing needs rather than comprehensive teacher training (Department of Early Education and Care, 2021). Currently, preschool teachers in the Commonwealth of Massachusetts must meet the following: a background check, be at least 21 years of age or have a high school diploma or equivalent, 3 months of supervised (or unsupervised at the program's discretion) work experience, a 3-credit course in child development, and the completion of a staff orientation. Within 2 months of hiring, they will need to complete the state's online training titled "EEC Essentials." Within 6 months, they will need an additional three credits of CEUs or PDPs and a first aid certification (Department of Early Education and Care, 2021, p. 8).

High Turnover Rate of Preschool Educators

The early educator workforce in the Commonwealth of Massachusetts experienced a significant decrease, partly due to the COVID-19 pandemic. In 2021, the Commonwealth of Massachusetts' childcare workforce had shrunk by approximately 19%; while the workforce has recovered in the last year, it is still down by 12%, according to the University of California Berkeley's Center for the Study of Child Care

Employment (2022). Preschool programs may have suffered from bare minimum staffing that contributed to a higher-than-normal rate of burnout. In addition, preschool teachers receive a low rate of hourly pay for their work. In 2021, the median hourly wage for preschool teachers in the Commonwealth of Massachusetts was $18.10 (U.S. Bureau of Labor Statistics, 2022). The Commonwealth of Massachusetts is rated sixth in the country for its preschool educator salary rankings. The median hourly wage for preschool teachers in the entire United States in 2021 was $14.52.

Lack of a Universal Curriculum for Preschools

It is the right of preschool-aged children to have access to equitable learning opportunities that facilitate "optimal development and learning across all domains and content areas" (National Association for the Education of Young Children, 2020, p.1). Exposure to developmentally appropriate practice (DAP) in early education facilitates physical, cognitive, social, and emotional growth and achievement. Learning standards and accountability policies have a direct impact on public education from kindergarten through 12th grade, but they are critical to preschool education as well.

According to the National Center on Early Childhood Quality Assurance (2016), all states have now set forth Early Learning Guidelines for preschool children. While states provide general guidelines on DAP, they do not provide curriculums or instruction on how the guidelines should be implemented; preschools may adopt an existing curriculum or develop their own to strive to meet the guidelines set forth by the state (Massachusetts Department of Education, 2003).

The Commonwealth of Massachusetts does have a Quality Rating and

Improvement System (QRIS), but it has been paused indefinitely to allow programs to focus on health and safety practices. Prior to the COVID-19 pandemic, QRIS was used as a method to "assess, improve, and communicate the level of quality" in preschool programs (Mass.gov, 2022). There are fiscal incentives for programs to achieve higher-level quality ratings, but the state does not enforce participation in QRIS or the achievement of the highest level in the five standards. As of December 2020, out of 2,060 licensed centers, 1,326 centers participated in the MA QRIS (Child Care Aware of America, 2022).

Budget and Resource Constraints

Public funding for preschool education in the United States is provided at the federal, state, and local levels by multiple programs (Barnett, 2010). The Education for All Handicapped Children Act (EHA) of 1975 provides the original framework for special education (Massachusetts Occupational Therapy Association, 2022). It mandates that all children with disabilities ages 3-21 are entitled to receive a Free and Appropriate Public Education (FAPE) with special education and related services at public expense. Massachusetts Chapter 28 (603 CMR 28.01) governs the provision of occupational therapy services to eligible students by public schools (Massachusetts Department of Elementary and Secondary Education, 2018).

Funding for preschool education comes from various sources, but limitations exist in resources and policy restrictions, affecting the collaboration between district OTPs and preschools. The process of initiating special education services, as dictated by regulation 603 CMR 28.04, requires a formal request, which limits public school OTPs in their

ability to independently screen and assess preschool children for disabilities (Massachusetts Department of Elementary and Secondary Education, 2018). Typically, referrals for these evaluations arise when a child is already receiving early intervention services, or through recommendations from medical professionals, parents, teachers, or caregivers who suspect a disability and seek an evaluation from the school district's special education team.

Socioeconomic Factors

Socioeconomic disparities play a significant role in early childhood education quality and accessibility (OECD, 2012). A preschool in a low-income community may have limited resources and fewer opportunities for early education. Additionally, teachers within higher-risk settings tend to have less education, lower levels of competency, and higher turnover rates than general preschool settings (Ball & Trammell, 2011). The challenges that these teachers face may be more prominent and ubiquitous in classrooms filled with at-risk children. The cost of preschool, the availability of accessible public transportation to and from the preschool, the quality of the preschool, the availability of slots for enrollment, and access to comprehensive health and related services are all influenced by these socio-demographic factors.

Proposal to Address the Problem

The problem that this doctoral project seeks to address is decreased kindergarten readiness skills caused by reduced opportunities for fine and gross motor play, skill development, and multi-sensory instruction within the preschools in the Commonwealth of Massachusetts. A training program designed for EEC teachers can address these

concerns. This training program, titled, “EmpowerED: Elevating Early Childhood Educators for Student Success,” will assist teachers in being better prepared to meet the needs of their students by encouraging the incorporation of more developmentally appropriate learning activities and materials into classrooms. The outcome that this project aims to achieve will be the addition of the training program into the 606 CMR 7.09(9) EEC Essential topics as outlined by the EEC in the Commonwealth of Massachusetts (Massachusetts Department of Early Education and Care, 2024).

At this time, 12 EEC Essentials topics are available online on the EEC’s Learning Management System (LMS) (Department of Early Education and Care, 2020). These topics include the following: Child Abuse and Neglect, Emergency Response Planning, First Aid and Cardiopulmonary Resuscitation (CPR) Overview, Food Related Risk and Response, Hazardous Materials, Infant Safe Sleeping Practices, Infectious Diseases and Immunizations, Introduction to Child Development, Medication Administration, Physical Premises Safety, Shaken Baby Syndrome, and Transporting Children. The EEC has developed this comprehensive online PD system to track credentials and provide educators with a means to “learn core content knowledge in multiple ways, track their progress, and more easily develop the core competencies and skills needed to support children’s early learning in a safe environment that leads to positive child outcomes and increased program quality” (Department of Early Education and Care, 2020, p.3). The addition of the EmpowerED program would best fit alongside these topics, likely succeeding the Child Development module.

Summary

This project, through the introduction of the "EmpowerED: Elevating Early Childhood Educators for Student Success" training program, aims to fundamentally enhance kindergarten readiness in the Commonwealth of Massachusetts. By seamlessly integrating EmpowerED into the EEC's existing suite of essential topics, it will provide early educators with crucial tools and knowledge, fostering an environment where children can thrive in all developmental areas. This initiative is not just about enriching educational content; it is a pivotal step towards ensuring that every child receives the best possible start to their educational journey, setting a foundation for lifelong learning and success.

The following chapter offers a comprehensive synthesis of guiding questions, literature reviews, and pertinent data to elucidate the nature of the problem being addressed. Chapter 2 navigates through various theoretical frameworks, weaving together a tapestry of evidence that substantiates the rationale for EmpowerED. It critically examines existing research and educational practices, laying a solid foundation for the proposed interventions aimed at enhancing kindergarten readiness. In Chapter 2, the complexities of early childhood education are explored in depth, highlighting the intersection of theory, research, and practice in the context of improving educational outcomes for young learners.

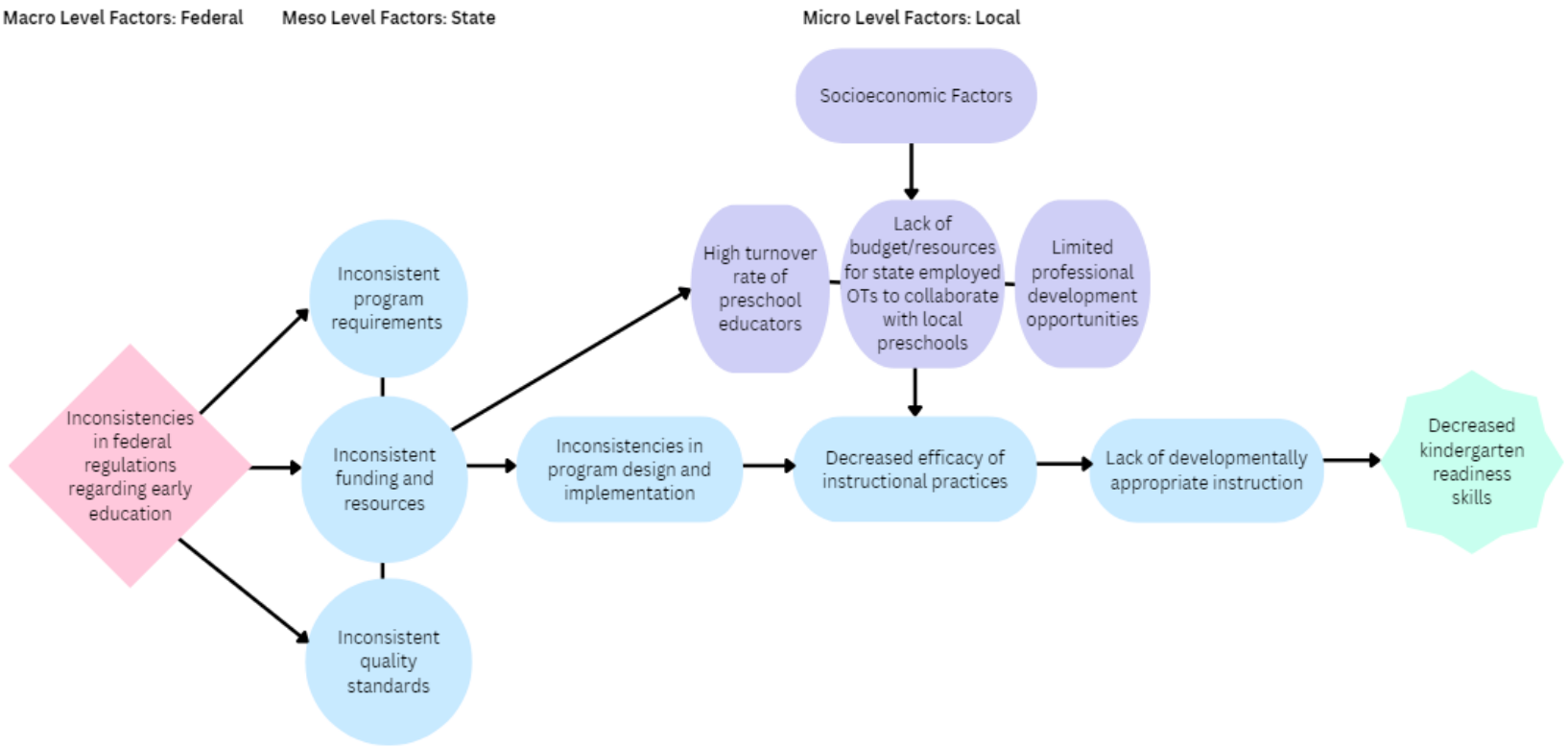
CHAPTER TWO – Project Theoretical and Evidence Base

Kindergarten readiness is a complex concept greatly influenced by a child's developmental stage, their early life experiences, and the instructional strategies they are exposed to (Anderson et al., 2003; Mengstie, 2023; NAEYC, 2020; Williams et al., 2019). This concept, highlighted by scholars across decades, emphasizes the crucial role of early childhood education's quality and the need for teaching practices that align with a child's developmental needs.

Understanding kindergarten readiness requires delving into the multitude of factors that shape it, as well as recognizing how these factors interact within specific contexts. In the Commonwealth of Massachusetts, this is influenced not just by the universal principles of early childhood development, but also by unique local and state-level factors. The explanatory visual model in Figure 2.1 provides a detailed representation of these interactions. It highlights how federal and state regulations, local socioeconomic conditions, and classroom instructional practices converge to influence the early educational experiences of children in the Commonwealth of Massachusetts, thus affecting their readiness for kindergarten.

Figure 2.1

Explanatory Visual Model



Federal regulations play an important role in setting program requirements, funding and resources, and quality standards for early education programs in the United States (NAEYC, 2019; NIEER, 2021). Because of the inconsistencies of the regulations provided at the federal level, state and local governments demonstrate significant variations in the requirements they set forth as it pertains to preschool program design and implementation. Lack of specificity in program design and implementation (i.e. incongruities in teacher qualifications, curriculum, and class size) contribute to the overall efficacy of instructional practices (NAEYC, 2019; NIEER, 2021). Local socioeconomic factors carry an additional influence that may lead to a higher turnover rate of preschool educators, a lack of resources for collaboration with state employed related service providers, and limited continuing education opportunities. Preschool instructional practices are designed to support young children's learning and development through appropriate engagement and activities in the classroom (NAEYC, 2019; NIEER, 2021). When these practices are not effective, children may miss important opportunities needed to succeed in school and beyond. Ineffective instructional practices will directly influence early childhood outcomes and contribute to a lower quality of education that does not adequately prepare students for kindergarten (Palardy & Rumberger, 2008; Pianta, 2011).

Theoretical Framework

Several theories help to explain how inconsistencies in federal regulations regarding early education can ultimately lead to decreased kindergarten readiness skills. Vygotsky's sociocultural theory emphasizes the importance of social interactions and

cultural context in shaping children's development (Daneshfar & Moharami, 2018). In the context of early education, federal policies can influence the cultural and societal norms around early education and shape the expectations and practices of both educators and families (Haslip & Gullo, 2018). The discrepancies of preschool education standards can create confusion and uncertainty about best practices, leading to variability in the quality and type of instruction provided. This variability can affect children's exposure to DAP and opportunities for learning (Haslip & Gullo, 2018).

Bandura's social learning theory argues that individuals learn through observation, modeling, and the reinforcement of behaviors (Bandura, 1986). This theory explains how the consistency and quality of the modeling and reinforcement that early educators receive through their own training can ultimately influence the quality of instruction that young children receive. If early educators do not receive consistent and evidence-based guidance on best practice for teaching certain skills effectively, this can lead to a lack of DAP and exposure for students (Chen & Chang, 2006; Pianta, 2011).

Motor learning theory explains how practice and feedback are essential for developing motor skills (Sullivan et al., 2008). When individuals engage in repeated practice of a motor skill, they develop motor memory, which allows them to execute the skill more efficiently and effectively over time. Feedback is also essential as it helps the child to understand the success or failure of their attempts and adjust their approach accordingly (Sullivan et al., 2008). If students are not provided with this appropriate level and quality of feedback, they may not be able to identify and correct errors in their motor action. Furthermore, if children are asked to perform tasks that are too difficult or not

aligned with their developmental level as explained by a multitude of child development theories, they may become frustrated or disengaged, which can interfere with their ability to learn and effectively develop kindergarten readiness skills (Sullivan et al., 2008).

Overall, these theories suggest that inconsistencies in federal regulations regarding early education can impact the broader societal and cultural contexts that shape early education practices and impact children's exposure to DAP. Limited opportunities for high quality instruction, practice, and feedback loops with children can lead to decreased kindergarten readiness skills, particularly in areas that rely heavily on motor skills such as fine motor coordination and control. Development occurs within a complex system of nested environmental contexts, and these theories argue how macro and micro level systems can influence early childhood experiences and outcomes.

Literature Review

To further understand what factors contribute to kindergarten readiness, various elements were examined, including preschool workforce dynamics, curriculum inconsistencies, resource limitations, and socioeconomic disparities. To delve deeper into these issues and evaluate the evidence to support the explanatory model, a comprehensive literature search was conducted using databases such as PubMed, Eric, APA PsycInfo, and Sage, along with resources from NAEYC, NIEER, and various government websites. Limitations that were set included English Language, peer reviewed articles, and published within the last 20 years.

This chapter aims to dissect these key aspects, steered by specific research questions designed to unravel the complexities of early childhood education and its

influence on kindergarten readiness skills. The primary questions used to guide research include: (1) Is there evidence that there are limited trainings and PD opportunities available for preschool educators? (2) Is there evidence that a lack of exposure to DAP leads to decreased kindergarten readiness skills? (3) Is there evidence that decreased efficacy of preschool instructional practices contributes to a lack of DAP? (4) Is there evidence that socioeconomic factors poorly influence the quality of early childhood education and childhood outcomes? These questions set the stage for a comprehensive exploration of the current state of early childhood education, its challenges, and the potential pathways to enhancing kindergarten readiness through improved instructional practices and educator development.

Developmentally Appropriate Practice and Kindergarten Readiness

Kindergarten readiness is a multidimensional concept influenced by a child's developmental stage, early experiences, and the instructional strategies they encounter (Anderson et al., 2003; Mengstie, 2023; NAEYC, 2020; Williams et al., 2019). Early experiences and relationships significantly influence a child's learning trajectory and overall development, making it imperative to consider the quality of early childhood education and the alignment of instructional practices with developmental appropriateness. NAEYC (2020) defines DAP as a method that encourages optimal development and learning in children through a play-based, strengths-focused approach. It emphasizes tailoring education to individual children's developmental levels, learning styles, and cultural backgrounds. DAP requires educators to consider various factors such as age, grade, culture, socioeconomic status, and gender (NAEYC, 2020). The aim is to

create learning environments that foster physical, cognitive, social, and emotional development.

At the heart of the discussion as it pertains to providing high quality, developmentally appropriate early education is the interactional relational model of school readiness proposed by Williams et al. (2019). This model emphasizes the ongoing interaction between a child's skills, experiences, and learning opportunities, influenced by the perspectives of the community, classroom, and teacher. This perspective highlights the necessity of nurturing a range of qualities such as physical and nutritional well-being, intellectual skills, motivation to learn, and social-emotional capacities, through consistent and contextually relevant early experiences. The cumulative impact of these experiences during a child's formative years shapes their readiness for kindergarten and beyond.

Alford et al. (2016) observed classrooms from pre-kindergarten to second-grade levels, focusing on child-centered and teacher-directed pedagogical approaches. They found that despite research indicating the benefits of learner-centered instruction, most early childhood teachers still employ whole-class, teacher-centered instructional practices. Notably, students taught by teachers with higher developmentally appropriate instructional practices (DAIP) scores, exhibited greater on-task behavior, kinesthetic engagement, and exploration. In contrast, students taught by teachers with lower DAIP scores, were more likely to be distracted and less engaged (Alford et al., 2016).

Despite the widely acknowledged significance of DAP, a divergence exists between teachers' beliefs and their actual classroom practices (Mengstie, 2023). While participants in this study had positive attitudes toward DAP and recognized its

significance, their teaching methods did not align with DAP principles. Factors such as a shortage of resources, large class sizes, lack of parental support, lack of PD opportunities, and administrative challenges hindered the implementation of DAP. This study indicates that while teachers may believe in the value of planning content, teaching methods, and assessments in accordance with children's age, developmental stage, interests, and culture, these beliefs are not always effectively translated into classroom practices. This study suggests that the dissonance between beliefs and practices could be influenced by cultural factors and traditional teaching approaches (Mengstie, 2023).

The importance of DAP in early childhood education is emphasized extensively in evidence-based literature. The NAEYC (2020) underscores the significance of DAP strategies, which are learner-centered, in promoting positive outcomes and minimizing achievement gaps. Research indicates that instruction type plays a critical role in student engagement and achievement (Alford et al., 2016). These studies collectively underline the essential role of DAP in fostering kindergarten readiness skills. By recognizing the role of both educators and the environment, strategies can be developed to address barriers and support teachers in implementing DAP (Alford et al., 2016; Mengstie, 2023; NAEYC, 2020). By harmonizing instructional methods with a child's developmental stage, educators can effectively bolster kindergarten readiness, providing a strong foundation for a successful transition into kindergarten and beyond.

Teacher Efficacy and Developmentally Appropriate Instruction

Another prevailing theme emerges across research, highlighting the critical role of teacher efficacy in shaping the quality of preschool instructional practices and their

alignment with DAP (Chen et al., 2014; Ross & Bruce, 2007; Vartuli, 2005). Teachers with a strong sense of efficacy tend to excel in meeting student needs, employing strategies that foster student autonomy, and embracing innovative teaching methods (Ross & Bruce, 2007). Vartuli (2005) complements this insight, highlighting that teachers with high instructional efficacy create positive classroom environments and foster better learning experiences. This efficacy-driven adaptability plays a significant role in implementing DAP that effectively prepare children for kindergarten (Chen et al., 2014).

However, the interplay between teacher efficacy and DAP is complex. Teachers' beliefs and priorities affect instructional choices, sometimes leading to disparities in subject emphasis (Chen et al., 2014). This divergence can inadvertently sideline essential developmental components. Teachers with low self-efficacy may concentrate on high-achieving students, leaving developmentally vulnerable students with less appropriate instruction. Limited teacher knowledge and self-efficacy in specific areas or effective classroom management skills can hamper the delivery of accurate information in developmentally appropriate ways (Gerde et al., 2013; Ross & Bruce, 2007).

Furthermore, PD emerges as a pivotal factor. The efficacy of instructional practices is closely linked to ongoing training opportunities (Chen & Chang, 2006). However, inconsistency and fragmentation in training programs can hinder the successful integration of developmentally appropriate strategies into the classroom. Effective PD equips educators with the knowledge and confidence needed to navigate the nuances of DAP (Vartuli, 2005).

Research underscores that teacher efficacy, coupled with appropriate training, is

fundamental in ensuring the alignment of instructional practices with the developmental needs of preschool children. The complexities of teacher beliefs, subject-specific self-efficacy, and access to PD opportunities play a pivotal role in shaping the quality and appropriateness of early childhood education.

Access to High Quality Training & Professional Development Opportunities

High-quality PD is critical for educators to improve their teaching and yet there has historically been a fragmented landscape of policies for and uneven investments in early childhood education (Gomez et al., 2019). The professional preparation of the early education workforce can be described by a lack of "quality, equity, and sustainability" (Gomez et al., 2019, p. 169). Fortunately, numerous states have actively endeavored to raise the count of early childhood educators holding associate's and bachelor's degrees, while also striving to expand the reach of PD opportunities (Stone-MacDonald & Douglass, 2015).

The Early Childhood Workforce Systems Initiative by the NAEYC advocates for a unified PD system that bolsters professional standards and career paths across various roles within early childhood systems (NAEYC, 2009). "An integrated system helps develop and retain a competent and stable early childhood workforce—a skilled cadre of effective, diverse, and adequately compensated professionals" (NAEYC, 2009, p.1). Technology may hold the promise of systematically enhancing educators' accessibility to a uniform array of trainings mandated by state early education agencies.

The integration of online and technology-driven learning can establish enduring educational prospects, particularly in situations where in-person training is hindered by

financial or geographical constraints. Online modules provide users with the flexibility to engage with the content according to their own schedule and preferred speed. However, efforts to increase technological literacy of the early education workforce have been limited (Stone-MacDonald & Douglass, 2015). According to data from the National Telecommunications and Information Administration, approximately one in five U.S. households lack internet connectivity at home (Cao, 2022). The main factors contributing to this situation are cost and a lack of reason or interest. Considering this, it becomes evident that although online learning harbors significant potential, it's most effective application could lie in the integration of trainer-mediated and technology-driven strategies (Stone-MacDonald & Douglass, 2015).

The National Institute for Early Education Research (NIEER) conducts an annual State of Preschool Yearbook that provides comprehensive information about state-funded preschool programs in the United States. According to their National Quality Standards Checklist Summary, of the 63 state funded preschool initiatives, only 18 are meeting the benchmark for staff PD (NIEER, 2021). This benchmark is for teachers and teacher assistants, and requires at least 15 hours of PD per year. Apart from stipulating the mandated PD hours for early educators, these policies generally provide scant guidance concerning the specific types of PD that teachers should engage in. In fact, the creation of PD and the formulation of PD policies often exist as distinct entities that frequently lack alignment (Schachter et al., 2019). Extensive research on PD in early childhood education reveals that not all these experiences yield comparable effectiveness in boosting teacher knowledge, nurturing pedagogical skills, or enhancing child outcomes

(Jackson et al., 2006; Piasta et al., 2017; Zaslow et al., 2011). This absence of clear guidance poses a dilemma for those seeking to select appropriate and advantageous PD opportunities.

The Commonwealth of Massachusetts Standards for Professional Development outline a framework for what is considered High Quality Professional Development (HQPD) (Department of Elementary and Secondary Education, 2015). HQPD is defined as a structured and purposeful set of learning experiences aimed at enhancing teacher practice and ultimately improving student outcomes. While these standards may appear well intentioned, there are aspects that raise concerns about their effectiveness in promoting high quality early childhood education programs and PD opportunities within the Commonwealth of Massachusetts. While the standards emphasize alignment with student outcomes and improvement goals, they lack specificity in defining what these outcomes and goals should entail. Without a clear and specific delineation of desired student outcomes, the standards could be open to varying interpretations, potentially diluting the impact of PD efforts. While there is mention of adult learning theory to engage educators, there is no mention of how to effectively integrate adult learning theory into the design and delivery of PD programs. This gap in guidance raises concerns about the practical application of adult learning theory in practice and the omission of specific methodologies rooted in adult learning theory could hinder the creation of meaningful and impactful learning experiences. Without tailored guidelines, the application of these standards might not align optimally with the developmental needs of young learners. The absence of clear criteria, tailored strategies for early childhood, and

comprehensive integration of research-backed practices could hinder the full potential of these standards in driving quality improvements in the state's early childhood education sector.

Socioeconomic Factors

Socioeconomic factors are another significant influencer in the quality of early childhood education and subsequent child outcomes. Despite substantial efforts to improve early education, disparities persist. The U.S. Department of Health and Human Services (n.d.) underscores the profound impact of socioeconomic factors on early childhood development and education. Economic disparities affect children's access to resources, nurturing relationships, and environmental conditions, all of which play a crucial role in cognitive, emotional, and physical development (Anderson et al., 2003). Physical health, cognition, language, and social and emotional development underpin school readiness. Disadvantaged backgrounds often lead to inadequate coping skills, difficulty with regulating emotions, and compromised social functioning due to early life stressors such as family instability and poverty (Volante et al., 2019).

Communities with higher socioeconomic status enjoy better resources, safer environments, and superior early education programs (U.S. Department of Health & Human Services, n.d.). However, even well-structured early childhood programs are not immune to these disparities. Head Start, designed to reduce educational gaps for low-income children, shows that while it helps, disparities can persist due to complex environmental and social factors. Bassok and Galdo (2016) reveal that even in states with advanced preschool access and quality, such as Georgia, variations in the quality of early

childhood education exists across communities. Notably, low-income and high-minority communities tend to offer state preschool classrooms with notably lower ratings on measures of classroom process quality. This discrepancy highlights that despite broad access, the alignment of quality education remains a challenge.

Ball and Trammel (2011) contribute to this understanding by emphasizing that high-risk settings, like special education preschools and Head Start centers, often exhibit a lower level of teacher education, competency, and higher turnover compared to general preschool or K-12 environments. This suggests that socioeconomically disadvantaged contexts frequently face a shortage of highly skilled educators, which can hinder the delivery of effective early childhood education. Socioeconomic factors play a pivotal role in shaping the quality of early childhood education and child outcomes. These factors create disparities in access to resources, quality educators, and supportive environments, leading to variations in the effectiveness of early childhood education programs. Despite the implementation of various initiatives, socioeconomic influences continue to challenge the creation of equal opportunities for all children, necessitating ongoing efforts to mitigate their impact on early childhood development and education.

Quality & Limitations of Current Research

The research methodologies and sample sizes in the studies reviewed vary, influencing the robustness and reliability of findings. While some studies offer in-depth analysis with substantial samples, others may have limitations in scale or scope. Biases and assumptions, particularly in studies with specific regional focuses or demographic groups, may influence interpretations and limit the applicability of findings to broader

contexts. Alford et al. (2016) focuses on classroom observation in pre-kindergarten to second-grade levels, but may not fully capture the diversity of early childhood education settings across different regions or socioeconomic statuses. Mengstie (2023) explores the discrepancy between preschool teachers' beliefs and classroom practices regarding DAP. This research, conducted in Gondar City, Ethiopia, may have limitations in its applicability to different cultural or educational contexts, especially those outside of Ethiopia. Bassok & Galdo (2016) shows differences in quality across communities in Georgia's preschool classrooms, particularly between low-income and high-minority communities and others. While informative, the study is also region-specific and may not reflect the conditions or issues present in other states or countries. While each of these studies contributes valuable insights, it also highlights the need for broader research to understand the complexities of early childhood education more comprehensively.

Considering the limitations and new insights from the literature review, minor adjustments to the proposed model could be debated. Because this model is reflective of preschool programs located in the Commonwealth of Massachusetts specifically, it would be unnecessary to incorporate broader demographic considerations. However, an argument could be made that a revised model might include varying educational contexts within the Commonwealth of Massachusetts and additional variables that affect kindergarten readiness, such as family engagement or community resources.

The literature review substantiates the model's focus on PD, DAP, and socioeconomic factors as key to kindergarten readiness. However, the review also highlights the importance of reviewing ongoing, diverse, and comprehensive research to

continue to refine and adapt the model, ensuring it remains relevant and effective in the ever-evolving field of early childhood education.

Summary

In exploring the multifaceted nature of kindergarten readiness, key aspects such as the PD of early educators, the impact of DAP, and socioeconomic factors were meticulously analyzed. The findings reveal a notable discrepancy between educators' beliefs and their classroom practices, alongside the pivotal role of teacher efficacy and educational disparities. These insights extend the foundational understanding established in earlier discussions, linking theoretical concepts to practical challenges in early childhood education. As the focus shifts to current methods addressing the promotion of kindergarten readiness skills in early childhood education, these findings lay the groundwork for exploring effective approaches and strategies in subsequent discussions.

CHAPTER THREE – Overview of Current Approaches and Methods

Significant evidence shows that access to high quality early childhood education programs has a profound impact on future outcomes, including kindergarten readiness skills (DeBruin-Parecki & Slutzky, 2016; Kern & Friedman, 2008; Wechsler et al., 2016). It is during these early years that children develop a foundation for education, where a love for learning is born. Each year, the National Institute for Early Education Research (NIEER) publishes a report outlining policy recommendations for states and the federal government to advance access to high quality, full-day preschool. In the State of Preschool Report 2021 (2022), the NIEER highlighted intensified and longstanding problems in early childhood education in the areas of program access, quality, and resources. Despite current efforts, many states are still meeting less than half of the evidence-based benchmark standards for minimum program quality.

Research has shown that educator knowledge and training are two of the strongest indicators of quality in early childhood education programs (Education Commission of the States, 2020). As it stands, states are missing the mark on quality standards that relate to curriculum supports, implementation, and staff PD (NIEER, 2022). There are inconsistent standards across the nation for early educator certification requirements and PD opportunities. Early childhood education programs have inequitable access to continuous quality improvement systems such structured classroom observations, individualized PD plans and coaching, and data collection for program enhancement (NIEER, 2022). It is critical that better supports are put into place to meet the needs of early educators and ultimately improve the outcomes for young learners.

Literature Review

Initial inquiry for this problem focused on national and state-specific preschool curriculum guidelines as well as early educator certification requirements. When investigating methods that have been employed to support the development of kindergarten readiness skills in the Commonwealth of Massachusetts, there was no evidence in the literature pertaining to opportunities for early educators to increase their knowledge on instructional practices that incorporate the utilization of fine and gross motor play and multi-sensory instruction in their classrooms as it relates to preschool curriculum standards. This author then researched teacher learning and effective methods of PD.

A literature search was conducted through PubMed, CINAHL, Eric, APA PsycInfo, Sage and Wiley. The keywords used in the search included: preschool teachers AND preschool standards, early learning standards AND kindergarten readiness, early childhood education policy, early childhood education AND professional development, effective online professional development AND design. Limitations that were set included English Language, peer reviewed articles, and published within the last 20 years. Research studies included extensive meta-analyses and systematic reviews, along with government issued documents that were relevant to the following four questions: (1) What are the general guidelines for curriculum standards for early education in the United States? (2) What are the certification requirements for early educators? (3) What PD opportunities are available to them? (4) Is there evidence that educator PD leads to positive student outcomes?

Early Education Curriculum Standards

In the past two decades, states have created early learning guidelines to enhance early childhood programs and underscore the importance of child outcomes, in line with the No Child Left Behind Act of 2001 (National Center on Early Childhood Quality Assurance, 2016). By 2006, all 50 states and 5 U.S. territories had established early learning guidelines, and in 2016, a comprehensive research study encompassing these entities was conducted (DeBruin-Parecki & Slutzky, 2016). The research findings highlight that most state standards prominently feature cognitive skills concerning literacy, mathematics, science, and social studies. However, the extent to which states provide recommendations and emphasize other domains like social-emotional skills, physical development, and learning approaches varies considerably (DeBruin-Parecki & Slutzky, 2016).

In the Commonwealth of Massachusetts, the state provides support in the selection and development of a curriculum to ensure that programs are aligning themselves with the state-issued early learning standards (NIEER, 2002). However, this is not the case for all states and many programs are left to determine their own curriculum and means of implementation. A joint statement released by the National Association for Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education (2002) states that early learning standards support positive development and learning only if they:

> (a) emphasize significant, developmentally appropriate content and outcomes; (b) are developed and reviewed through informed, inclusive processes; (c) are

> implemented and assessed in ways that support all young children's development; and (d) are accompanied by strong supports for early childhood programs, professionals, and families (p. 2).

The need for strong supports for childhood programs and professionals is critical, and while the learning standards outline content areas for young learners, the "best designed early learning standards will have minimal impact on children's success unless they are incorporated into the early childhood PD system and program curriculum and assessment practice" (Tout et al., 2013, p. 39).

Research shows that the most successful early childhood education programs have a curriculum that is not only based on the state-issued comprehensive early learning standards but is also effectively implemented (DeBruin-Parecki & Slutzky, 2016). State policymakers must support the effective implementation by incorporating certification changes, offering educational courses, and requiring PD trainings that are relevant to curriculum guidelines. Only then can states ascertain that early childhood learning standards are promoting positive development and kindergarten readiness (DeBruin-Parecki & Slutzky, 2016).

Early Educator Requirements

Early educator teaching requirements vary greatly from state to state (NIEER, 2022). In part, this is due to different government agencies that sponsor and regulate preschool and childcare programs (Barnett, 2003). Multiple studies by the Institute of Medicine (IOM) and National Research Council (NRC) of the National Academy of Science recommend that preschool teachers have a bachelor's degree with specialized

knowledge and training in early childhood education (NIEER, 2022.). Their conclusions are supported by a meta-analysis summary of 48 individual studies that found teachers with higher educational levels generally provide higher quality educational environments for young children (Manning et al., 2017).

In the Commonwealth of Massachusetts specifically, all preschool teachers are required to have a high school diploma and must complete online training modules classified under the 12 Essential Training Topics provided by the EEC. The 12 Essential Training Topics are part of an online learning management system that houses mandatory and supplemental training for EEC staff (Mass.gov, 2022). The requirements beyond this baseline are dependent on the classification and funding of the early childhood education program. Massachusetts Chapter 70 Program is the only state funded preschool program that is currently meeting the NIEER's quality benchmark for requiring a minimum of a bachelor's degree (NIEER, 2022).

Professional Development for Early Educators and its Impact on Student Outcomes

PD often targets the adoption of developmentally appropriate beliefs into instructional practices to promote more positive teacher-child interactions and therefore better outcomes for young children (Hamre et al., 2012; NAEYC, 2009; Pianta et al., 2017). In a systematic review of 35 research studies, seven design elements of effective PD models were identified: "(1) content focused; (2) incorporates active learning utilizing adult learning theory; (3) supports collaboration, typically in job-embedded contexts; (4) uses models and modeling of effective practice; (5) provides coaching and expert support; (6) offers opportunities for feedback and reflection; and (7) is of sustained

duration" (Darling-Hammond et al., 2017).

A thematic analysis of interview and focus group data collected during a research study on the adoption of early learning standards across the 50 states, offered insight on the standards-related resources and the support offered to teachers (DeBruin-Parecki & Slutzky, 2016). Overall, this study showed that there was a positive view on the enriching content that coincided with the implementation of early learning standards. Respondents reported that the streamlined content was "more manageable and user-friendly" and helped to prevent the misuse of the early learning guidelines. Additional evidence from the National Survey of Early Care and Education supports this notion that PD in early childhood education is most impactful when it is curriculum specific (Gardner-Neblett et al., 2021). Providing support materials to enable teachers to carryout instruction the way it was intended helps to maintain integrity (Borko, 2004).

Studies suggest that content presented along a developmental continuum is also helpful because modeled teacher strategies and child examples can be viewed for different developmental periods, which promotes more individualized instruction (DeBruin-Parecki & Slutzky, 2016; Gardner-Neblett et al, 2021). Early educator PD leads to more intentional teaching beliefs, greater confidence and skills interacting with preschoolers, and increased efficacy with carrying out their role (Hamre et al., 2012; Manning et al, 2017). It is also important to note that PD trainings can be equally effective regardless of the level of education a teacher holds (Hamre et al., 2012).

An additional study explored the modalities and intensity of PD to determine the most efficient in yielding positive student outcomes as it pertains to preschool literacy

(Martinez et al., 2022). Results of this study indicate that lower intensity PD (8 hours of training without coaching) was more efficient than higher intensity PD (40 hours of face-to-face training with coaching); the lower intensity PD required less time and resources to obtain similar results. PD can be highly effective even within a short timeframe if the content is focused on specific practices (Aikens et al., 2016).

Online PD offers a cost-effective and efficient means of delivering effective training (Aikens et al., 2016; Stone-MacDonald & Douglass, 2015). With the National Association for the Education of Young Children (NAEYC) actively advocating for integrated PD systems that align with state standards and career pathways, technology-based training is emerging as a promising approach (NAEYC, 2009). Online delivery of PD is increasingly favored by early childhood educators and has demonstrated effectiveness comparable to traditional face-to-face education (Stone-MacDonald & Douglass, 2015). Given financial limitations at both state and federal levels, coupled with the increasing availability of technology that can overcome geographical barriers, online learning presents an appealing strategy to enhance access for early educators (Stone-MacDonald & Douglass, 2015).

The creation of high-quality online PD courses that can be widely distributed within a state ensures consistent content and instructional quality. In a study conducted by Stone-MacDonald & Douglass (2015), one state that remained nameless allocated resources to develop sustainable online training materials accessible to all early childhood educators, meeting the training requirements of the state's Quality Rating and Improvement System (QRIS). Research findings suggest that many early educators

possess the necessary technological skills and comfort to effectively utilize online PD modules and benefit from this format. These educators spanned diverse experience levels, age groups, ethnicities, and professional sectors within the early childhood field (Stone & Douglass, 2015). In essence, the cultivation of high-quality online PD courses, widely disseminated and tailored to diverse early educators, not only guarantees consistent content and instructional excellence, but also addresses the needs of educators across a spectrum of experience, age, ethnicity, and professional roles within the realm of early childhood education.

PD in the realm of early childhood education plays a crucial role in translating developmentally appropriate beliefs into effective instructional practices, thereby enhancing teacher-child interactions and overall outcomes for young learners (Aikens et al., 2016; Hamre et al., 2012; Stone-MacDonald & Douglass, 2015). Effective PD models, as identified by Darling-Hammond and colleagues (2017), encompass content focus, active learning, collaboration, modeling, coaching, feedback, and sustained duration. This comprehensive approach not only equips educators but also fosters continuous growth. Studies on early learning standards adoption highlight the importance of enriched content and curriculum-specific PD (DeBruin-Parecki & Slutzky, 2016; Gardner-Neblett et al., 2021). PD positively influences teaching beliefs, confidence, skills, and overall effectiveness (Hamre et al., 2012; Manning et al., 2017). Modality and intensity studies, like Martinez et al.'s (2022), emphasize the role of focused content in maximizing PD outcomes. The surge in online PD offers cost-effective and accessible training (Aikens et al., 2016; Stone-MacDonald & Douglass, 2015). With the National

Association for the Education of Young Children (NAEYC) endorsing technology-based training (NAEYC, 2009), online PD caters to diverse educators (Stone & Douglass, 2015). In essence, this synthesis highlights the dynamic nature of PD, emphasizing content alignment, instructional integrity, and the promising future of online PD in nurturing early learners. Effective PD in early childhood education embraces specific design elements, curriculum alignment, and innovative delivery methods like online platforms, ultimately empowering educators to translate theory into impactful practice for the holistic growth and development of young learners.

Quality and Limitations of Current Research

This synthesis draws upon a blend of qualitative and quantitative research studies, many of which embraced extensive sample sizes and well-defined inclusion criteria. Among these studies, DeBruin-Parecki and Slutzky's (2016) report stands out, featuring inputs from 56 officials overseeing early childhood education within state departments. These key figures, encompassing state and territory directors and administrators, offered insights into an array of themes such as the historical evolution of pre-K literacy standards, their developmental trajectory, content specifics, kindergarten readiness, and the correlation between preschool and kindergarten standards.

Some advantages of meta-analyses include increased statistical power, obtaining a more precise estimate of the magnitude and generalizability of the results of individual studies, greater insight into the nature of relationships among variables, and the ability to objectively explore incongruities in a group of studies. Systematic reviews and meta-analyses are both essential tools for synthesizing evidence that is often needed for making

recommendations to early childhood education communities of interest, advocates, and policy makers. This integration of research studies provides diverse sources that enhance the credibility of the findings and enriches the overall analysis. The research studies utilize various data collection methods, such as thematic analysis of interviews, focus groups, and surveys. This multi-method approach adds depth and context to the interpretation of findings.

One limitation this author found is that minimal research has been conducted to monitor the evolution of early learning standards in each state. Comprehensive research in this area could help guide the development of universal curriculum, monitor progress on both state and national levels, increase teacher education, and improve educational instruction and monitoring systems. Such studies could provide invaluable insights into the effectiveness of standards' implementation, their adaptability, and the need for potential revisions to address evolving educational needs. This research could also be used to improve public knowledge of child development. An additional limitation of this investigation is the lack of studies that provide qualitative data illuminating issues surrounding the change in instructional practices of early educators as a result of the PD in their day-to-day interactions with children and families from a range of socioeconomic, cultural, and linguistic backgrounds. A recurring motif emphasized in Brown and Englehardt's (2016) metasynthesis was the lack of acknowledgment in pertinent research regarding the essential connection between implementing DAP for enhancing children's growth and learning, and the necessity for teachers to possess profound insights and a "knowledge of practice" (p. 223). Additional limitations may

extend to the relatively limited focus on early childhood special education practices within the realm of PD and curriculum standards. The unique needs of children with diverse abilities might necessitate distinct instructional strategies and assessment criteria that warrant a more dedicated investigation. Finally, additional constraint arises from the limited exploration of how the evolution of early learning standards and subsequent PD efforts might involve parents or caregivers in enhancing children's learning experiences. Investigating the potential role of parents in supporting curriculum alignment and reinforcing educational goals could also yield valuable insights.

Implications for Program Design

The insights from the reviewed literature hold significant implications for the design of an online training module aligned with the Massachusetts Early Learning Standards. Drawing on the research findings, the application of specific features and strategies can enhance teacher knowledge, improve the efficacy of curriculum implementation, and optimize student outcomes.

Comprehensive Curriculum Coverage

The online module should consider all relevant domains of the Massachusetts Early Learning Standards, with specific focus on cognitive, social-emotional, physical, and linguistic development as they pertain to the development of kindergarten readiness skills. This inclusive coverage aligns with the literature's emphasis on holistic skill development, ensuring that educators are well-equipped to address the diverse needs of their students.

Interactive and Application-Oriented Learning

The online training module should incorporate interactive elements such as scenario-based simulations and case studies relevant to DAP that foster the development of kindergarten readiness skills. These applications directly relate to the metasynthesis by Darling-Hammond et al. (2017), emphasizing active learning principles. Through such interactive exercises, educators can apply their knowledge to authentic classroom scenarios, promoting practical skill acquisition.

Modular Structure and Flexibility

The module's modular structure should allow educators to progress at their own pace and revisit content. This approach acknowledges the varied learning speeds highlighted by Manning et al. (2017) and caters to the diversity of educators' schedules and learning preferences.

Peer Collaboration and Discussion

The training module should integrate discussion forums and virtual workshops to facilitate peer collaboration, aligning with the emphasis on collaboration and feedback in effective PD models (Darling-Hammond et al., 2017). This interactive platform promotes knowledge sharing, diverse perspectives, and a supportive community of practice.

Expert Insights and Coaching

The training module should include videos of experienced educators and related service providers, such as OTPs, demonstrating the effective application of standards, addressing the need for modeling effective practices (DeBruin-Parecki & Slutzky, 2016). These insights offer real-world guidance, boosting educators' confidence in their ability

to translate learning into practice.

Cultural Sensitivity and Inclusivity

The module should embed cultural and linguistic sensitivity into its content and scenarios. This reflects the importance of addressing diverse student backgrounds highlighted by Gardner-Neblett et al. (2021) and ensures educators are well prepared to cater to the needs of all students.

Continuous Learning Pathways

In the future, it would prove beneficial to develop advanced modules and updates that align with the evolving standards, echoing the call for sustained duration in effective PD (Darling-Hammond et al., 2017). These pathways enable educators to continually enhance their skills and remain up to date with best practices.

Assessment and Feedback Mechanisms

The online module should have "check-in" or assessment components that require educators to apply their knowledge in real-world contexts, mirroring the emphasis on application-oriented assessments (Aikens et al., 2016). Immediate feedback on these assessments helps educators track their progress and reinforces their understanding.

In summary, by incorporating interactive and application-oriented learning, a modular structure, peer collaboration, expert insights, cultural sensitivity, continuous learning pathways, and effective assessment mechanisms, the online training module can effectively address the diverse needs of early childhood educators. These features are grounded in the research findings, aligning with effective PD models, and can collectively enhance teacher knowledge, curriculum implementation, and student

outcomes within the context of the Massachusetts Early Learning Standards.

Summary

Chapter 3 examines current approaches and methods in early childhood education, emphasizing the crucial role of high-quality programs in fostering kindergarten readiness. It explores national and state-specific curriculum guidelines and educator certification requirements, highlighting disparities in access to quality education and PD. The literature review delves into the effectiveness of various PD models and their impact on educational outcomes. This chapter sets the foundation for introducing the proposed program, "EmpowerED," an online training module aimed at enhancing teacher competencies in line with Massachusetts Early Learning Standards, addressing gaps in current practices, and ultimately improving student readiness for kindergarten.

CHAPTER FOUR – Description of the Proposed Program

Educational milestones in early education are pivotal for long-term academic and personal success (Kern & Friedman, 2008). The problem that this project seeks to address is the decline in kindergarten readiness skills among preschoolers in the Commonwealth of Massachusetts. This decline is attributed to a lack of DAP within the state's preschools stemming from inconsistent federal and state program requirements and quality standards, a lack of funding and resources, and limited PD opportunities for early educators (NAEYC, 2019; NIEER, 2021). To help combat this issue, the project proposes the development of a training program specifically tailored for EEC teachers.

Delivered through an online platform, the program titled "EmpowerED: Elevating Early Childhood Educators for Student Success," will consist of six sections carefully designed to meet the pressing needs of preschool teachers and their students. Its core objective is to enhance the ability of early educators to foster fine motor development, incorporate multisensory instruction, and employ effective teaching strategies within their classrooms. The program provides teachers with the knowledge and confidence required to elevate their teaching practices, ultimately resulting in heightened student engagement and participation.

Through equipping teachers with the expertise to integrate developmentally appropriate instructional methods and activities into their classrooms, this endeavor strives to enhance kindergarten readiness skills, subsequently fostering children's future academic achievements. This initiative closely aligns with the standards outlined in the 606 Code of Massachusetts Regulations (2023), emphasizing the support of all children

in their journey as lifelong learners, and contributing members of the community. With the goal of providing comprehensive support to preschool educators, this project aims to ensure that no child is left behind and that every child receives equitable access to high quality early education, reinforcing the cornerstones of lifelong learning and success.

Theoretical Background of EmpowerED

"EmpowerED" draws upon established theories and concepts, including adult learning theory, social learning theory, and pedagogical principles. As shown in Figure 4.1, these theories provide the foundation for developing an engaging and effective online learning experience tailored to the unique needs of adult learners. This comprehensive program is designed to provide a rich and interactive learning experience for preschool teachers, leveraging principles such as scaffolding, zone of proximal development, and motor learning theory to foster effective teaching practices and enhance student performance, ultimately increasing kindergarten readiness skills.

Adult Learning Theory

Adult learning theory is fundamental to the development and execution of this online training module, significantly shaping its design to suit the distinctive needs and preferences of adult learners. Adult learners are often motivated by the need to solve real-life challenges and achieve specific goals (Smith, 2002; TEAL, 2011). To address this, the program places a strong emphasis on relevance and practicality, providing teachers with tangible strategies and tools that can be readily applied in their classrooms. Emphasizing the connection between the training module and the needs of their students will help preschool teachers with their motivation and willingness to engage in the

learning process. It is a program that both informs and empowers educators, enabling them to take control of their own learning process.

Active participation is a key tenet of adult learning theory, and the program is structured accordingly (Smith, 2002; TEAL, 2011). It incorporates a range of interactive elements, such as videos, case studies, quizzes, and self-assessment exercises. These engaging activities encourage participants to actively immerse themselves in the content and, importantly, prompt them to reflect on their own teaching practices. Adult learners often bring a wealth of prior experience into the learning process (Smith, 2002). The program acknowledges this by integrating real-world examples and case studies showcasing successful teaching strategies. This approach allows teachers to connect their own experiences with the content, resulting in a deeper comprehension and better retention of the material.

Immediate application of newly acquired knowledge is another hallmark of adult learning theory (Smith, 2002; TEAL, 2011). EmpowerED encourages teachers to put their learning into practice right away, offering hands-on activities and prompting them to craft their lesson plans using the newly acquired concepts. This immediate application reinforces their understanding. Feedback and self-reflection are vital aspects of adult learning, and the program caters to these needs as well (Taylor & Hamdy, 2013). Self-assessment quizzes are included, enabling teachers to gauge their progress and pinpoint areas where they can improve their understanding.

The program acknowledges that adult learners have diverse preferences and often hectic schedules. Therefore, it is delivered in an online format, providing flexibility. This

allows teachers to access the content at their convenience, effectively accommodating their demanding professional lives. By adhering to adult learning principles, EmpowerED can maximize educators' impact on student outcomes and contribute to a more enriched early childhood education landscape.

Social Learning Theory

Social learning theory serves as an additional foundational framework that informs the design of this online training module, recognizing the significance of observational learning and modeling in the educational process (Braungart et al., 2020; Mukhalati &Taylor, 2019). In the absence of direct peer interactions, the program employs recorded examples and case studies as powerful tools to facilitate social learning. Teachers have the opportunity to observe OTPs and experienced educators modeling effective teaching practices through video demonstrations. This aligns with social learning theory, emphasizing the role of observation and emulation of behaviors (Mukhalati & Taylor, 2019).

Moreover, the module encourages teachers to reflect on these examples and consider how to apply them in their unique classroom settings, fostering active engagement and self-directed learning. The program also integrates opportunities for feedback and reinforcement. While participants may not directly interact with peers, they can engage in self-assessment exercises and receive feedback on their progress, reinforcing the principles of social learning. By strategically incorporating these elements, the training module harnesses social learning theory to create an enriching and effective online learning experience for teachers.

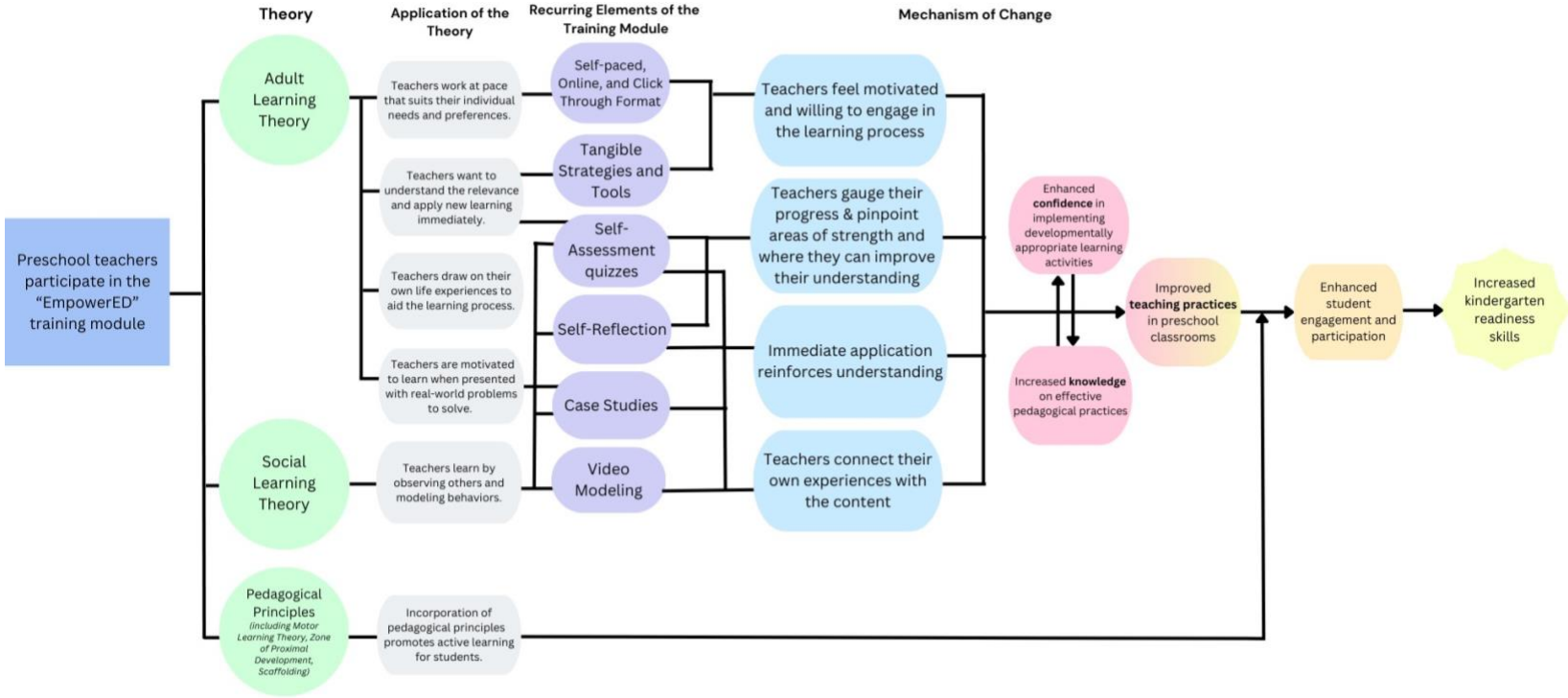
Pedagogical Principles

The incorporation of pedagogical principles serves as a cornerstone for several sections within the training module, directly contributing to the enhancement of kindergarten readiness skills among students. These principles, including scaffolding, zone of proximal development, and motor learning theory, inform the instructional design, fostering a deeper understanding of content and practical application. For instance, the section on "Multisensory Instruction in Preschool" draws upon scaffolding and the zone of proximal development to guide teachers in integrating multiple senses into their teaching methods effectively. By emphasizing the importance of adapting instruction to individual learner needs, this section equips teachers with the tools to address diverse student abilities, aligning with pedagogical principles.

Similarly, the section titled "Implementing and Assessing" leverages these principles to help teachers put strategies into practice. It offers real-world demonstrations and case studies, aligning with motor learning theory by emphasizing hands-on learning experiences. Motor learning theory explains how practice and feedback are essential for developing motor skills (Sullivan et al., 2008). When individuals engage in repeated practice of a motor skill, they develop motor memory, which allows them to execute the skill more efficiently and effectively over time. Feedback is also essential as it helps the child to understand the success or failure of their attempts and adjust their approach accordingly. The integration of pedagogical principles into these sections fosters a deeper comprehension of the concepts while providing practical strategies for application. Ultimately, this leads to improved teaching practices, better student engagement, and

Figure 4.1

Explanatory Model for the EmpowerED



enhanced kindergarten readiness skills, aligning with the broader goals of the training module.

Engagement of Communities of Interest

EmpowerED recognizes the significance of communities of interest at multiple levels. At the micro level, preschool teachers will benefit directly from improved knowledge and skills, positively affecting their teaching practices and professional growth. At the meso level, preschools and early education centers, institutions that employ participating teachers, will experience the ripple effects of improved teacher performance, potentially leading to better student outcomes and greater program effectiveness. At the macro level, the EEC will benefit from a more skilled and confident workforce, contributing to their broader goal of enhancing early childhood education quality across the state. Additionally, parents and preschoolers will indirectly benefit through improved educational experiences and readiness for kindergarten.

Program Scenario

The following scenario highlights a teacher who may benefit from utilizing this program.

> Mrs. Johnson, an experienced and passionate preschool teacher at a culturally diverse preschool in the Commonwealth of Massachusetts, has encountered recent classroom challenges. Despite her dedication, she struggled to find engaging activities for promoting fine motor skill development in her diverse group of preschoolers. The students faced difficulties in basic tasks like holding crayons and scissors and struggled with tasks such as donning coats and managing backpacks, impeding classroom transitions. The decline in her students' fine motor skills since the onset of the COVID-19 pandemic added to her concerns. Mrs. Johnson recognized the importance of multisensory instruction but lacked clarity on how to effectively integrate it into her teaching, given her students' varying learning styles and dysregulation difficulties. Feeling unprepared and

recognizing the constraints on the occupational therapist's availability due to a high caseload, Mrs. Johnson sought solutions.

Her journey took a positive turn when she received an email from the Department of Early Education and Care, introducing her to the "EmpowerED" online training program, newly integrated into the StrongStart platform. Eager to address her challenges, Mrs. Johnson enrolled in the training module. Throughout the module, she acquired practical strategies for fine motor skill development, gained a deep understanding of multisensory instruction, and learned how to create engaging lessons. Video demonstrations proved particularly helpful in illustrating how to implement these methods effectively. Interactive quizzes and individualized learning further bolstered her confidence in adapting lessons for her diverse students.

Mrs. Johnson's classroom underwent a remarkable transformation. She introduced a range of exciting fine motor activities that actively engaged her students, fostering improved hand strength and functional fine motor skills. Successful integration of multisensory instruction ensured active participation from students with diverse learning styles. By the school year's end, Mrs. Johnson observed significant growth in her students' fine motor skills and a renewed enthusiasm for learning. Her newfound confidence in her teaching abilities exemplified the positive impact the online training program had on her students' lives. Mrs. Johnson's journey underscores the potential of online training programs to empower preschool teachers, enabling them to overcome challenges and provide high-quality education to their students.

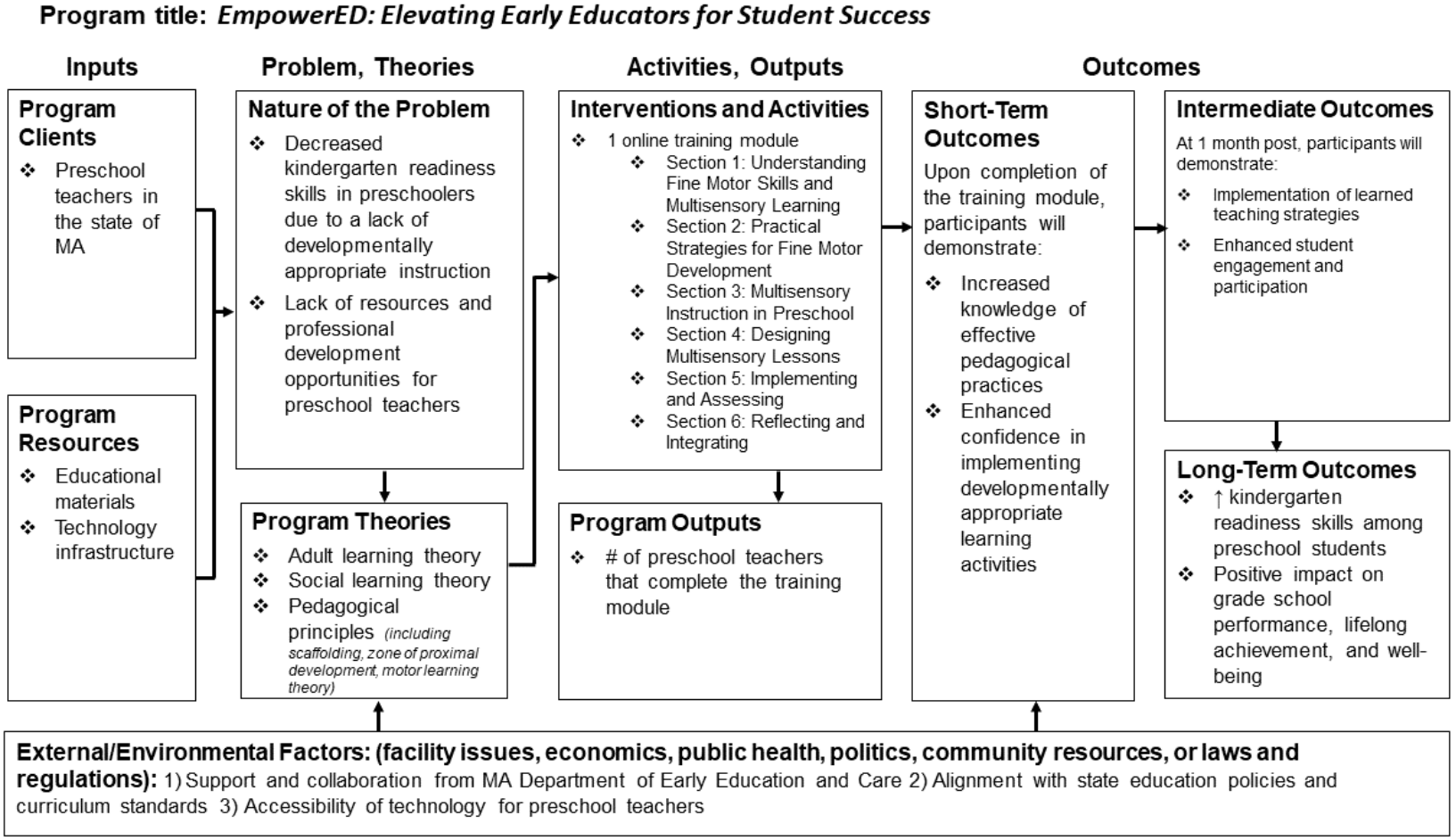
Aims and Objectives of EmpowerED

EmpowerED aims to achieve a primary goal, focused on enhancing kindergarten readiness skills in preschool students, with the overarching aim of positively influencing their grade school performance, lifelong achievements, and overall well-being. To accomplish this goal, the program sets forth several objectives. Upon completion of the training module, participants will demonstrate increased knowledge of effective pedagogical practices and enhanced confidence in implementing DAP. At one month after completion of the module, participants will demonstrate increased opportunities in the classroom for students to engage in developmentally appropriate learning activities,

implementation of learned teaching strategies, and enhanced student engagement and participation. Through the completion of the training module, participants will acquire the skills needed to design engaging fine motor activities, seamlessly integrate multisensory instruction, and employ effective pedagogical principles like scaffolding and the zone of proximal development in their daily teaching routines. Ultimately, these objectives coalesce to enhance the kindergarten readiness skills of young learners while empowering early educators to provide high-quality education. Figure 4.2 provides a comprehensive visual representation that illustrates how the author's proposed program, EmpowerED, will work.

Figure 4.2

Full Logic Model



Program Participants and Resources

The EmpowerED program is designed for preschool teachers who are currently in the process of obtaining or holding certification from the EEC in the Commonwealth of Massachusetts. Recruitment will be facilitated through collaboration with the EEC, utilizing existing databases and communication channels. Efforts will be made to integrate EmpowerED into the existing 12 Essential Training Topics on the Strong Start platform as the foundation for program delivery, ensuring accessibility for all early childhood educators in the state. The EEC (2020) outlines the EEC Essentials training requirements for early childhood educators required by the Child Care Development Block Grant (CCDBG). “These trainings provide the EEC workforce with foundational knowledge pertaining to health, safety and child development topics thereby creating a common base of understanding among early educators in child care programs” (Department of Early Education and Care, 2020, p. 1). This platform tracks individual completion of state regulatory requirements, and certificates of completion are issued once the requirement is met.

The program will be administered and facilitated by the program creator, leveraging the author’s expertise in occupational therapy and educational design. Desired characteristics in this role include a deep understanding of multisensory education, effective communication skills, and a passion for supporting teacher development. Regular check-ins, feedback mechanisms, and support structures will be in place to ensure a positive and enriching learning experience.

EmpowerED will be hosted on a virtual platform that is compatible with Android

and iOS mobile devices (Smart Phone, iPad or Tablet) as well as desktop and laptop computers. Participating teachers will need access to a standard computing device with internet connectivity, audio-visual capabilities, and a reliable internet connection. The virtual environment will be optimized for user-friendly navigation, and technical support will be available to address any issues promptly. This comprehensive approach ensures that the EmpowerED program is seamlessly integrated into the professional lives of preschool teachers, offering an accessible and enriching PD opportunity.

Overview of the Plan for Outreach

To introduce the "EmpowerED" online training module into the EEC's existing platform, a strategic outreach plan is essential. Firstly, an initial point of contact with EEC officials should be established through a formal letter of introduction. This letter will emphasize the alignment of the program with EEC's objectives, particularly in terms of enhancing kindergarten readiness skills and supporting PD for early educators.

Following this introduction, a virtual presentation should be proposed to EEC officials. This presentation will provide a comprehensive overview of the "EmpowerED" program, outlining its content and potential impact. During this presentation, it is crucial to underscore the relevance of the program in addressing current challenges faced by early educators in the Commonwealth of Massachusetts, such as fine motor skill development and multisensory instruction. Moreover, the outreach plan should underscore the program's evidence-based approach, citing relevant research and studies that substantiate its effectiveness. The plan should also highlight the program's data-

driven outcomes, emphasizing the potential for collecting and analyzing data to assess its impact on kindergarten readiness skills.

Additionally, the plan should express a willingness to collaborate closely with the EEC. It should extend an invitation for EEC officials to provide input on program content, assessment methods, and integration into the existing platform. This collaborative approach ensures that the program can be tailored to meet the specific needs and requirements of the EEC. Furthermore, the outreach plan should address technical aspects, explaining how the program can be seamlessly integrated into the StrongStart platform to ensure accessibility for all early educators. It should also highlight the provision of technical support and training for educators to facilitate a smooth transition.

To demonstrate the program's effectiveness, the plan might suggest the implementation of a small-scale pilot program involving a select group of early educators. The pilot program serves as a practical demonstration of the program's benefits and provides an opportunity to gather valuable feedback from participants and EEC representatives for further improvements. Throughout the outreach process, a commitment to ongoing evaluation and reporting should be emphasized, including regular updates on program implementation, participant progress, and outcomes. Lastly, a timeline with key milestones should be provided, and follow-up meetings scheduled to maintain open communication and address questions, updates, and further discussions. Overall, the outreach plan aims to showcase the program's flexibility, accountability, and the substantial benefits it offers to the EEC, including improved kindergarten readiness and enhanced teacher effectiveness.

Interventions and Activities

The EmpowerED intervention is a structured, self-paced, and click-through 60-minute online module consisting of six informative and engaging sections aimed at enhancing the teaching skills and knowledge of preschool educators. The training module will consist of six sections covering the following topic areas: understanding fine motor skills and multisensory learning, practical strategies for fine motor development, multisensory instruction in preschool, designing multisensory lessons, implementing and assessing, and reflecting and integrating. A sample of the module can be found in Appendix E. As participants progress through each module and interact with different components like self-assessment quizzes, case studies, and video demonstrations, they will have opportunities to contemplate their newly acquired knowledge, relate it to their personal experiences, and put it into practice, thereby solidifying their understanding.

Section 1: Understanding Fine Motor Skills and Multisensory Learning

In Section 1, participants will delve into the world of fine motor skills and multisensory learning, understanding their significance in early childhood development. The module will introduce adult learning theory connections to multisensory teaching strategies to underscore the importance of employing engaging, meaningful, and student-centered approaches to education, even when working with preschool-aged learners.

Section 2: Practical Strategies for Fine Motor Development

Section 2 will provide practical strategies for fine motor development, offering hands-on activities and interactive elements such as videos of teachers implementing

these activities. Educators will also learn about creating engaging learning environments, with real-life case studies and techniques to encourage self-regulation in preschoolers.

Section 3: Multisensory Instruction in Preschool

Multisensory instruction takes center stage in Section 3, where participants will explore methods to integrate various senses into teaching, accompanied by engaging case studies. Pedagogical principles like scaffolding and the zone of proximal development will be thoroughly explained, with scenario-based quizzes for deeper comprehension.

Section 4: Designing Multisensory Lessons

Section 4 focuses on designing multisensory lessons, guiding educators through the process of setting clear learning objectives and crafting their own multisensory lesson plans. Strategies for accommodating diverse learners will also be discussed, with real-world examples provided.

Section 5: Implementing and Assessing

In Section 5, educators will learn how to put these strategies into action, with tips for seamless integration into daily teaching. Video demonstrations will showcase successful multisensory instruction, and common challenges in implementing these techniques will be addressed through adaptations and case studies. Methods for assessing and tracking fine motor skill development will also be explored.

Section 6: Reflecting and Integrating

Finally, Section 6 encourages reflection and integration. Participants will engage in self-assessment exercises, learn strategies for fostering collaboration, and receive guidance on pursuing PD opportunities. The module concludes with a brief recap, an

assessment quiz, and the rewarding certification of completion, recognizing participants' commitment to enhancing their teaching practices. This comprehensive program aims to empower preschool teachers with the tools and knowledge needed to create effective learning environments and boost kindergarten readiness skills in their students.

Program Outputs and Outcomes

In the dynamic landscape of early childhood education, the EmpowerED program sets out to achieve impactful outcomes through a carefully crafted training module. The primary program output serves as a tangible measure of engagement and reach – the successful completion of the online training program by preschool teachers across the Commonwealth of Massachusetts.

In the short term, immediate outcomes following the completion of the training module include a noticeable surge in knowledge among participating teachers. EmpowerED anticipates that educators will exhibit an enhanced understanding of effective pedagogical practices, coupled with a newfound confidence in implementing DAP. These foundational changes are envisioned to lay the groundwork for a transformative journey in teaching practices.

At approximately one month post-module, the focus shifts to the practical application of acquired knowledge. Preschool teachers are expected to seamlessly integrate the learned pedagogical strategies into their classrooms, fostering an environment of enriched learning. Simultaneously, an observable uptick in student engagement and participation is anticipated, reflecting the program's immediate positive influence on the classroom dynamic.

The long-term outcomes of the EmpowerED program extend far beyond the confines of a single academic year. With a visionary outlook, the program aspires to contribute to the readiness of preschool students for the challenges of kindergarten. This includes the cultivation of essential skills that form the foundation for a successful academic journey. As these empowered young minds transition into grade school, the program envisions a lasting positive impact on their academic performance. The anticipation is that the principles instilled through EmpowerED during early education will contribute to a trajectory of lifelong achievement and well-being. In essence, the EmpowerED program is not merely a training module; it is a catalyst for sustained positive change, fostering a continuum of enhanced teaching practices and student outcomes in the ever-critical early years of education.

Anticipated Barriers and Challenges

The successful implementation of the EmpowerED program is contingent upon navigating various external and environmental factors. First, securing support and collaboration from the EEC is critical. The program's alignment with state education policies and curriculum standards is another pivotal factor, ensuring its integration into the existing educational framework. Additionally, the accessibility of technology for preschool teachers presents a potential challenge, as it directly affects their ability to engage with the online training module effectively.

To mitigate these challenges, establishing a robust partnership with the EEC, involving them in the program development process, and seeking their endorsement can enhance support. Clear communication channels with state education authorities will

facilitate alignment with policies and standards. Addressing the issue of technology accessibility may involve providing resources or support to teachers who face limitations, such as organizing training sessions on digital literacy or exploring partnerships with technology providers for discounted or subsidized access. Proactive measures and strategic collaborations will be essential in overcoming these anticipated barriers, ensuring the smooth implementation of the EmpowerED program.

Summary

EmpowerED stands at the intersection of theory, practice, and transformative education. Drawing upon established concepts like adult learning theory, social learning theory, and pedagogical principles, it provides a rich and interactive online learning experience tailored to the unique needs of early childhood educators. The foundation of the program rests on key educational theories representing a proactive step toward reshaping the future of learning through an emphasis on experiential and multisensory teaching practices. Through the comprehensive training module, it seeks to foster effective teaching practices and enhance student performance, thereby increasing kindergarten readiness skills.

As this program unfolds, it confronts and addresses external factors and environmental challenges, including the need for collaboration with the EEC and alignment with state education policies. These considerations are essential for the program's successful implementation and impact. In conclusion, the journey of EmpowerED reflects a commitment to excellence in early childhood education. The theories and concepts underpinning its development set the stage for an engaging and

effective online learning experience. The program's objectives extend beyond immediate outcomes, aspiring to contribute positively to the long-term academic success and overall well-being of both teachers and students. Through a fusion of theory and practice, EmpowerED emerges not just as a program but also as a catalyst for transformative change in preschool education.

CHAPTER FIVE – Program Evaluation Research Plan

EmpowerED is an innovative online training program designed to enhance the knowledge, skills, and confidence of preschool teachers in the Commonwealth of Massachusetts. This comprehensive program draws upon established learning theories, including adult learning theory, social learning theory, and pedagogical principles to provide a rich and interactive learning experience tailored to the unique needs of early childhood educators. It features a structured training module encompassing key concepts, instructional methods, and practical strategies related to fine motor development and multisensory teaching. The program incorporates interactive elements like quizzes, video modeling, and case studies to enhance engagement and offer opportunities for active learning. The author, an experienced OTP working in the preschool setting, spearheads the program. As the key personnel behind the scenes, the content creator ensures the program's quality and relevance.

Preschool teachers across the Commonwealth of Massachusetts are the primary beneficiaries of EmpowerED. By participating in this program, educators may gain expertise on effective pedagogical practices and build their confidence in implementing developmentally appropriate learning activities, fostering effective teaching practices, and ultimately enhancing student performance. The evaluation research findings of EmpowerED are of interest to various communities, including preschool teachers, educational administrators, policymakers, and the EEC, to name a few. These users are able to make informed decisions about integrating EmpowerED into the existing 12 Essential Training Topics, a state mandated certification requirement for all preschool

educators.

Research Practice Scenario

In a bustling preschool setting nestled in the heart of the Commonwealth of Massachusetts, a diverse group of passionate educators strives to create an optimal learning environment for their young learners. Within this dynamic setting, a conscientious preschool administrator identifies a recurring challenge. Despite the educators' dedication, there seems to be a gap in the effective implementation of curriculum as shown by the number of students not meeting benchmarks on their most recent progress report. During a classroom observation, she notices that the lessons, although well-intentioned, are not consistently engaging the students, leading to further concerns about overall learning outcomes.

Recognizing the need for targeted professional development, the preschool administrator acknowledges the potential benefits of the EmpowerED program in addressing the identified challenges. The administrator sees an opportunity to enhance the teaching skills and confidence of educators through a program that aligns with current educational theories, is user-friendly, and offers practical strategies and applications.

In response to the recognized need for improvement, the preschool administrator decides to actively participate in the program evaluation research of EmpowerED. The goal is to gain evidence-based insights into the program's impact on teacher knowledge, confidence, and teaching practices. Through the research findings, the administrator hopes to gain specific and measurable insights into the program's impact. These insights will not only guide decisions at the individual preschool level, but also contribute to the broader conversation about enhancing professional development for all preschool educators across the state of Massachusetts.

Vision

In the landscape of early childhood education in the United States, where only 40 percent of three and four-year-olds were enrolled in formal programs in 2020, a significant gap looms, intensified by a concerning decline in early intervention services (Saffer, 2021; United States Census Bureau, 2021). This trend poses a risk of leaving children with disabilities, especially in critical areas like occupational therapy, without

adequate support. This underscores the need for occupational therapy practitioners to equip those interacting with preschool-aged children daily with the necessary educational resources. The hypothesis suggests that adequately trained early educators can profoundly influence kindergarten readiness skills, fostering the identification and support of children eligible for an IEP under IDEA.

While the push for universal, free preschool access continues, with efforts to reduce attendance barriers, it is equally important to immediately support early educators in their roles. Current policy recommendations underscore the need for collaboration with certified professionals, including OTPs, to enhance early educators' competence, fostering meaningful inclusion (U.S. Department of Health and Human Services and U.S. Department of Education, 2015). This envisioned collaboration aims to break down barriers, ensuring individuals of all abilities are included in all aspects of life. The success of this project in enhancing kindergarten readiness skills could catalyze improved communication and collaboration among early educators, special educators, and related service providers.

School-based OTPs shoulder the responsibility of reducing fragmentation in service delivery, strengthening connections between early intervention and K-12 providers, and advocating for the comprehensive development of every child (WFOT, 2016). Addressing the need for changes in certification requirements, as outlined by the EEC, becomes crucial to the overarching goal of leaving no child behind in terms of developmental support and educational opportunities.

Upon completion of the program evaluation research, the overarching vision is to

unveil a comprehensive understanding of the EmpowerED program's impact on early childhood educators and, consequently, on the developmental trajectories of their students. Through a judicious mix of qualitative and quantitative data analysis, the aim is to discern not only the immediate outcomes, such as enhanced teacher knowledge and refined pedagogical practices but also the enduring effects on student performance and readiness for kindergarten. This research aspires to bridge gaps in education and service provision by empowering educators with the knowledge to identify developmental concerns early, thereby facilitating timely interventions.

By contributing valuable insights to the occupational therapy knowledge base, the research seeks to elevate evidence-based practices in early childhood education. The findings may not only meet critical needs for change in teacher knowledge and skills but also address systemic problems by fostering a proactive approach to child development. Ultimately, the anticipated impact is a paradigm shift in early education, where informed educators play a pivotal role in recognizing and addressing developmental needs, ensuring that no child goes unnoticed or underserved as they progress through their formative years.

Engagement of Communities of Interest

The success of the EmpowerED program and its subsequent evaluation relies significantly on the active engagement of key communities of interest who have a vested interest in the program's outcomes and the potential impact it can achieve. As this program seeks to enhance early childhood education, it is essential to identify those individuals and groups who play pivotal roles in its planning, implementation, and

reflection phases. These communities of interest encompass a diverse range of individuals, including researchers, educators, regulatory bodies, advocacy organizations, policymakers, children, families, and community members. In Table 5.1, a community of interest matrix, which systematically outlines the types of involvement, roles, and specific interests of each community, is presented. Recognizing and involving these communities of interest throughout the program and evaluation processes are fundamental to ensuring program alignment with objectives, regulatory compliance, and the generation of meaningful research findings for informed decision-making and advocacy.

Table 5.1

Community of Interest Matrix for EmpowerED Program Evaluation

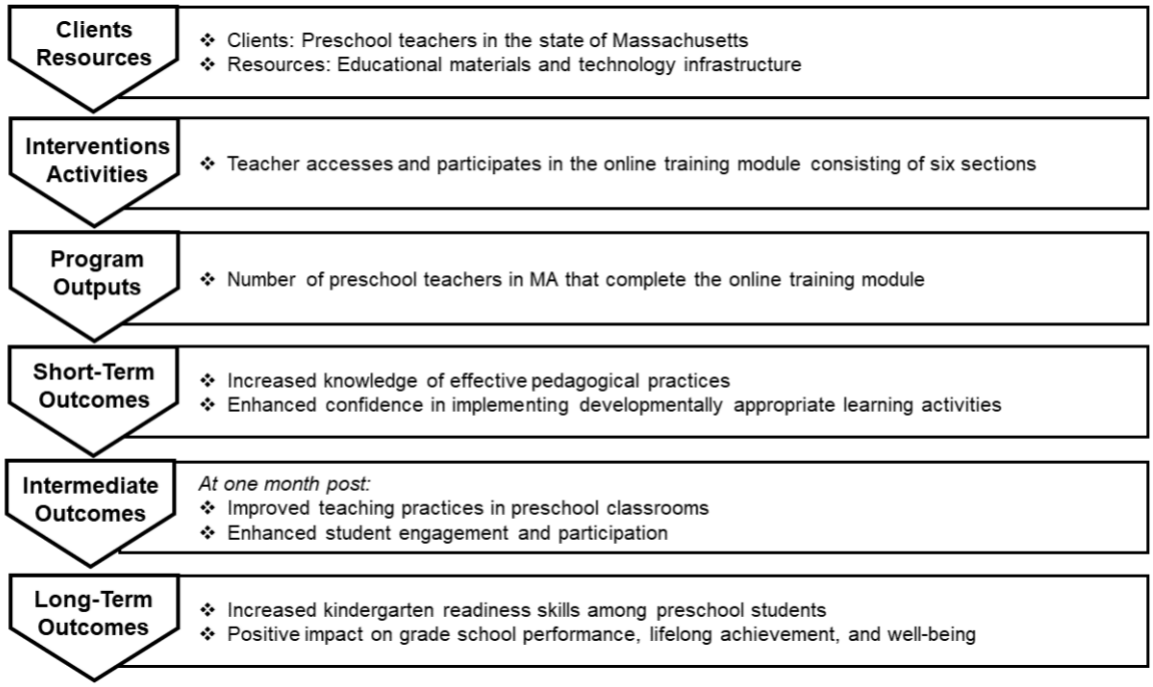
Community of Interest	Type of Involvement	Possible Role(s)	Specific Interests
Program Designer	Planning, Implementing, Reflecting	Overseeing and coordinating logistics; Designing the evaluation methodology	Successful program implementation; Usable research data.
Early Childhood Educators	Implementing, Reflecting	Participating in program activities and data collection; Providing feedback	Enhanced teaching practices; Improved student engagement
Department of Early Education and Care (EEC)	Planning, Implementing, Reflecting	Consultation on program design and evaluation methodology; Oversight of regulatory requirements	Compliance with state regulations; Improved quality of early education
Funding agencies (if applicable)	Reflecting	Providing financial support for the program and evaluation	Demonstrated impact for continued funding; Research quality
Advocacy Organizations (e.g. MAOTA, AOTA, MTA)	Reflecting	Support the program; Advocating for its expansion	Evidence of program effectiveness for advocacy efforts
Policymakers (local and state)	Reflecting	Using research findings for informed policymaking	Data that inform policy decisions
Children and their families	Implementing, Reflecting	Participating in program activities and providing feedback; Benefiting from enhanced education	Quality early education and kindergarten readiness
Community Members	Reflecting	Supporting or participating in program activities	Positive community impact and access to quality early education

In each interaction, the focus should be on illustrating how the program and the evaluation align with the unique interests, needs, and goals of the respective communities of interest. Demonstrating the practical implications and outcomes that matter most to them will ensure their active and invested participation in the program evaluation research. Figure 5.1 offers a simplified model that will be provided to each of the

communities of interest to help describe and explain the program and how the program activities lead to the expected outcomes.

Figure 5.1

Simplified Logic Model



Early Childhood Educators

Early childhood educators are at the forefront of implementing the program, and their insights are invaluable. It is crucial to address aspects of the program that align with their professional needs and goals. Understanding what they aim to accomplish in their classrooms, their interest in the program evaluation research and the critical evaluation questions they perceive will ensure their active engagement. Additionally, gauging their perspective on how the results of the evaluation can be practically used in their teaching practice is essential.

Department of Early Education and Care

For the EEC, the program's alignment with their overarching goals and policies is significant. Emphasizing how the program contributes to the improvement of early childhood education and supports their mission will foster their engagement. Discussing the potential impact on statewide early education initiatives and seeking their insights on critical evaluation questions is crucial.

Advocacy Organizations

Advocacy organizations like AOTA are likely to be interested in the program's alignment with best practices in occupational therapy and early childhood education. Addressing how the program supports the PD of educators aligns with their goals. Highlighting the potential contributions to evidence-based practices and seeking input on critical evaluation questions will be key to engaging these communities of interest.

Policymakers (Local and State)

Policymakers are interested in initiatives that align with their education and public health goals. Demonstrating how the program supports these goals and seeking their input on how the evaluation results can inform policy decisions will engage policymakers. Understanding their perspectives on critical evaluation questions and exploring potential legislative implications will be crucial.

Children and Their Families

Engaging children and their families involves emphasizing the direct benefits of the program on the child's early development and educational experience. Discussing how the program addresses developmental milestones and contributes to kindergarten

readiness will resonate with parents. Understanding their expectations from the program and how they perceive the results being used in their child's education is essential.

Community Members

Community members are vital communities of interest who can contribute to and benefit from the positive impact of the program. In interactions with community members, the emphasis should be on the program's positive contributions to the community and the broader implications for early education accessibility. Demonstrating how the evaluation results can inform strategies to improve access and enhance the quality of early education services will align with the community's interests. This approach ensures that community members see the program as a valuable asset that positively influences the community and provides meaningful access to quality early education.

Preliminary Exploration and Confirmatory Process

To ensure the meaningful engagement of key communities of interest in the evaluation process, a series of virtual meetings will be organized, accommodating participants regardless of their geographic location. These virtual meetings will be conducted through user-friendly video conferencing platforms, facilitating active participation. Communities of interest invited to these meetings will encompass a diverse group representing various perspectives and interests related to the program. Invitations will be sent well in advance, outlining the meeting agenda and expected levels of engagement. The community of interest group may include early educators, representatives from the EEC, educational policymakers, advocacy organizations, and

funding agencies.

In preparation for these meetings, a comprehensive information packet will be provided to participants. This packet will include a succinct program overview, emphasizing its significance and potential impact on early childhood education. A brief literature review will summarize relevant research and best practices, while a visual representation of the program's logic model will outline inputs, activities, outputs, and expected outcomes. Any additional pertinent documentation or handouts will also be included.

At the commencement of each meeting, communities of interest will be acknowledged for the valuable perspectives and expertise they bring to the project. The importance of their input in shaping the program's success and the evaluation process will be emphasized. An in-depth explanation of the research design and methodology for the program evaluation will be presented. This will include a clear articulation of how the evaluation process aligns with the concept of utilization-focused evaluation (UFE) and its aim to produce actionable insights.

The meetings will provide many opportunities for communities of interest to actively engage in discussions and provide input on various aspects of the evaluation. Participants will be invited to contribute to the formulation of research questions, ensuring alignment with their goals and interests. Their insights on the practical details and feasibility of the evaluation process, including data collection methods and timelines, will be actively sought. Furthermore, communities of interest will be encouraged to share their expectations regarding how evaluation findings should be used to benefit early

childhood education.

Throughout the meetings, an open dialogue will be facilitated to foster consensus among communities of interest regarding the program's goals, research questions, and expected outcomes. Participants will also be encouraged to express any concerns or potential challenges, with the aim of collaboratively addressing them. To ensure transparency and accountability, a dedicated note-taker will document key points, decisions, and action items from each meeting. Meeting summaries and follow-up action plans will be shared with participants, reaffirming the commitment to a participatory and inclusive process that actively engages communities of interest and increases the likelihood of successful program implementation and evaluation. Utilization-focused evaluation (UFE) principles will guide these interactions, ensuring that evaluation results are not only meaningful but also actively used to inform decision-making and program improvement.

Program Evaluation Research Questions by Community of Interest Group

The success of any program hinges on its ability to meet the needs and expectations of its communities of interest. In the case of the EmpowerED program, which seeks to elevate early educators' capabilities and enhance student engagement, it is essential to engage and address the concerns of key communities of interest who play vital roles in its implementation and success. To ensure that the program's evaluation research is comprehensive and attuned to these communities of interest' interests, research questions have been compiled for community of interest program evaluation. Table 5.2 presents a range of formative and summative research questions that reflect the

concerns, objectives, and expectations of different communities of interest, including the researcher, individuals actively involved in program delivery, facility and institution administration, and funding agencies, advocacy organizations, and policymakers. By framing the research questions through the lens of community of interest interests, the aim is to create a more insightful, relevant, and impactful evaluation of the EmpowerED program.

Table 5.2

Community of Interest Program Evaluation Research Questions

Community of Interest	Types of Program Evaluation Research Questions
Program designer (Primary community of interest)	Formative o Were the program's content and delivery methods effective in enhancing early educators' knowledge of pedagogical practices and confidence in implementing DAP? o Did the training module adequately prepare participants to incorporate engaging fine motor activities, integrate multisensory instruction, and employ effective pedagogical principles? Summative o Have program participants reported increased perceived confidence in using the skills they have gained? o Do participants demonstrate increased opportunities for DAP in their classrooms? o Are participants implementing learned strategies effectively? o Is there evidence of enhanced student engagement and participation in the classroom? o Has the program improved teaching practices in preschool classrooms as reported by participants? o Have there been observable changes in kindergarten readiness skills after program implementation?
Persons actively involved in program delivery (Early educators and students)	Formative o Was the program content relevant to the needs of early educators? o Was the program content presented at a reasonable depth and length for effective learning? o Did the program effectively prepare participants to implement learned strategies in their teaching practice? o Were some aspects of the program more effective than others? o What additional issues or challenges faced by participants were not addressed in the program?

	○ Were there any aspects of the program that need improvement? Summative ○ Did participants gain the knowledge and skills necessary for effective pedagogical practices? ○ Have participants reported increased confidence in their ability to apply program content in their classrooms? ○ Are the recipients of the intervention showing improvements in their performance and readiness for kindergarten? ○ Have undesirable behaviors or characteristics in recipients decreased as intended?
Facility, educational institution or organization administration or management (preschool directors, educational program coordinators, district administrators)	Formative ○ Does the program align with organizational goals? ○ Were participants well-prepared to apply learning content into classrooms? ○ Have any problems been reported related to program implementation? ○ Have external factors impeded the execution of research methodology? Summative ○ Will the research data show that the intervention led to desired change in dependent variables of interest? ○ Can the research data improve quality of education and care provided to the recipients of the intervention? ○ Has the program positively impacted employee-reported job satisfaction? ○ Are outcomes consistent with the proposed theoretical justification?
Funding agencies, advocacy organizations, including AOTA, policymakers.	Formative ○ Do funding agencies perceive that the program aligns with their goals for advancing early childhood education? ○ What specific aspects of the program do funding agencies believe are most valuable for early education and the role that OTPs can play? ○ Does AOTA and other advocacy organizations consider the program instrumental in advancing the understanding of occupational therapy's role in early childhood education? ○ Are advocacy organizations confident that the program equips early educators with the necessary skills to advocate for occupational therapy when it is needed as a vital component of a child's development? ○ What potential areas of collaboration do advocacy organizations see between the program and their mission to promote occupational therapy? ○ Do policymakers perceive that the program aligns with their goals for improving early childhood education and addressing kindergarten readiness?

- Are policymakers satisfied with the program's alignment with state educational objectives and regulations?
- How do policymakers envision the integration of program outcomes into broader educational policies and initiatives?

Summative

- Can the research findings demonstrate that funding from agencies led to a positive impact on the program's effectiveness in enhancing kindergarten readiness skills?
- Were the financial resources invested by funding agencies justified based on the program's impact on early education?
- How might the program's success influence future funding decisions by agencies?
- Can the research findings demonstrate that advocacy organizations' support contributed to the program's effectiveness in promoting the role of occupational therapy in early childhood education?
- Were advocacy organizations successful in achieving their goals related to early education through their involvement in the program?
- How can partnership between advocacy organizations and the program be strengthened to further advance the role of occupational therapy in this context?
- Will the research data provide evidence that the program has positively impacted kindergarten readiness and educational outcomes, thereby informing future policymaking decisions?
- How can the program's success be leveraged to support and inform broader educational policies aimed at improving early childhood education?
- Do policymakers believe the program should be integrated into statewide initiatives to enhance kindergarten readiness and educational success?

Research Design

In the initial stage of the intervention study, a non-experimental, single-group research design is chosen for a summative evaluation of the EmpowerED program. This design, marked by its observational and descriptive nature, aligns seamlessly with assessing program outcomes and understanding changes in key variables without intervention manipulation (Giancola, 2020). The non-experimental summative evaluation involves data collection from a single group of participants, both pre and post-program completion. This design simplifies the assessment of program impact, eliminating complexities associated with comparison groups or randomization.

The formative evaluation, crucial for understanding qualitative aspects, employs community of interest-centered questions. Semi-structured virtual interviews are chosen to explore participant experiences and gain deeper insights into the effectiveness of the training module. The qualitative data from these interviews complement quantitative measures, providing a comprehensive assessment of the program's effectiveness and offering a deeper understanding of the human aspect of the program.

To achieve a comprehensive assessment, the evaluation plan incorporates a mixed methods study design, integrating both quantitative and qualitative elements. The quantitative component includes pre- and post-tests to measure changes in participants' knowledge and confidence, as well as surveys at one month and six months post-program completion to gauge improvements in teaching practices in preschool classrooms. The qualitative data gathered through virtual interviews enriches the understanding of the program's impact. The integration of these approaches allows for triangulation,

enhancing the validity and reliability of the results.

Quantitative Data Collection Methods

Quantitative data collection methods focus on assessing EmpowerED program's impact. Online surveys, administered through the program's online platform, will collect summative numerical data from participants. These surveys, designed with Likert-style responses, will provide insights into participant's agreement or satisfaction with various program aspects.

Qualitative Data Collection Methods

Qualitative approaches, vital for formative research, rely on virtual semi-structured interviews. Participants will engage in open-ended discussions, sharing detailed and narrative responses. This qualitative method, conducted through virtual platforms, explores participant perceptions and provides valuable feedback, contributing to the ongoing improvement of the EmpowerED program.

Methodology

Participants, Including Selection and Recruitment

The participant count considers factors like website accessibility, program capacity, and the need for representative sampling. The goal is to involve a diverse group of early childhood educators eligible for the EmpowerED program. Recruitment leverages the state's online platform, targeting eligible users through notifications and collaborating with educational authorities to enhance visibility. Specific inclusion criteria guide participant selection, ensuring diverse representation. Notably, there will be no exclusion criteria, as the research aims to include educators of varying backgrounds and

experiences, fostering a comprehensive assessment of the program's impact.

Location, Setting and Time Frame

The study centers around the online training module, hosted on the Strong Start website. The exclusively web-based platform eliminates the need for physical locations. A structured timeline spans program development, participant recruitment, intervention phase, data collection, analysis, and findings dissemination.

The EmpowerED program development, spanning the initial three months, includes curriculum creation, online resource development, and ensuring Strong Start website functionality. Participant recruitment and enrollment, occurring in months four and five, target early childhood educators. The intervention phase, from month six to month eight, marks the EmpowerED module launch for participant engagement.

Data collection, running from month nine to month twelve, involves online surveys for quantitative insights and virtual semi-structured interviews for qualitative data. Months thirteen to fifteen focus on quantitative survey analysis and qualitative content analysis. Research findings compilation and a comprehensive report follow in months sixteen to eighteen. The study concludes with findings dissemination to communities of interest, including administrators and policymakers, in months nineteen and twenty. The anticipated study duration is from July 2024 to March 2026, with provisional dates subject to research progress adjustments.

Dependent Variables and Outcome Measurements

In this research study, three key dependent variables will be methodically assessed to evaluate the impact of the EmpowerED program: teacher knowledge,

confidence, and improved teaching practices. Pre- and post-tests, Likert-scale questionnaires, and self-report surveys provide quantitative and qualitative insights into the impact of the EmpowerED program on these variables.

Surveys

Two different surveys assess program impact. Survey 1 encompasses a comprehensive pre-and post-test approach, aiming to gauge changes in teacher knowledge and confidence directly before and after participants' completion of the EmpowerED module. This survey serves as a dynamic tool for quantitatively measuring the immediate effects of the program on teacher knowledge and confidence levels. It provides a clear snapshot of the knowledge and confidence levels at two critical junctures in the participants' educational journey. See Appendix A for sample questions from Survey 1.

Conversely, Survey 2 extends the evaluation timeline by focusing on the implementation of newly learned strategies and improved teaching practices. Administered initially as a pretest, this survey acts as a baseline assessment of participants' teaching methods. It is subsequently readministered at one month and six months post-module completion, allowing for the evaluation of potential long-term effects. Survey 2 seeks to explore the sustained impact of the EmpowerED program on teaching practices, emphasizing the importance of lasting change and continuous development. See Appendix B for sample questions from Survey 2. Together, these surveys offer a multifaceted approach to evaluate the program's effectiveness, addressing both immediate and enduring factors that the module may have on teacher knowledge,

confidence, and teaching practices. Both surveys, designed for online administration, serve formative and summative research purposes.

Confidentiality

Given that this research falls under the category of a nonexperimental study and does not involve interventions that necessitate Institutional Review Board (IRB) approval, the formal process of obtaining IRB clearance is not applicable. Nevertheless, maintaining the confidentiality of all participant data remains a top priority. To ensure confidentiality, each participant will be assigned a unique code designation, which will be used exclusively for data analysis purposes. These code designations will be created using a combination of letters and numbers, with a secure spreadsheet kept in a restricted-access location that connects each code to the respective participant's identity. This approach will safeguard participant information throughout the study.

Data Analysis

Quantitative Data Analysis

In the quantitative statistical testing phase of this project, data collection will be carried out by designated individuals trained in data entry protocols to ensure accuracy and consistency. To maintain data integrity, access will be restricted to authorized personnel, and comprehensive measures will be in place to protect against data breaches and maintain confidentiality. Data compilation can be accomplished using a program like Qualtrics, which can automatically collect and organize survey data (Giancola, 2020). Alternatively, designated personnel can manually input scoring and responses into a computerized form. Regardless of the method chosen, the ultimate goal is to have the

data available in spreadsheet format, as this format is conducive to statistical analysis. Statistical software, such as SPSS (Statistical Package for the Social Sciences), will be employed for data analysis.

Additional data analysis resources may also be accessible, including individuals with expertise in statistics and potential support from the research department associated with the Commonwealth of Massachusetts. Exploring the integration of existing modules on the EmpowerED platform will be considered to optimize data management and analysis processes, potentially increasing efficiency. Within the data analysis, descriptive statistics will be utilized to summarize essential characteristics of the study population and key variables. Correlational analysis will be applied to explore relationships and connections among variables of interest, aiding in the detection of patterns within the dataset. Sample correlational research inquiries may include: (1) Following participation in the online training module, will preschool teachers exhibit heightened knowledge of pedagogical practices? (2) Will preschool teachers demonstrate increased confidence in implementing DAP? (3) Do heightened knowledge and confidence levels correlate with improved teaching practices? (4) Is there a correlation between enhanced teaching practices and increased student participation and engagement? (5) Does heightened participation and engagement correlate with improved kindergarten readiness skills? (6) Will there be an uptick in the identification of students with disabilities and/or developmental delays who may necessitate an IEP?

It is important to note that in this study, statistical significance will not be the primary focus of the analysis, as often seen in inferential statistics used to determine

causation between interventions and outcomes (Giancola, 2020). Instead, the primary emphasis will be on comprehending relationships, patterns, and trends within the data. Qualitative data collected in the study will undergo separate analysis using qualitative analysis software, such as NVivo, to derive meaningful insights from open-ended responses and textual data. The approach to quantitative statistical testing aligns closely with the research objectives and specific goals of the project, with a central focus on gaining a comprehensive understanding of the data collected.

Qualitative Data Analysis

During the qualitative coding phase of this research, the initial step involves transcribing audio-recorded interviews. To ensure both accuracy and efficiency in this process, transcription services or applications may be utilized to convert spoken content into written text. Subsequently, the transcriptions undergo reviews and edits to ensure completeness and clarity. Once the compiled text versions of responses to open-ended survey questions and verbal interview questions are available, a systematic coding process is initiated. In this process, labels or codes are assigned to identified units of meaning within the text. These codes serve to facilitate the categorization and organization of data, enabling the recognition of recurring themes and patterns. Some potential codes that may be applied include module effectiveness, user engagement, impact on knowledge, impact on confidence, and retention and attrition, among others. The integration of both manual and computer-assisted coding approaches enhances the depth and efficiency of qualitative data analysis. The codes and themes identified through this comprehensive coding process will serve as the foundation for elucidating patterns,

trends, and insights within the collected data, ultimately contributing to the explanation of qualitative findings.

Anticipated Strengths and Limitations

Intervention Fidelity

Ensuring the fidelity of the intervention is paramount to maintain the integrity and reliability of this research. Fidelity, as described by Michael Quinn Patton, involves adherence to the core characteristics of the intervention plan, thereby justifying its designation (Giancola, 2020). In the case of EmpowerED, an online training module designed to be consistent across all participants, ensuring fidelity takes on a slightly different but equally critical dimension. In this digital context, fidelity revolves around maintaining the integrity and consistency of the online module itself. It will be imperative to confirm that the module remains unchanged throughout the research, with no deviations or modifications made during its delivery to different participants.

Given the challenges that digital environments can pose to fidelity, rigorous quality assurance measures and regular checks will be implemented to guarantee that all participants receive the same content. The module's design, including the use of a click-through feature, will play a pivotal role in ensuring consistency and participant engagement. This feature prevents participants from fast-forwarding through the content, ensuring that each section is delivered at the intended pace. Furthermore, the click-through feature will be strategically employed to incorporate interactive elements like quizzes and activities, enhancing engagement and offering opportunities for active learning. In essence, maintaining fidelity in this online format is a streamlined but

essential process. It contributes significantly to the reliability and trustworthiness of the research findings, as the uniformity of the intervention is a fundamental component of ensuring fidelity in the digital realm.

Threats to Internal Validity

Mitigating threats to internal validity is a fundamental component of the research methodology, especially when evaluating the EmpowerED program. Two notable threats, testing effects and history threats, demand careful consideration to ensure the credibility of the research outcomes. To counter the testing threat, a counterbalancing approach will be adopted, randomly assigning participants to different sequences of test administration. This safeguards against pre-test exposure influencing post-test results, enhancing the accuracy of assessments. The history threat, rooted in unforeseen external events, will be diligently monitored throughout the study's duration. While exerting full control over external events may pose challenges, meticulous event tracking allows for distinguishing their impact from that of the intervention. Furthermore, the data analysis plan, incorporating techniques like analysis of covariance (ANCOVA), will be diligently applied to account for potential threats (Boston University Sargent College, n.d.). This strengthens the research's internal validity, instilling confidence in the authenticity of the findings.

Specific to the EmpowerED program and its unique online nature, acknowledgment is given to potential technological threats. Factors such as internet connectivity issues or device compatibility problems could affect participants' access and engagement with the module. To mitigate this, clear technical requirements and

troubleshooting guidance will be provided to participants. Additionally, monitoring participant activity within the module will enable prompt identification and resolution of any disruptions arising from technical issues.

Another consideration is the "Hawthorne effect," where participants may alter their behavior due to the awareness of being observed (Boston University Sargent College, n.d.). To counter this, participants will be assured of the confidentiality of their responses during the evaluation, emphasizing the focus on program improvement rather than individual assessment. Furthermore, potential concerns regarding participant attrition or dropout rates in an online program, which could introduce bias, are anticipated. To combat this, strategies will be implemented to maintain participant engagement, including interactive elements within the module and regular reminders. Reasons for attrition will also be documented and analyzed to identify any systematic patterns. By proactively addressing these potential threats to internal validity, the EmpowerED evaluation aims to fortify the trustworthiness and precision of its findings, ensuring robust and reliable results.

Potential Sources of Bias

Addressing potential sources of bias is essential, especially in the context of evaluating the EmpowerED program. One notable concern is the "social desirability bias." This bias occurs when participants tend to respond in a way they believe is socially acceptable or expected rather than providing honest or accurate answers (Lüke & Grosche, 2018). In the context of the EmpowerED program, teachers who are evaluating their own teaching practices and experiences may be inclined to present themselves in a

favorable light, potentially leading to an overestimation of the program's effectiveness. To address this bias, data collection instruments, such as self-assessment surveys, can be designed with clear instructions emphasizing the importance of honest and candid responses. Participants can also be reassured of the confidentiality of their feedback, emphasizing that the focus is on program improvement rather than individual evaluation.

Another potential source of bias is the "recall bias." Participants' ability to accurately remember past events or experiences, especially when responding to intake interview questions or surveys, can introduce inaccuracies (Raphael, 1987). To address this, structured and well-designed surveys and interview protocols will be employed, minimizing the reliance on participants' memory. Clear and concise questions will be utilized to gather accurate and reliable information, reducing the potential for recall bias. By proactively addressing these potential sources of bias, the EmpowerED program evaluation aims to uphold the integrity and credibility of its findings, ensuring that the research outcomes accurately reflect the program's impact.

External Factors

In evaluating the impact of EmpowerED, considering external factors such as time constraints and cultural issues is crucial. Time limitations can affect both the program's implementation and the participants' ability to engage fully, potentially skewing results. Additionally, cultural sensitivities and differences in educational backgrounds among preschool teachers might influence their interaction with the program content and its perceived relevance. Acknowledging these variables, it is essential to adapt strategies for diverse educator populations and ensure flexible

scheduling to accommodate various participants. By addressing these external factors, the evaluation can more accurately reflect the program's effectiveness across different contexts and educator experiences, thereby enhancing its applicability and impact on early childhood education.

CHAPTER SIX – Dissemination Plan

EmpowerED is a self-paced online training module developed to enhance the skills of EEC teachers in the Commonwealth of Massachusetts. It focuses on developing and implementing strategies that promote kindergarten readiness. This comprehensive program introduces participants to the importance of engaging, meaningful, and student-centered approaches, offering practical strategies, designing multisensory lessons, and implementing and assessing these techniques. Through interactive content, real-world case studies, and scenario-based quizzes, EmpowerED aims to enhance teaching practices, ensuring that preschool teachers are well prepared to foster an effective learning environment and support early childhood development. EmpowerED aims to equip educators with the knowledge and tools necessary to improve early childhood education outcomes, leveraging technology to facilitate accessible, efficient learning experiences.

Dissemination Goals

The dissemination of the EmpowerED program is designed to accomplish both immediate and enduring objectives by driving fundamental changes in early childhood education practices and policies, fostering a more integrated and effective approach to early childhood learning. In the long term, the aim is to advocate for policy changes that recognize and support the integration of fine motor skill development and multisensory learning in preschool curricula statewide, ensuring all children, regardless of background or ability, have access to high-quality early education that prepares them for kindergarten and beyond. Short-term goals include the implementation of EmpowerED as a new PD

program within the EEC's PD offerings, raising awareness among educators about the importance of DAP, and initiating discussions on policy changes at the state level. By reaching out to early childhood educators across the Commonwealth of Massachusetts, the project seeks to immediately enhance teaching practices through the adoption of the module's innovative strategies. These goals collectively aim to elevate the quality of early education, ensuring children receive a strong foundation for lifelong learning and development.

Target Audiences

The target audiences for the dissemination of EmpowerED encompass two critical groups with the potential to significantly influence early childhood education. The primary audience includes early childhood educators and program directors, who are instrumental in shaping teaching practices and curricula implementation within preschool settings across the Commonwealth of Massachusetts. These individuals are directly responsible for employing changes that can enhance the learning environment and developmental outcomes for children.

The secondary audience comprises policymakers and communities of interest within the EEC, including the Professional Development Center (PDC), affiliated with the EEC for identifying a need for and creating PD content for teachers. This secondary audience group has the capacity to facilitate the broader integration of EmpowerED into statewide PD initiatives, thereby amplifying its impact. By targeting these audiences, the dissemination plan aims to ensure that EmpowerED reaches those who can most effectively leverage its resources to improve kindergarten readiness and set new

standards for excellence in early childhood education in the Commonwealth of Massachusetts.

Key Messages

EmpowerED emerges as a pivotal innovation in early childhood education, underpinned by rigorous educational research and tailored to meet the critical needs of preschool teachers and their students in the Commonwealth of Massachusetts. This program is meticulously designed to bridge the gap between theory and practice, offering educators a robust framework to enhance kindergarten readiness through fine motor skill development and multisensory instruction. It leverages the principles of adult learning theory, social learning theory, and pedagogical principles, ensuring an engaging, effective, and accessible online learning experience.

For early childhood educators and program directors, EmpowerED represents a transformative journey towards excellence in teaching practices, promising improved student engagement and learning outcomes. The program's emphasis on practical strategies, backed by scenario-based learning and real-world applications, aligns perfectly with the state's educational standards and the broader goals of the EEC. Furthermore, for policymakers and EEC communities of interest, EmpowerED offers a scalable solution to elevate PD standards across the Commonwealth, directly addressing the statewide imperative of enhancing early childhood education quality. By supporting EmpowerED, communities of interest can significantly contribute to the state's efforts in improving kindergarten readiness, setting a new benchmark for early childhood education standards. This initiative not only seeks to empower educators with advanced teaching techniques

but also aims to establish new standards for excellence in early childhood education across the Commonwealth of Massachusetts, ensuring that every child receives the best possible start to their educational journey.

Primary Audience: Early Childhood Educators and Program Directors

1. Empower Early Learning: EmpowerED equips preschool teachers with cutting-edge strategies to nurture kindergarten readiness, enhancing classroom engagement and learning outcomes.
2. Transform Teaching Practices: By completing EmpowerED, preschool teachers can elevate their teaching methods to set a new benchmark for educational excellence in early childhood education.
3. Lead in Excellence: Preschool teacher engagement with EmpowerED is crucial for establishing a culture of excellence and innovation in early learning across the Commonwealth of Massachusetts.

Secondary Audience: Policymakers and EEC Communities of Interest

1. Enhance Educational Quality: EmpowerED offers a strategic approach to uplift the quality of early childhood education, aligning with EEC's vision for PD.
2. Drive Kindergarten Readiness: Backing EmpowerED can make a significant difference in kindergarten readiness in the Commonwealth of Massachusetts, addressing urgent educational needs.
3. Set New Standards: Incorporating EmpowerED into EEC’s PD initiatives can redefine standards for early childhood education excellence.

Sources and Messengers

For the EmpowerED dissemination plan, identifying credible and influential sources and messengers is crucial for effectively communicating the key messages to both primary and secondary audiences. The primary audience for EmpowerED includes early childhood educators and program directors, who are directly involved in implementing teaching practices and curricula in preschool settings. An influential spokesperson for this group could be a renowned expert in early childhood education, such as a celebrated academic or practitioner with a history of impactful work in early learning environments. This person should have a deep understanding of the challenges and opportunities within early childhood education and be respected within the community for their contributions to the field. They may introduce EmpowerED in workshops and seminars, highlighting its practical benefits and alignment with best practices in early childhood education. In addition, educators who have successfully implemented EmpowerED's strategies and witnessed tangible improvements in classroom engagement and learning outcomes would be effective messengers. Sharing their experiences through case studies or testimonials at conference or in professional newsletters can serve as powerful endorsements, encouraging others to adopt the program.

The secondary audience consists of policymakers and communities of interest within the EEC. For this group, an effective messenger might be a leader within the EEC itself or an educational advocate known for supporting innovative educational initiatives. This individual should have a record of accomplishment of influencing policy decisions

and be capable of articulating the value of integrating EmpowerED into statewide PD initiatives through policy briefings, newsletters, or state education meetings. Influential voices in the field of education policy, particularly those focusing on early childhood education may also serve as effective messengers. These could be individuals associated with think tanks, non-profit organizations, or academic institutions. They can write op-eds, participate in panel discussions, and use their networks to advocate for EmpowerED, framing it as a key component in advancing the state's educational outcomes.

In designing the dissemination plan, it is essential to leverage the credibility and reach of these spokespersons to ensure the messages not only resonate with the intended audiences but also inspire action. By engaging with these messengers, EmpowerED can maximize its impact, driving forward the goal of enhancing early childhood education through comprehensive, accessible PD. This strategic approach to dissemination underscores the importance of not just the message itself but also the choice of those who deliver it, ensuring that the benefits of EmpowerED are communicated effectively to those who stand to benefit the most.

Dissemination Activities

To ensure the EmpowerED program reaches its intended audiences effectively, a comprehensive dissemination plan incorporating various activities, tools, techniques, timing, and responsibilities is essential. This multi-faceted approach is designed to engage early childhood educators, program directors, policymakers, and communities of interest within the EEC network, facilitating the broad adoption and implementation of the program's key messages and strategies.

1. Written Information: EmpowerED will be introduced through an array of written materials including briefs, brochures, and newsletters. These materials will provide in-depth insights into the program's objectives, methodologies, and outcomes, tailored to meet the informational needs of both primary and secondary audiences.
2. Electronic Media: A dedicated website, potentially the state-owned Strong Start platform, will serve as the central hub for EmpowerED. This may feature interactive content such as podcasts and video tutorials. This platform will not only facilitate access to the program but also enable ongoing engagement with its content.
3. Person-to-Person Contact: To effectively disseminate EmpowerED's key outcomes and methodologies, a series of interactive events including briefings, workshops, and meetings will be held. The program designer, with an extensive background in EmpowerED's creation and goals, will lead these person-to-person activities. Their direct involvement ensures precise communication of the program's benefits and strategies, encourages interactive dialogue, and builds networks with educators, policymakers, and communities of interest. This approach not only clarifies EmpowerED's contributions to early childhood education but also strengthens its potential for widespread adoption and impact.

Timing, Responsibilities, and Budget Considerations

The rollout of EmpowerED’s dissemination activities will be strategically phased to maximize impact and engagement. The initial phase, months 1-3, will comprise of

initial briefings and distributing the introductory written materials to early childhood educators and program directors. The program designer will oversee this phase, ensuring accuracy and relevance. The secondary phase, months 4–6, will comprise of workshops and meetings targeting both primary and secondary audiences. The program designer and key spokespersons, with the support of the EEC and other educational institutions, will lead these events to facilitate wide-ranging discussions on program implementation and policy implications. The final phase, months 7–9, will comprise of evaluation and feedback sessions to assess the program's impact and gather insights for further refinement. The program designer will coordinate these sessions to engage with participants through both electronic media and person-to-person contacts.

Table 6.1 displays a preliminary budget that has been developed to cover the costs associated with these dissemination activities. This budget will include allocations for printing of written materials, $250.00, and compensation for the program designer's time spent on dissemination activities, $6,500.00. Detailed expense tracking will ensure that resources are utilized efficiently, maximizing the reach and effectiveness of the dissemination plan.

Table 6.1

Expenses Accrued for Dissemination Activities

Expense Type	Expense Amount
Printed Materials	$250.00
Program Designer's Time	$6,500.00

Evaluation

To evaluate the success of the dissemination efforts for the EmpowerED program, measurable criteria for each dissemination activity will be established. These criteria will focus on outcomes to ensure the intended results of the efforts are achieved. The evaluation will categorize the dissemination activities into three main areas: written materials, electronic media, and person-to-person contact. Each category will have its own set of measurable criteria. For the written materials, distribution reach (the number of distributed copies and the diversity of distribution channels), engagement metrics (feedback through responses and email inquiries), and implementation evidence (instances of practice or policy changes inspired by the written materials) will be considered. For electronic media, viewership will be monitored based on the number of views, as well as engagement metrics, and follow-up actions. For person-person-contact, attendance and participation rates, feedback and evaluation forms, and the number of follow-up inquiries, collaborations initiated, or subsequent meetings requested will be tracked. The effectiveness of these dissemination efforts will be assessed by comparing pre-determined goals with actual outcomes, such as awareness levels, knowledge improvement, and behavior or practice changes among the target audiences. In addition, the integration of additional qualitative feedback mechanism, such as surveys and interviews with communities of interest following dissemination activities, could offer deeper insights into the effectiveness of the program designer's communication and the perceived value of the information shared. This comprehensive evaluation will guide future dissemination strategies, ensuring continuous improvement and maximization of

the EmpowerED program's impact on early childhood education.

Overall, this multifaceted dissemination approach is designed to ensure that the valuable insights and practices developed through EmpowerED are shared effectively and efficiently with early childhood educators, program directors, policymakers, and communities of interest within the EEC network. The involvement of the program designer in dissemination activities underscores a commitment to not only share knowledge but to foster an ongoing dialogue with those at the forefront of early childhood education. This engagement is critical for the adoption and implementation of the program's methodologies, aiming to enhance teaching practices and improve kindergarten readiness among preschool students. The phased approach to these activities, prioritizing immediate and accessible methods while planning for broader outreach over time, reflects a thoughtful consideration of resource allocation and impact potential. The dissemination plan for EmpowerED is not merely about spreading information but about building a community of practice, that values continuous learning, innovation, and collaboration.

Conclusion

As the dissemination phase of EmpowerED concludes, it is paramount to reflect on the journey and the future that lies ahead. This section has meticulously outlined how the EmpowerED training module is not merely an educational tool but a beacon of change in the landscape of early childhood education. By targeting early childhood educators and program directors as the primary audience and engaging policymakers and

EEC communities of interest as a secondary audience, the project aims to instigate a ripple effect of improvement in teaching practices and, consequently, student outcomes across the Commonwealth of Massachusetts.

The key messages, tailored to resonate with each audience's unique perspectives and needs, underscore EmpowerED's potential to elevate the quality of early childhood education. For educators, it represents a pathway to excellence and innovation in teaching methodologies. For policymakers and communities of interest, it offers a strategic instrument to achieve the Commonwealth of Massachusetts's educational objectives, aligning with the broader vision of ensuring kindergarten readiness for all children.

Looking forward, the success of EmpowerED hinges on the continued engagement and collaboration of all communities of interest. The strategic dissemination efforts, leveraging a mix of written, electronic, and interpersonal communication channels, are designed to ensure that EmpowerED's benefits are widely recognized and adopted. It is through these collective efforts that EmpowerED aspires to set new standards for early childhood education excellence, fostering environments where every child can thrive.

In conclusion, the dissemination plan for EmpowerED is not just about sharing the outcomes of a doctoral project; it is about igniting a movement towards enhanced educational practices. As this chapter closes, the journey of EmpowerED is just beginning, promising to make a lasting impact on the educators it reaches and, most importantly, on the future generations it aims to serve. The potential for transformative change in early childhood education, as demonstrated by EmpowerED, reaffirms the

belief that through dedication, innovation, and collaborative efforts, achieving excellence in education for our youngest learners is within reach.

CHAPTER SEVEN – Funding Plan

EmpowerED is an innovative self-paced online training module designed to enhance the skills of EEC teachers in the Commonwealth of Massachusetts, focusing on developing and implementing strategies that promote kindergarten readiness. The program integrates into the state-owned "Strong Start" platform, offering comprehensive PD through interactive content, emphasizing fine motor play, multi-sensory instruction, and DAP. EmpowerED aims to equip educators with the knowledge and tools necessary to improve early childhood education outcomes, leveraging technology to facilitate accessible, efficient learning experiences. This chapter delineates the funding strategy for this initiative, focusing on the program designer's pivotal role in content creation and leveraging existing digital infrastructure to optimize resource utilization.

Leveraging Local Resources

The success of EmpowerED hinges not only on its digital resources and content creation, but also significantly on incorporating local resources, introducing a crucial, community-driven dimension to the program. By harnessing the collective expertise and goodwill of local educators, professionals, and businesses, the program not only enriches its educational offerings but also fosters a supportive network that amplifies its impact on early childhood education. EmpowerED could leverage local resources such as volunteers from educational institutions, retired educators, and professionals in early childhood development who are willing to donate their time and expertise. These volunteers could contribute by providing additional content expertise and feedback, assisting in the development and review of training materials, or offering mentorship and

support to participating teachers. Engaging local universities' education departments could also facilitate internships or service-learning projects, where students support EmpowerED while gaining practical experience. Additionally, partnerships with local businesses or technology firms could offer in-kind donations of software licenses or technical support, enriching the program's resources.

Needed Resources

The EmpowerED program will be solely developed by the program designer for integration within the Strong Start platform. Therefore, the funding strategy concentrates on expenses directly associated with the designer's work on creating and implementing the module. After consulting with the EEC's Workforce and Educational Technology Specialist, it was clarified that such online PD initiatives are exclusively financed by the EEC. Consequently, if hosted on the Strong Start platform, funding needs would be limited to the designer's salary, with the state providing the necessary software for content creation and implementation, user engagement tracking, and data analysis.

If support and funding for integration within the Strong Start platform is not secured, the program designer will opt to create the PD content available to preschool teachers in the Commonwealth of Massachusetts hosted on a separate platform, free of charge. An illustrative budget in Table 7.1 outlines a sample of the costs associated with the creation of EmpowerED outside of the Strong Start platform. Table 7.1 reflects the estimated expense and its justification for year one and year two concerning personnel, equipment, and data analytics software needs.

Table 7.1

Expenses for EmpowerED

Expense	Justification for Expense	First Year	Second Year
	Personnel		
Program Designer	The program designer will be developing and overseeing the entire implementation of the online training module, as well as the dissemination and evaluation.	300 hours x $65/hour = $19,500.00 (developing and implementing)	(see Dissemination)
Statistician	The statistician will be spearheading all data collection and analytics.	100 hours x $60/hour = $6,000.00	
	Equipment		
Text-to-Voice AI Annual Subscription Fee	Enhances accessibility and caters to diverse learning preferences by providing auditory learning options, supporting users with visual impairments or reading challenges.	$1663.00	N/A
		$1,428.00	$1,428.00
Website Fee	A website would be required to host the online learning content.		
	Copyright and Filing Fees		
Copyright Fee		$114.00	N/A
Federal Filing Fees		$500.00	N/A
	Dissemination		
Program Designer		N/A	100 hours x 65/hour = $6,500.00
Printed Materials		N/A	$250.00
Total Cost		$37,383.00	

The average cost of producing one hour of ready eLearning content is $21,475 (How Much Does it Cost to Develop an Online Course?, 2024). Using the Analysis, Design, Development, Implementation, Evaluation Model (ADDIE), an online course creation requires the involvement of subject matter experts (SMEs), an instructional design team, a project manager, and technical staff specialists. The overall salary cost for the team is between $8,425 - $34,535, with an average cost of $21,475. In the context of EmpowerED, the program designer would assume the roles of subject matter expert, project manager, instructional and graphic designer, and content manager. The overall hours to produce one hour of ready online learning content assuming these roles would take 250-300 hours (How Much Does it Cost to Develop an Online Course?, 2024). Paying the program designer, a fair hourly rate of $65.00 per hour for 300 hours would account to $19,500 (Doctor Occupational Therapy Salary in Massachusetts, 2024). Additional personnel that would be required for EmpowerED, specifically for data collection and analytics, would be a statistician. A rough estimate of their time would range from a few hours for initial consultation and planning, to several weeks for providing in-depth data analysis and reporting. A fair hourly compensation for a statistician in the Commonwealth of Massachusetts would be $60.00 per hour (Statistician Salary in Boston, MA, 2024). Paying a statistician for 100 hours of their time would account to $6,000.

Utilization of text-to-voice artificial intelligence (AI) software in the delivery of the EmpowerED online training module includes enhancing accessibility for all educators, including those with visual impairments or reading difficulties (How Text-to-

Speech is Transforming Education, 2023). It also supports diverse learning styles, allowing users to listen to content while multitasking or during commutes. Additionally, it modernizes the learning experience, aligning with digital trends and expectations, and potentially increases user engagement by offering content in a more dynamic and interactive format. The cost for an annual subscription for this software is $1,663.00 (D-ID, 2024). To host the learning content on an online platform, a website would be required. Teachable, a user-friendly platform designed for course creators, offers integrated course management and student engagement tools to host PD content (Teachable, 2024). It would cost $1,428 annually. In addition, a copyright fee of $114.00 plus additional federal filing fees will be incurred (Copyright, n.d.). An estimate of $500.00 for federal filing fees has been applied. Lastly, the cost for the program designer to effectively carryout the dissemination and evaluation plan will be $6,500 plus an additional $250 for printed materials. The total overall costs for EmpowerED outside of the Strong Start platform will be $37,383.

Potential Funding Sources

In pursuing state funding for the EmpowerED online training module, extensive efforts have been made to understand the funding mechanisms of the Executive Office of Education (EOE) and the EEC. It was learned that state funding for PD is allocated through specific procurements released to the field, and direct content submissions are not accepted. This information is crucial in strategizing the next steps for securing support, indicating a need to align EmpowerED with upcoming procurement opportunities and tailor the proposal to meet the EEC's outlined criteria and priorities.

Efforts to forge a partnership with the Professional Development Center (PDC), affiliated with the EEC, are underway. This collaboration would aim to integrate EmpowerED into the EEC's suite of PD offerings, leveraging the PDC's existing framework and resources.

In exploring alternative funding sources beyond the EEC and Strong Start platform, a comprehensive approach targeting federal, state, and local grants, alongside specific entity grants tailored for early childhood education initiatives, has been prioritized. This author applied for a federal grant titled "Personnel Development to Improve Services and Results for Children with Disabilities--Preparation of Related Services Personnel Serving Children with Disabilities who have High-Intensity Needs ALN 84.325R" (Department of Education, 2023). The Department of Education's grant aims to mitigate the shortage of qualified personnel for children with disabilities, emphasizing the development of multilingual and diversely backgrounded professionals. It supports using evidence-based practices to improve outcomes for children with high-intensity needs. This grant underscores the vital role of teachers in the educational ecosystem, especially for children not yet identified as having disabilities. By enhancing preschool educators' competencies, we address the need for early identification and inclusive education, aligning with the national goal advocated by the U.S. Departments of Health and Human Services and Education for comprehensive training and cross-sector PD (U.S. Department of Health and Human Services and the U.S. Department of Education, 2015).

While the Commonwealth of Massachusetts's EEC frequently backs innovative educational initiatives, currently there is not a specific grant available that aligns with the

criteria for projects like EmpowerED, nor are there plans for such grants in the near future (Department of Elementary and Secondary Education, 2024). This necessitates exploring alternative funding sources to support the program's objectives and integration into the state's educational framework. Exploring funding through foundations, angel investors, and crowdfunding platforms presents a diverse range of potential financial support.

Boston University (BU) has established its own crowdfunding platform tailored for its community members, aiming to nurture innovation and encourage participation in creative ventures through contemporary fundraising techniques (Boston University Crowdfunding, n.d.). This initiative underscores BU's dedication to supporting novel ideas within its community. On a broader scale, Kickstarter serves as a global platform that supports the realization of creative projects (Kickstarter, 2024). It enables creators to showcase their concepts to a worldwide audience, offering a unique opportunity for public backing. To successfully secure funding, projects must meet their predetermined financial targets within a specified timeframe, which motivates creators to actively engage with potential supporters and encourages contributors to invest in bringing these creative visions to life. Table 7.2 highlights some of the potential funding sources for EmpowerED that exist beyond the EEC and Strong Start platform.

Table 7.2

Alternative Funding Sources for EmpowerED

Funding Source	Description	Amount
Personnel Development to Improve Services and Results for Children with Disabilities--Preparation of Related Services Personnel Serving Children with Disabilities who have High-Intensity Needs ALN 84.325R	"Purpose of Program: The purposes of this program are to (1) help address State-identified needs for personnel preparation in early intervention, special education, related services, and regular education to work with children, including infants, toddlers, and youth, with disabilities; and (2) ensure that those personnel have the necessary skills and knowledge, derived from practices that have been determined through scientifically based research, to be successful in serving those children" (Department of Education, 2023, p. 78731).	Up to $350,000
Boston University Crowdfunding	This fundraising platform allows members of the Boston University community such as current students and alumni to share their projects and raise money (Boston University Crowdfunding, n.d.).	Amount raised through donations; Goal: $37,383
Kickstarter	Kickstarter operates on an all-or-nothing model where projects must meet their funding goals by a specified deadline to access the pledged funds. This model motivates creators to actively promote their projects and encourages potential backers to contribute, ensuring that only projects with sufficient interest and support come to fruition (Kickstarter, 2024).	Minimum amount of funding goal: $37,383

Conclusion

In the journey to secure funding for the EmpowerED online training module, thorough investigations into the EEC funding mechanisms revealed that PD funds are typically allocated through specific procurement processes, excluding direct content submissions. This insight is invaluable for strategic planning, necessitating an alignment of EmpowerED with potential procurement opportunities and the customization of proposals to meet EEC's specific criteria and priorities. Efforts are currently being made to establish a partnership with the PDC, linked with the EEC, aiming to incorporate

EmpowerED into the EEC's array of PD tools by utilizing the PDC's established framework and resources. This strategy aims to secure a place for EmpowerED on the Commonwealth of Massachusetts's prestigious platform, ensuring it reaches its target audience effectively.

However, should securing a direct alignment with state funding prove challenging, alternative funding sources present viable options, albeit with the understanding that EmpowerED may not be hosted on the state's platform. These alternative sources include federal and state grants, local community grants, specific entity grants tailored for early childhood education projects, foundations, angel investors, and crowdfunding platforms. While these avenues offer potential financial support, each comes with its own set of requirements and focuses, necessitating a flexible and adaptive approach to securing funding. Exploring these alternatives requires a strategic evaluation of their alignment with EmpowerED's objectives and potential impacts on early childhood education. This diverse funding landscape offers opportunities to support EmpowerED's development and implementation, ensuring its valuable resources reach educators and ultimately benefit early learners, even if it means navigating outside the state's direct support systems.

EmpowerED harbors the potential to revolutionize early childhood education, setting a precedent for how PD can profoundly enhance teaching practices and student outcomes. To conclude the funding chapter, it is crucial to recognize that the journey to secure financial support for EmpowerED embodies a strategic and multifaceted pursuit. This endeavor not only seeks to gather the necessary resources but also aims to foster a

community of backers committed to educational transformation. Through this diversified funding strategy, EmpowerED is poised to establish a resilient and impactful framework, ensuring its vision for transformative educational experiences becomes a reality.

CHAPTER EIGHT – Conclusion

This doctoral project proposal, "EmpowerED: Elevating Early Childhood Educators for Student Success," traverses a comprehensive journey from identifying the pivotal challenges in early childhood education to proposing a transformative solution aimed at enhancing kindergarten readiness among preschoolers in the Commonwealth of Massachusetts. It explores the decline in kindergarten readiness skills, attributing it to inadequate opportunities for fine motor skill development and multisensory learning experiences, and stresses the importance of comprehensive training for early childhood educators. Factors that further exacerbate this challenge include declining program enrollment, insufficient teacher training, high turnover rates, and lack of standardized curricula (Ball & Trammell, 2011; Massachusetts Department of Education, 2003; Saffer, 2021; United States Census Bureau, 2021; University of California Berkeley's Center for the Study of Child Care Employment, 2022). This project underscores OTPs' crucial role in providing this support.

A thorough examination of the factors influencing kindergarten readiness stresses the urgency for innovative solutions like EmpowerED. Review of literature highlights the necessity of aligning teaching practices with children's developmental needs, considering federal and state regulations, socioeconomic conditions, and classroom practices (NAEYC, 2019; NIEER, 2021). Theoretical perspectives like Vygotsky's sociocultural theory and Bandura's social learning theory illustrate how regulatory inconsistencies and instructional quality affect readiness (Bandura, 1986; Daneshfar & Moharami, 2018). The significance of DAP and PD in enhancing educational outcomes is backed by literature,

advocating for effective approaches to improve early childhood education (Alford et al., 2016; Mengstie, 2023; NAEYC, 2020).

Review of current methods and approaches highlights the crucial role of high-quality, early childhood education in kindergarten readiness, noting disparities in access and quality across states (DeBruin-Parecki & Slutzky, 2016; Kern & Friedman, 2008; Wechsler et al., 2016). It emphasizes that educator knowledge and training are vital quality indicators, revealing inconsistencies in certification requirements and PD (Education Commission of the States, 2020; NIEER, 2022). This analysis advocates for EmpowerED to address these gaps by improving educator skills and aligning with Massachusetts Early Learning Standards, aiming to enhance children's educational outcomes.

EmpowerED, a comprehensive initiative designed to equip early childhood educators with essential skills and knowledge of multisensory instruction and DAP, draws upon adult learning theory, social learning theory, and pedagogical principles to create an engaging online learning experience. EmpowerED consists of six sections covering fine motor skills, multisensory learning, lesson design, implementation, and reflection. The program outcomes include increased teacher knowledge and skills, improved student engagement, and enhanced kindergarten readiness skills. The program seeks to transform early childhood education through theory-driven teaching practices, ultimately aiming to empower both teachers and students for lifelong success.

A robust evaluation framework, incorporating quantitative and qualitative methodologies, will be used to assess the effectiveness of the EmpowerED program in

improving educators' instructional practices and students' readiness for kindergarten. A detailed and multifaceted dissemination plan will ensure that the insights, strategies, and outcomes derived from EmpowerED reach a broad audience, contributing to the ongoing dialogue on enhancing early childhood education practices. The strategic funding model highlights the program's potential for sustainability and scalability, ensuring its long-term impact.

EmpowerED represents an innovative approach to PD in early childhood education in the Commonwealth of Massachusetts. By addressing the gaps identified through this proposal, the program sets a precedent for future initiatives, emphasizing the transformative potential of targeted, evidence-based PD in enhancing educational outcomes. The anticipated impact of EmpowerED extends beyond immediate educational gains, promising to improve practice, enhance the well-being of students, and contribute significantly to the profession of early childhood education.

In conclusion, this doctoral endeavor offers a comprehensive response to a pressing challenge, providing a roadmap for future efforts to enhance the quality and accessibility of early childhood education in the Commonwealth of Massachusetts and beyond. Through EmpowerED, the importance of ongoing innovation, research, and collaboration in advancing the field of early childhood education is underscored, highlighting the vision of ensuring that every child is afforded the opportunity to thrive in their learning journey.

APPENDIX A – Executive Summary

Introduction

The importance of early childhood education cannot be overstated. Research emphasizes the pivotal role that early educational experiences play in shaping future academic success and overall well-being (Kern & Friedman, 2008). As a school-based occupational therapy practitioner (OTP) in the Commonwealth of Massachusetts, there has been an observable decline in kindergarten readiness skills among preschool aged children. This decline is primarily attributed to inadequate opportunities for motor skill development and sensory-rich learning experiences within preschool settings. Recent trends show decreased enrollment in preschool programs and a significant reduction in early intervention services (Saffer, 2021; United States Census Bureau, 2021). Workforce dynamics, curriculum inconsistencies, resource limitations, and socioeconomic disparities further contribute to the decrease in kindergarten readiness skills. Recognizing the critical need for intervention, this doctoral project proposal seeks to address the root causes of the problem and propose a comprehensive solution to enhance early learning outcomes among preschoolers in the Commonwealth of Massachusetts.

Proposed Solution: EmpowerED

The proposed solution, titled "EmpowerED: Elevating Early Childhood Educators for Student Success," aims to equip early childhood educators with the knowledge and skills necessary to foster developmentally appropriate learning environments and employ DAP. By providing comprehensive training, the EmpowerED program seeks to enhance kindergarten readiness skills. This initiative aligns with IDEA and underscores the

importance of inclusive education as a national goal (United States Department of Health and Human Services and United States Department of Education, 2015).

Theoretical Foundation of EmpowerED

The theoretical foundation of EmpowerED encompasses key ideologies from adult learning theory, social learning theory, and pedagogical principles (Braungart et al., 2020; Mukhalati & Taylor, 2019; Smith, 2002; Sullivan et al., 2008; TEAL, 2011). Drawing on adult learning theory, the program recognizes the importance of engaging educators as active participants in their PD, emphasizing self-directed learning and relevance to their teaching practice (Smith, 2002; TEAL, 2011). Social learning theory informs the program's collaborative approach, fostering peer interaction, knowledge sharing, and observational learning among educators (Braungart et al., 2020; Mukhalati & Taylor, 2019). Additionally, pedagogical principles such as motor learning theory guide the design of activities and instructional strategies aimed at enhancing fine motor skill development in preschool-aged children (Sullivan et al., 2008).

Embedded within the program's curriculum are evidence-based practices derived from these theoretical frameworks, including multisensory instruction and DAP. By incorporating multisensory learning experiences, the program addresses the diverse learning styles and sensory preferences of young learners, promoting deeper engagement and comprehension and minimizing achievement gaps (NAEYC, 2020). Furthermore, the emphasis on DAP ensures that educators are equipped with strategies tailored to the specific needs and abilities of preschool-aged children.

Overall, the integration of these theoretical perspectives ensures that the

EmpowerED program is both grounded in research and aligned with best practices in early childhood education. By leveraging these theoretical insights, the program aims to enhance educators' instructional practices and promote students' participation and engagement, ultimately addressing the challenges associated with decreased kindergarten readiness.

Key Features of EmpowerED

EmpowerED is a self-paced online training module consisting of six sections covering topics such as fine motor skills, multisensory learning, lesson design, implementation, and reflection. Each section incorporates interactive elements such as videos, case studies, quizzes, and self-assessment exercises, promoting active engagement and practical application of learning. By integrating real-world examples and showcasing successful teaching strategies, EmpowerED aims to deepen educators' understanding and retention of the material. Furthermore, the module is designed for seamless integration with existing online trainings required by preschool teachers in the Commonwealth of Massachusetts, ensuring ease of use and accessibility.

Expected Outcomes of EmpowerED

EmpowerED is a transformative training program designed to elevate early childhood education in the Commonwealth of Massachusetts by enhancing the skills of educators and preparing preschool students for kindergarten. Through the program, educators will gain increased knowledge and confidence in implementing DAP, leading to enhanced student engagement and participation in the classroom. Anticipated outcomes include improved instructional practices, enhanced kindergarten readiness

among preschoolers, and strengthened collaboration within the early childhood education community. By setting new benchmarks for excellence, EmpowerED aims to contribute to the long-term success of early childhood education in the Commonwealth of Massachusetts, ensuring a brighter future for young learners statewide.

Considerations for EmpowerED

For a streamlined and effective rollout, EmpowerED requires meticulous planning, inclusive collaboration with communities of interest, and thorough evaluation. This program, aimed at enhancing preschool educators' skills through an innovative online training, emphasizes interactive learning and practical application grounded in proven educational theories. Key considerations for EmpowerED's success include strategic resource management, forging strong partnerships, supporting PD, and ensuring alignment with educational standards. The evaluation and cost of the program are integral to its sustainability and expansion, with a focus on creating a measurable impact on early educators' competencies and ultimately improving kindergarten readiness among preschoolers.

As EmpowerED moves forward, it will require the collaboration of various communities of interest, including educators, administrators, policymakers, and the EEC, to integrate this program into the existing suite of essential topics for preschool educator certification. If the EmpowerED program is adopted onto the EEC state platform, Strong Start, the total cost associated with the program significantly decreases to just the program designer's salary. This cost efficiency is made possible because the state would provide the necessary software for content creation and implementation, user engagement

tracking, and data analysis, eliminating the need for additional expenses related to platform hosting, text-to-voice artificial intelligence (AI) software, and other operational costs outlined in the initial budget of $37,383. This streamlined funding model underscores the financial advantage of integrating EmpowerED within the EEC's existing educational framework, as well as the importance of a strategic partnership with EEC to enhance the program's reach and efficacy, ultimately contributing to improved early childhood education outcomes.

General Conclusions

In conclusion, EmpowerED presents a strategic initiative to address the critical issue of declining kindergarten readiness in the Commonwealth of Massachusetts. By empowering early childhood educators and integrating evidence-based practices into preschool settings, EmpowerED has the potential to make a significant impact on educational outcomes and set new standards for excellence statewide. With thoughtful implementation and strategic partnerships, EmpowerED can contribute to improved educational opportunities and outcomes for young learners across the Commonwealth of Massachusetts. With EmpowerED, the potential for positive change in early childhood education is not only foreseeable but also entirely attainable.

APPENDIX B – Fact Sheet

THE PROBLEM: DECREASED KINDERGARTEN READINESS SKILLS

SOCIOECONOMIC FACTORS	Economic disparities significantly influence children's access to resources and quality early education, affecting kindergarten readiness and highlighting the need for equitable learning opportunities across socioeconomic statuses.[1-3]
DECLINING ENROLLMENT + EARLY INTERVENTION	In 2020, only 40% of 3 and 4-year-olds were enrolled in early childhood programs, marking the lowest rate since 1996.[4] In 2021, 80% of early intervention service agencies reported a substantial decline in services compared to previous years.[5] This suggests that many children with disabilities might not be identified in a timely manner for necessary special education services.
INCONSISTENCIES IN FEDERAL REGULATIONS	Federal regulations play an important role in setting program requirements, funding and resources, and quality standards for early education programs in the United States.[6-7] Due to the inconsistencies provided at the federal level, state and local governments demonstrate significant variations in the requirements they set forth as it pertains to preschool program design and implementation. Lack of specificity in program design and implementation contribute to the overall efficacy of instructional practices.
MINIMAL TRAINING OPPORTUNITIES FOR EARLY EDUCATORS	The minimum hiring requirements set by the EEC focus on staffing needs rather than comprehensive teacher training.[8] Preschool teachers in the Commonwealth of Massachusetts must meet minimal requirements including a background check, age or education criteria, minimal work experience, a 3-credit child development course, online EEC Essentials training, and first aid certification.

The U.S. Department of Health and Human Services and the U.S. Department of Education[9] strongly advocate for early childhood educators to work alongside specialists, including occupational therapy practitioners, to enhance inclusivity. This collaboration underscores a commitment to empowering educators, fostering comprehensive development, and ensuring every child is meaningfully included in all aspects of life through advanced competencies and integrated professional development.

THE SOLUTION: FOSTERING KINDERGARTEN READINESS THROUGH EVERYDAY TEACHING PRACTICES

OVERVIEW: EmpowerED is an innovative professional development initiative designed to enhance early childhood education in the Commonwealth of Massachusetts. By providing educators with the knowledge and confidence to implement developmentally appropriate practices (DAP) that enhance student engagement and classroom participation, EmpowerED seeks to promote kindergarten readiness for every young learner.

EmpowerED

ELEVATING EARLY EDUCATORS FOR STUDENT SUCCESS

THE THEORETICAL BASIS

ADULT LEARNING THEORY [10-11]

- Relevance & practicality in learning
- Interactive elements to support active participation
- Immediate application of new knowledge
- Meets the diverse preferences & schedules of adult learners

SOCIAL LEARNING THEORY [12-13]

- Video demonstrations & case studies for observational learning & modeled behaviors
- Encourages self-reflection
- Feedback mechanisms to reinforce learning outcomes

PEDAGOGICAL PRINCIPLES [14]

- Applied principles such as scaffolding, repetition, & zone of proximal development
- Effective adaptations to meet learners' needs
- Hands-on learning experiences & real-world applications

PROGRAM SPECIFICS: EmpowerED is a structured, self-paced, and click-through 60-minute online module consisting of six informative and engaging sections: understanding fine motor skills and multisensory learning, practical strategies for fine motor development, multisensory instruction in preschool, designing multisensory lessons, implementing and assessing, and reflecting and integrating. As participants progress through each module and interact with different components like self-assessment quizzes, case studies, and video demonstrations, they will have opportunities to contemplate their newly acquired knowledge, relate it to their personal experiences, and put it into practice, thereby solidifying their understanding.

THE PROGRAM GOALS

INCREASED EDUCATOR KNOWLEDGE → CONFIDENCE IMPLEMENTING DAP → ENHANCED STUDENT ENGAGEMENT & PARTICIPATION → INCREASED KINDERGARTEN READINESS

FUNDING AND DISSEMINATION: EmpowerED seeks a partnership with the EEC. The cost to develop the program is limited to the designer's time. The dissemination plan includes engaging communities of interest through professional conferences, workshops, and digital platforms. The program will leverage existing networks within the educational and occupational therapy communities, utilizing traditional and social media channels.

SIGNIFICANCE FOR OT	SUPPORT FOR OT		REFERENCES
EmpowerED underscores the importance of incorporating occupational therapy principles into early childhood education, highlighting the role of occupational therapy practitioners (OTPs) in developing and implementing multisensory and motor skill enhancing activities.	EmpowerED facilitates a multidisciplinary approach to education, modeling how OTPs can effectively contribute their expertise in motor skill development and sensory processing to educational settings.	EmpowerED enhances the capacity educators to identify and support children who may benefit from occupational therapy services, promoting early intervention and collaboration.	

APPENDIX C – Survey 1 Sample

1. What is one key principle of multisensory learning?

A. Use of audio-visual aids in the classroom.
B. Encouraging students to rely primarily on visual learning.
C. Incorporating multiple senses (e.g., sight, sound, touch) into teaching methods.
D. Focusing on auditory learning techniques only.

2. Please rate your confidence in implementing multisensory teaching strategies.

1= Definitely not confident
2= Not very confident
3= Somewhat confident
4= Moderately confident
5= Highly confident

4. What is scaffolding in the context of multisensory teaching?

A. A tool for painting and art activities.
B. Providing external support to help students grasp a concept.
C. A type of playground equipment.
D. Using digital devices in the classroom for interactive learning.

5. Which multisensory activity is not recommended for improving fine motor skills?

A. Finger painting with a variety of textures.
B. Stringing beads to make jewelry.
C. Building with small interlocking bricks.
D. Playing soccer.

6. Please rate your confidence in adapting multisensory lessons for diverse learning styles.

1= Definitely not confident
2= Not very confident
3= Somewhat confident
4= Moderately confident
5= Highly confident

APPENDIX D – Survey 2 Sample

1. Since completing the EmpowerED program, how frequently have you integrated fine motor development activities into your daily lessons?

- Never
- Rarely
- Occasionally
- Frequently
- Very frequently

2. To what extent do you feel the EmpowerED program has improved your ability to implement multisensory teaching methods?

- Not applicable
- No improvement
- Slightly improved
- Moderately improved
- Significantly improved

3. How confident do you feel now in designing and implementing developmentally appropriate learning activities compared to before the EmpowerED program?

- Much less confident
- Somewhat less confident
- About the same
- Somewhat more confident
- Much more confident

4. Have you noticed any changes in student engagement and participation in your classroom since applying what you learned from the EmpowerED program?

- Significant increase in engagement and participation
- Moderate increase in engagement and participation
- Slight increase in engagement and participation
- No change in engagement and participation
- Decrease in engagement and participation

5. Based on your experience, what impact has the EmpowerED program had on your teaching practices?

- Very positive impact
- Positive impact
- Neutral impact
- Negative impact
- Very negative impact

6. After completing the EmpowerED program, to what extent do you feel your preparedness to identify and support children eligible for Individualized Education Plans (IEPs) has improved?

- Not applicable
- No improvement
- Slightly improved
- Moderately improved
- Significantly improved

7. Reflecting on the past six months, how has your approach to teaching changed as a result of the EmpowerED program? (Open-ended question)

8. What barriers, if any, have you encountered in implementing strategies learned from the EmpowerED program? (Check all that apply)

- Lack of resources/materials
- Insufficient time for planning and implementation
- Classroom management challenges
- Limited support from administration
- Difficulty integrating strategies with current curriculum
- Lack of confidence in executing strategies effectively
- Other (please specify): _____

9. In terms of professional development, how would you rate the overall effectiveness of the EmpowerED program?

- Extremely effective
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

APPENDIX E – Teaching Tool Sample

Public View Link

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