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MICRO CREDENTIALING FOR TEACHERS: A CASE STUDY IN PERSONALIZED PROFESSIONAL DEVELOPMENT

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A Dissertation Submitted in Partial Fulfillment of
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Superintendent Program
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ABSTRACT

Professional development for teachers must evolve to provide a personalized approach to better meet the needs of the individual. Micro-credentialing is one way to provide teachers with personalized professional development. This case study explores the implementation of a micro-credentialing course in one school district. The district selected a company that provides micro-credential courses nationwide. The theoretical framework for the study is Andragogy, the theory of adult learning (Knowles, 1984). The objective of the study is to determine to what extent micro-credentialing meets the needs of teachers, and to what extent it is effective professional development. Data for this qualitative study was collected through teacher surveys and interviews. A district administrator and a company representative were also interviewed. Analysis of the surveys and interviews revealed teachers found value in the course, they also shared suggestions for improvement.

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CHAPTER 1

Introduction

The need for individualized professional development, as opposed to one-size-fits-all professional development for teachers, is becoming more recognizable in the field of education (Gibson et al., 2016). This was reiterated by Gamrat et al., (2014) in a study on digital badging for a teacher professional development program. As DeMonte (2017) points out, teachers expect professional development opportunities related to the work they do in their classrooms.

Additionally, teachers across the United States are voicing that current professional development is not helping them to deliver instruction that is effectively impacting student learning (Billings & Kasmer, 2015). Providing teachers with an option to earn micro-credential credits, sometimes referred to as digital badges, is one way for teachers to engage in meaningful professional development and impact student learning.

States and districts in the United States spend more than \$18 billion (about \$55 per person in the US) per year on professional development (DeMonte, 2017). The importance of teacher input toward their professional development is supported by (Louws et al., 2017) “...teachers are often regarded as recipients of PD rather than active teachers that are able to explicate their learning goals and have a say in their own learning” (p. 1). The value in establishing personal learning goals and having a voice in their professional development is supported by VanVeen et al.,(2012).

Teachers in a school district in a Mid-West state are allowed to use a combination of graduate credits and Continuing Education Units (CEU) credits to renew their teaching certificate. Professional educators of K-12 school systems are required to earn six credit hours to recertify their teaching certificate every five years. Teacher recertification is tied closely to

professional development, something that is particularly important and costly. While teachers value professional development opportunities, they often find themselves taking conferences, mini-courses, book studies, or a plethora of other professional development opportunities (Little, 1993) that are not of special interest or that do not improve their effectiveness in the classroom (Hawley & Valli, 1999).

Micro-credentialing/digital badging allows a teacher to earn credentials on a specific topic. This process can be influenced by the teacher so they can target areas of their content, methodologies, or techniques that will directly impact their teaching practices in the classroom. A micro-credential is meant to represent a microcosm of a topic within a content area. In pursuing a micro-credential, the learner must show competency by submitting artifacts, videos, or written work. A critical step in earning a micro-credential is the ability of the learner to demonstrate proficiency. An inability to demonstrate proficiency may result in the learner having to go back, learn more, and demonstrate proficiency (Sawchuck, 2016).

Historical Perspective of Micro-credentialing

The concept of using credentials in education is documented as early as 1969 when Allen and Wagschal (1969) proposed that an overhaul of the credentialing of teachers was warranted and much needed. In 2013, the U.S. Department of Education funded a report published by the American Institutes for Research supporting the role of digital badges in quantifying skill levels in the workplace (DeMonte, 2017).

Samuel Abramovich, a leading researcher of digital badging in the field of education, determined that motivation is a key factor in a learner's pursuit of badges (Abramovich et al., 2013). This supports the reality that when learners view the learning process as benefiting them, they are more inclined to invest their time and effort into learning. According to Knowles (1984),

adult learners are motivated when they can self-direct their learning. Adults learn best when the topic is of immediate use.

Support/Criticism of Micro-credentialing in Education

The need for individualized professional development, as opposed to one-size-fits-all professional development for teachers, is becoming more recognizable in the field of education (Abramovich et al.,2013; Dyjur & Lindstrom, 2017; Gamrat, et al.,2014). Because the current recertification protocol is based on very traditional practices and because teachers are demanding more personalized professional development opportunities, research may help establish the beginning of more personalized professional development opportunities, such as micro-credentialing. However, because micro-credentialing is in its infancy stage, the lack of model programs calls for more research. This study may contribute to a better understanding of the strengths and weaknesses of micro-credentialing.

Research on micro-credentials for teachers is in its infancy stage (DeMonte, 2017). Arkansas, Delaware, and Tennessee are the frontier states, establishing programs allowing teachers to use digital badges for certification (DeMonte, 2017). As more states consider using micro-credentialing for teacher certification, the profession gains valuable insight into the elements indicative of a quality micro-credentialing system. Teachers in rural or remote areas can access quality professional development using micro-credential programs via technology when other options do not exist (Will, 2017).

In 2011-2012, the MacArthur Foundation-funded digital badging programs for NASA, Disney, Smithsonian, National Oceanic and Atmospheric Administration, and Penn State University (Priest, 2015). The MacArthur Foundation is recognized as the leader in funding the PK-12 badging efforts and continues to support the development of digital badging programs. As

Ahn et al.,2014) point out, a college or university degree cannot delineate all the knowledge, skills, and accomplishments a graduate has. Digital badges, however, give detailed information on numerous learning accomplishments.

Digital badging is not without its skeptics. Because it is in its infancy stage, some are concerned that badge earners will focus on the act of accumulating badges as opposed to prioritizing the learning associated with a badge (Mah et al.,2016). Related to the issue of the newness of badging, individuals may not know about digital badges or how they can be used (Dyjur & Lindstrom, 2017).

Of equal importance is the value different stakeholders place on digital badges or micro-credentials (Ahn et al.,2014). Ahn, et al. (2014) expressed that while a small community (i.e., an online group of educators) may highly value a badge or micro-credential, an employer may place little value on that badge or micro-credential. Similarly, Devedzic and Jovanovic (2015) stated that stakeholders may assign different values based on personal perception. At present, a standard for badge programming does not exist (O’Byrne et al., 2015) which creates confusion as to the credibility outside the organization or system where the badge was issued.

The use of micro-credentials in higher education is drawing attention. However, post-secondary institutions have yet to discuss design considerations to advance digital badging in higher education (Carey, & Stefaniak, 2018). Wiley (2021) suggests that universities have the benefit of deciding how micro-credentials fit into a degree and guide the induction of micro-credentialing in a way that benefits the universities, employers, and learners. In addition, Wiley (2021) poses that leaders in higher education should consider how stacking short-term credentials can develop into full degrees.

Statement of the Problem

This study was designed to investigate to what degree micro-credentialing can improve professional development for the needs of the individual. Teachers often choose from random classes, workshops, book studies, etc., which may be related yet distant to what they need for professional growth in their content area. This lack of individualization in teacher professional development is preventing teachers from improving their skills in areas they identify as needing improvement. Micro-credentialing allows teachers to pinpoint areas in which they need improvement and increases ownership in their professional development.

Teachers' options in pursuing professional development opportunities may be limited due to circumstances beyond their control, i.e., the Coronavirus Pandemic of 2020. The pandemic did not allow for large conferences, workshops, or face-to-face classes which were often the norm for providing professional development opportunities to teachers. The Coronavirus Pandemic heightened the need for more professional development in which teachers could safely and effectively advance their learning. Micro-credentialing could offer them just that.

Scaffolding badges across multiple areas, i.e., education and business may prove extremely valuable to an individual (Finkelstein et al., 2013). In the event a teacher chooses to change professions or if teachers are faced with uncontrollable life-altering circumstances causing them to change professions, a portfolio of digital badges or micro-credentials may provide prospective employers a better understanding of a candidate's skill set than a traditional resume.

A national company specializing in micro-credentialing since 2015 has established themselves as a leader in developing micro-credentialing. In an interview, Head of District Partnerships for the company identified characteristics of micro-credentials as follows: a coach and a senior learning strategist work with a teacher throughout the experience; teachers can earn

multiple micro-credentials related to a topic which can then be applied toward an endorsement; a district can have a cohort of teachers go through an endorsement cluster together. Micro-credentialing centers on mastery, something very important for improvement.

The company representative also shared that some states are using micro-credentials in a variety of ways to provide a more effective professional development experience for their teachers. Kentucky is pursuing full teacher certification. Texas has introduced legislation allowing the licensure of teachers; Arkansas and Louisiana have micro-credential programs for teacher induction. Their intent is to provide personalized professional development at the start of employment.

Theoretical Framework

The theory of andragogy claims that adults learn differently than children (Knowles, 1984; Kurt, 2020; Loeng, 2017). Theorist Malcom Knowles identified that adult learners require a different approach to learning than school-aged children. Work on adult learning is related to a theory first developed in 1833 by a German teacher, Alexander Kapp (Kurt, 2020).

Having lived during the Romantic Period, Kapp subscribed to emotion in learning and the importance of knowing oneself. He theorized that understanding was enhanced when the learner was skilled at knowing their inner self. Learning for practicality was second to learning to better develop reasoning and wisdom. Because his work has not been translated into English, Kapp is rarely acknowledged for his pioneering of andragogy theory (Loeng, 2017).

Malcolm Knowles is currently the predominant figure of andragogy theory. In his work, he identified that adult learners retain information best when it is relevant and useful, as opposed to mechanically memorizing information. Kurt (2020) cites Knowles's five assumptions related to adult learners (p. 5).

1. **Self-concept:** Adults move from being dependent of others to self-direction as they mature.
2. **Experience:** Adults gain experience as they grow that, in turn, becomes a valuable tool in learning.
3. **Readiness to learn:** The priorities of adults shift as they begin to increasingly value and are, therefore, more ready to learn about his or her role in society.
4. **Orientation to learning:** Adults change their perspectives on learning as they grow, moving from procrastination to immediate application and from subject interest to problem-solving.
5. **Motivation to learn:** Adults move from extrinsic towards intrinsic motivation as they grow and mature.

Purpose of the Study

This exploratory case study described the implementation of micro-credentialing. First, the study described how micro-credentialing was implemented for teachers. Second, the study determined to what extent the micro-credentialing course met the needs of the teachers. Third, the study determined if micro-credentialing was successful as professional development for the teachers.

Research Questions

The following questions guided this study:

1. How was micro-credentialing implemented for teachers?
2. To what extent did the micro-credentialing course meet the needs of teachers?
3. To what extent was micro-credentialing successful as professional development for the teachers?

Significance of the Study

This study's findings further revealed the importance of personalized professional development for teachers. The findings would be of major importance in assessing how individual teachers used personalized professional development to become more effective in their classroom. Effective professional development for teachers would potentially help improve not only teaching methods but student achievement as well.

Definition of Terms

Micro-credential: A micro-credential is a digital form of certification indicating demonstrated competency in a specific skill. Micro-credentials are also on-demand, shareable, and personalized. (Ryerse, 2017).

Teacher Recertification: Teacher recertification is a cyclical renewal process required of certified teachers.

Learning Communities: A learning community is a cohort of teachers recognized as a learning community within the micro-credential program.

Limitations and Delimitations

Several limitations affected this study. First, the micro-credential program used in this study was developed and implemented before this study was conducted. This study did not have any influence on the micro-credential program.

Second, the study involved the behavior of one group in one organization. The behavior of this one unit of analysis may or may not reflect the behavior of similar groups. Additional research is needed to determine whether the findings in this study would manifest elsewhere.

A small group of teachers from the same school district enrolled in a micro-credential focused on Social, Emotional Learning. All teachers were afforded the same support from the district administration.

Organization of the Study

Chapter 1 presents the introduction, gaps in the research, connection to the research, the purpose statement, the theoretical framework, and the research questions. Chapter 2 contains a review of related literature. The methodology and procedures used to gather data for the study are presented in Chapter 3. The results of analyses and findings to emerge from the study are (will be) contained in Chapter 4. Chapter 5 contains a summary of the study and findings, conclusions drawn from the findings, a discussion, and recommendations for further study.

CHAPTER 2

Review of Literature

Introduction

The literature review begins with a discussion on the satisfaction of educators related to professional development, what they need for effective professional development and how well traditional professional development opportunities meet their needs. Teachers rely on meaningful professional development to satisfy their personal needs in a way that they know will make them more effective in the classroom (Hill, 2016). 2017). Current professional development opportunities and experiences may or may not provide an individual with content that meets their needs or expectations, which ultimately has limited effect on student learning, (DeMonte, 2013; Loucks-Horsley, et al., 2010; NCTM, 2014). Identifying best practices for effective implementation of micro-credentialing for teacher recertification may help teachers and those in charge of teacher in-service programs, develop more effective professional development opportunities.

The literature review will include the positive elements of micro-credentials on professional development. Professional development designed as micro-credentials target specific competencies an educator wants to develop (BloomBoard & the American Institutes for Research, 2019) as opposed to professional development that measures seat time (Barnett, 2016; Hill, 2016). Micro-credentialing requires educators to demonstrate a level of competency, an aspect not typically present in traditional professional development BloomBoard & American Institutes for Research, 2019). Micro-credentialing is an output learning model requiring the learner to demonstrate a new skill level (BloomBoard & American Institutes for Research,

2019). By demonstrating their learning, educators can better assess their level of understanding and identify which areas still need more attention.

The literature review will cover the role of MOOC's and TOOC'S, and their place in teacher professional development. The value of teacher involvement in designing their professional development is supported in different yet comparable practices such as MOOC's (Massive Open Online Courses) and TOOC'S (Targeted Open Online Courses) both of which have elements that parallel micro-credentialing (Freeman & Branon, 2016).

Finally, the literature review will consider the view of colleges and universities related to micro-credentials. The fusion of micro-credentialing into post-secondary institution programming is causing higher education to investigate whether digital badges are effective pedagogical tools and what role they might effectively play in higher education (Carey & Stefaniak, 2018). A shared concern in higher education is the lack of discussion related to the instructional design of digital badges (Carey & Stefaniak, 2018).

Professional Development and Educator Satisfaction

Traditional professional development programs are designed to provide a scope of material that may or may not help each participant to the same level of satisfaction (Casilli & Hickey, 2016). Furthermore, traditional professional development programs are commonly in the form of workshops and college courses (Little, 1993). Hawley and Valli (1999) reported that this approach is often ineffective because they do not address individual teachers' classroom teaching. Even though the topic or title may hold the same level of interest for multiple individuals, it is unknown to what degree each participant will benefit (Casilli & Hickey, 2016). The nature of traditional professional development puts the learner at the mercy of a group at

large; the pace and the path of learning is unknown from the beginning of the experience (Casilli & Hickey, 2016).

Educators often receive professional development from local or regional providers, providers who, in many cases, need to gain special training or expertise in the content they are presenting (Hill, 2009). Hill explains that in observations of local professional development related to mathematics, presenters were often topical in the material or presented ambiguities or outright errors. Demonte (2013) states that high-quality professional development must: (a) align with school goals, state and district standards, assessments, and other professional-learning activities; (b) focus on core content and modeling of teaching strategies for the content; (c) include opportunities for active learning of new teaching strategies; (d) provide the chance for teachers to collaborate; (e) include follow-up and continuous feedback. Similar standards for high-quality professional development were identified by Bull and Buechler (1997) and Desimone (2009). Those standards include: (a) individualized and school-based PD; (b) implements coaching and other follow-up procedures; (c) includes collaboration; (d) implants practices into daily teaching.

Researcher Frances Fuller is noted for his seminal work on the concerns relating to personal skill development held by beginning teachers. Fuller (1969) posited that beginning teachers were concerned about themselves. Specifically, they were concerned about their own comfort and their adequacy and success rather than about their students' comfort, adequacy, or success. Furthermore, Fuller found that beginning teachers expressed concern about classroom management, content proficiency, supervisors' evaluation of them, working conditions, and being liked by their students.

Educators are looking for professional development that meets their needs and takes into consideration the phase of their career (Louws, et al. 2017). Beginning teachers have long expressed concerns about maintaining discipline in the classroom (Fuller, 1969; Louws et al, 2018; Mizell, 2010). As expected, the needs of a teacher will evolve throughout their career based on the demands of their job and changes in their personal lives. Those needs may be addressed if they are afforded appropriate programs for professional development (Fessler and Christensen, 1992; Kyndt et al.,2016; Rinke, 2008; Van Veen & Kooy, 2012). Micro-credentialing is inclusive of the needs of the teacher from the inception of the plan (DeMonte, 2016; Dede et al.,2008). Educators identify the topic and specific facets they need to learn more about. After their experience individuals are better equipped to put what they have learned into practice because they had a voice in their learning (DeMonte, 2016; Dede et al., 2008). Their experience was also on the path they intended it to take throughout the learning experience. An attractive component of both MOOC's and TOOC's is that they offer professional development opportunities that are free to the user.

Evolving from Traditional Professional Development

Providers of traditional professional development rely on their reputation and academic accreditation to substantiate the value of learning outcomes tied to professional development (Lockley et al., 016). Traditional professional development programs typically document a participant's attendance or participation and award credit or certification based on nothing else (Dyjur & Lindstrom, 2016). The participant is not expected to show a new level of accomplishment or understanding (Dyjur & Lindstrom, 2016).

Educational institutions have made significant strides in delivering professional development via distance learning. Distance learning has untethered teachers from in-person

learning, allowing them to engage in professional development without stepping on campus. The Coronavirus of 2020 caused many institutions to cancel traditional professional development events. In response, sponsors of professional development events worked quickly to develop virtual events, expediting the evolution of traditional professional development.

It has become increasingly important for providers of professional development to consider how they will evolve to meet the personal needs of teachers (Sawchuck, 2016; Bull & Bechler, 1997). Local school districts are often tasked with bringing professional development opportunities to their teachers. Some districts have begun the transition from traditional one-size-fits-all professional development, to offering professional development in the form of micro-credentialing (Sawchuck, 2016; DeMonte, 2016). One such district is the Kettle Moraine district in Dousman, Wisconsin (Sawchuck, 2016). The district allows individuals or groups of teachers to propose personalized courses of study. Each proposal must be reviewed and approved by a 10-member panel of educators who decide if the proposal will count as a micro-credential.

Several states across the nation are slowly evolving from traditional professional development practices to micro-credentialing (Povich, 2017). Arkansas, Delaware, and Tennessee deployed multi-year pilot projects. Other states (Illinois, Maryland, Massachusetts, New York, North Carolina, Texas, and Wyoming) have begun allowing teachers to apply micro-credentials toward continuing education requirements (Povich, 2017).

Positive Elements of Micro-credentials in Professional Development

The professional development of an individual teacher is something that has long been considered important, yet seldom has the individual had a voice in professional development (Nishimura, 2014; Hill, 2016). Historically, the content is not related to the daily practice of teaching; is not related to the curriculum or to specific instructional problems, and is too

infrequent, and conducted by someone who is there for a day and never returns (DeMonte, 2013). An approach to professional development planning that is inclusive of and plans for personal voice is a critical element of micro-credentialing (DeMonte, 2013; Priest, 2016).

Micro-credentials are designed to break down complex instructional skills into smaller, fundamental parts allowing educators to develop and demonstrate competence in each of the smaller parts (DeMonte, 2013). In a one-year study of teacher perceptions of the value of digital badges, teachers identified the positive effects of a badge system due to the incremental support they received. Teachers also expressed the advantages of having professional development that was chunked and focused on proficiency (Diamond & Gonzalez, 2016). O'Byrne, et al. (2015) points out that digital badges can provide specific evidence of what the earner learned or did. An important finding of the study was the value of connecting professional development to a specific content area to help teachers increase proficiency and instructional practices. Table 1 lists the positive elements of micro-credentialing.

Table 1

<i>Elements of Micro-Credentialing</i>	
Competency-based	Individuals must demonstrate predetermined goals and objectives.
Personalized	Educators have direct input on their professional development. Learning may be demonstrated in multiple ways
Portable/stackable	Micro-credentials may be earned incrementally, then combined to demonstrate multiple levels of understanding of a specific skill.
Job embedded	Educators can infuse their learning into their daily teaching, allowing them to stay on the job.
Incorporates active learning	As a form of action research, micro-credentialing promotes the practice of implementing best practice, followed by evaluation of the effectiveness of best practice.
Provides coaching/collaboration	As a key component, the educator is teamed with an experienced educator who provides guidance throughout the process.
Sustained approach to professional development	Allows for a longer duration of the learning process on a topic of interest to the educator.
Flexibility	An educator can adjust the pace of professional development. Learning is asynchronous.

Professional Development That Targets Areas of Interest

A basic element of micro-credentialing is the inclusion of the educator in the development of their personal and professional development. When educators have ownership in designing their professional development experiences, they often find the experiences more effective (Louws et al., 2017). Teachers rely on meaningful professional development to satisfy their personal needs in a way that they know will make them more effective in the classroom (Hill, 2016).

Teacher Voice

Meeting the needs of individual teachers for meaningful professional development is a goal school districts strive for, yet struggle to accomplish (Hill, 2016). The scale of economy, a reality for an overwhelming majority of school districts, dictates a broad approach to professional development offerings (Hill, 2016). The challenge is to identify and provide professional development offerings that support teachers in their quest for personalized learning that will help them provide similar personalized learning for their students (Priest, 2016). Devedzic and Jovanovic (2015) found that from a teacher's perspective, open badges/micro-credentials, are of value because they help sustain a teacher's engagement and scaffolding of the learning process. Intentionally designed micro-credentials can give educators the backing they need to move toward the next level of learning (Acree, 2016).

It is through effective reflection that a teacher can better identify their personal needs for professional development (Cochran-Smith & Lytle, 1999). Teachers become more effective in the classroom when they ask questions about their practices, gather, and analyze data from their practices, and use the results to initiate change (Cochran-Smith & Lytle, 1999).

To create their professional development, teachers in Arlington Virginia formed teacher-research groups (Donnelly & McCormick, 2021). The grass-roots groups came about because teacher Sally Donnelly recognized that teachers needed professional learning opportunities focused on their needs. The teacher-research groups gather in their own time at coffee shops or restaurants. Each teacher shares a teaching challenge they are having, and they verbalize it to the group for 10 minutes. While sharing, the other members take notes that they will use to give feedback later. Then, everyone in the group shares their reflections, including research-based suggestions for addressing the challenge. The established practice of the teacher-research group

resembles that of action research in that they question, try, reflect, gather data, name findings, create more questions, and start over again (Donnelly & McCormick, 2021).

A study by the Bill and Melinda Gates Foundation in 2014 found that less than one in three teachers choose many of their professional learning opportunities. (Boston Consulting Group, 2014). The Hattiesburg School District in Mississippi gives teachers ownership of their professional development by letting them decide what they want to learn, and when and how they want to learn it (Terrell, 2017).

Massive Open Online Courses (MOOCs)

Massive open online courses were first developed to provide learning or training on specific skills or tasks (Moe, 2015). The term massive open online course was first coined by David Cormier (2013) in 2008. Cormier felt the term ‘open’ was a key point as it related to learning (Cormier, 2013). He intended to focus on opening our society, to remove barriers for those whose learning had been limited because of societal barriers (Cormier, 2013).

The evolution of MOOCs came to its current model in 2011 when an experiment with online learning resulted in over 160,000 individuals signing up for “CS 271 Introduction to Artificial Intelligence” course at Stanford University, (Moe, 2015). Stanford professor Sebastian Thrun and Peter Norvig, Director of Research at Google, mirrored the course for no-credit online (Moe, 2015). Online students were afforded the same content as students who attended in person, on campus, but at no cost. (Moe, 2015). Through MOOCs, learners glean what they need to improve their understanding of, and, eventually, their teaching of specific content or skill set(s), (Moe, 2015).

Freeman and Branon (2016) argue that education-specific MOOC’s (MOOC-Ed or eMOOCs) are forms of professional development for educators that can advance their

understanding of learning differences and help them meet the learning needs of their students. Furthermore, educators who participate in the MOOC-Ed build a knowledge base that they can use to identify and improve successful practices (Freeman & Branon, 2016). MOOC's and other open online classes have established a presence in education because they offer free access to quality learning opportunities (Rhoads et al., 2013).

According to Freeman & Branon (2016), teachers who gave feedback to a MOOC-Ed initiative in 2012 indicated the MOOC-Ed's effectively provided professional learning experiences that improved their knowledge and skills. The development of social relationships was the result of multiple discussions over a period of time and was also a benefit identified by the teachers (Freeman & Branon, 2016). Further, 98% of those who gave feedback about the initiative indicated that the MOOC-Ed helped them make positive changes to their teaching practices (Freeman & Branon, 2016).

Technology-rich societies have increased learning opportunities via MOOC-Ed, micro-credentialing, or digital badging to global learners (Rhoads et al., 2013). This increase in global learning opportunities brings a potential leveling of global power (Rhoads et al., 2013). While technology may be a tool used to level global power, technology has yet to reach all societies equally, hence, not all learners are yet benefiting from learning opportunities delivered via technology (Rhoads et al., 2016).

A MOOC-Ed titled "Learning Differences" sponsored by the Friday Institute for Educational Innovation provided an experience to hundreds of educators in 2014 that embedded micro-credentials into the MOOC-Ed ("Igniting Impact", 2016). This unique approach provided educators with connectivity regardless of their geographic location. The challenge of this event

lay in the coaching component, something critical in a micro-credential experience (DeMonte, 2017; “Igniting Impact”, 2016; Gamrat et al., 2014).

Targeted Open Online Courses (TOOC’s)

The popularity of MOOC’s at large universities drew the interest of smaller universities who desired to offer something similar, yet smaller, called TOOC (Targeted Open Online Course). In its basic form, a TOOC melds the benefits of a MOOC (Massive Open Online Courses), with the best practices of a traditional online course (Baker & Gentry, 2014). Mid-size universities find the TOOC attractive because the TOOC is specific in its focus and has a smaller enrollment than a MOOC (Baker & Gentry, 2014).

According to Baker and Gentry (2014), in the summer of 2013, a mid-sized regional university in Texas was among the first to offer a Targeted Open Online Course (TOOC). The university offered a graduate course, *Principles of Instruction Design & Technology*, to 59 schools in North Texas. The course could be taken as a continuing education course or for graduate credit.

Baker & Gentry (2014) concluded that TOOC’s may be advantageous for institutions that cannot offer a MOOC. In addition, they noted that smaller enrollments might help instructors apply the best pedagogical practices of traditional online courses to maintain higher persistence rates and ensure rigorous assessment. (Rowe et al., 2019) state that open online courses may encourage learners to be self-organized, collaborative, open, and at the center of the process. Because open online courses are still in their infancy (Rowe, et al., 2019), their effectiveness in learning outcomes and student persistence is yet to be determined (Daniel, 2012; Kirschner, 2012; Jordan, 2013).

Digital Badging in Higher Education

The landscape of higher education may be influenced by the induction of digital badges used as electronic, mobile credentialing systems that present themselves outside the confines of the traditional university (Ash, 2012; Carey, 2012). According to Abramovich et al., (2013), there is a growing interest in using digital badges in higher education. They state that as a result, more research is being conducted to determine to what extent badge systems can be used in higher education.

A group of faculty members at the University of Colorado are using badges at the course level and the program level (Stefaniak & Carey, 2019). In addition, there are plans to include badges in the university's learning management system. The progression of digital badges in the university setting is described by Wilson et al., (2016) as filling a small niche first and then growing over time to drastically change certification and continuing career development.

The concept of digital pathway badges in higher education developed by Gibson, Coleman, and Irving (2016) identifies three specific phases (journey of learning) that educators may experience related to digital badges. The phases are: 'paths into learning,' 'paths during learning,' and 'lifelong learning pathways.' As shown in Tables B1, B2, B3.

Transferring digital badges is a task unlike the transferring of traditional college credits. The transferability of digital badges may be determined by the ability of designers to follow guidelines that effectively incorporate evaluation and verification components into badge design (Catalano & Doucet 2013). In a qualitative multi-case study (Stefaniak & Carey, 2019) researchers noted the importance of communicating the purpose and utility of badges outside of the awarding institution. Results from a separate study conducted by Carey and Stefaniak (2018) found that most universities currently issuing badges support establishing a common currency, framework, or standardization for badges. That transferability is dependent on a common

language between institutions and across platforms. Additionally, teachers in the study advocated for a basic currency unit to better understand a badge's meaning, specifically within K-12 education, higher education, business, and industry.

Summary.

Current professional development experiences are not connected to practice (Getting Smart & BloomBoard, 2016, p. 3). Educators at Getting Smart & BloomBoard (2016) noted that traditional professional development practices track the investment of money or events teachers attend. What traditional practices fail to track is the improved teaching practices or the increase in student achievement because of professional development (Janssen et al., 2012).

Teachers, much like their students, must experience learning that is specific to their needs (Getting Smart & BloomBoard, 2016; Hill 2009; Nishimura, 2014). Teachers indicate that traditional professional development does not help them prepare for the changes they experience (Boston Consulting Group, 2014). Professional development practices struggle to evolve partly because of the unfamiliarity of designing learning toward the needs of an individual (Cochran-Smith & Lytle, 1999).

CHAPTER 3

Research Methodology

This chapter gives an outline of the research methods that were used in the study.

Included in this chapter are the following sections: a) the purpose of the study, b) population and sample included in the study, c) the instrumentation used to conduct the study, d) data collection procedures, e) data analysis, f) limitations and assumptions of the design, g) ethical considerations, and h) conclusion.

Purpose of the Study

This exploratory case study describes the implementation of micro-credentialing. First, the study describes how micro-credentialing was implemented for teachers. Second, the study determines to what extent the micro-credentialing course met the needs of the teachers. Third, the study determined if micro-credentialing is successful in professional development for teachers.

Research Questions

The following questions guided this study:

1. How was micro-credentialing implemented for teachers?
2. To what extent did the micro-credentialing course meet the needs of teachers?
3. To what extent was micro-credentialing successful as professional development for the teachers?

Research Method

Case study methodology is intended to investigate a current issue in an authentic setting (Yin, 2018). This study investigated personalized professional development in a single school system. As with most case studies, this study used analytic generalizations; it did not yield

“particularizing” analysis (Lipset et al. 1956, pp. 419-420). This case study extended the research on personalized professional development for teachers and the effect it has in their classroom.

Professional development is a common yearly practice for teachers, qualifying this as a single-case study (Yin, 2018). As teachers complete their personalized professional development experience, the data collected measure either the impact their experience has in their classroom or the lack of impact their experience has in their classroom.

Role of the Researcher

In this qualitative study, my role as the researcher is to describe pertinent aspects of the participants’ experience (Greenbank, 2003). As the researcher I am reporting data from an outside view, I am not a participant in the study.

My interest in professional development stems from 16 years as a teacher who participated in a plethora of professional development. In addition, I served in the role of principal, assistant superintendent, and superintendent for 19 years. As an administrator I was often responsible for arranging and designing professional development. It was as an administrator that I grew to better understand the importance of professional development. My career as both an educator and administrator played a part in my decision to research professional development, however it does not influence the data or integrity of the study.

Case Context

This case study was conducted in a public school district and used the pseudonym “The District” for the rest of the study. The District, has approximately 24,000 students in grades K-12. The District, includes 23 elementary schools, six middle schools, four traditional high schools, an alternative high school, a project-based learning academy, and one post-secondary technical institute.

The District, chose to offer micro-credentialing to a cohort of teachers in an effort to provide a personalized, professional development experience. This was the first-time micro-credentialing was made available through the District. Teachers were self-selected for the cohort.

Participants and Data Source

The population used for this study was a cohort of 40 practicing teachers. These teachers were in a public school district (PreK – 12) located in the Upper Midwest. Teachers from a variety of grade levels could self-select to participate in the micro-credential pilot. The school district identified Social Emotional Learning as the topic for the micro-credential pilot and teachers could earn three micro-credentials.

Data Collection

After receiving Institutional Review Board (IRB) approval, the data for this research was acquired from the teachers. Because this topic may have been new to the teachers, an informational session was conducted before they agreed to participate in the study. The data collection process considered both Likert Type responses, written comments, and an interview of six random teachers. Three types of data were collected for this case study.

User Feedback Survey

The company had teachers complete a feedback survey at the end of the training. The survey had 12 survey items that asked teachers for their feedback on their experience with micro-credential training. (See Appendix C. Only the surveys from teachers who have completed the micro-credential training were included in the data collection. The teachers were asked their feedback on the program (#3), their perceive values of the program (#4), what they found most valuable (#5), their perception of the company's micro-credential platform, content, and assessment (7#), barriers and challenges they faced in completing the program (#8), and their

overall satisfaction with the program (#10). Teachers were able to give open-ended answers for additional comments (#6, #11, and #12). The survey data was collected by the company and shared with me without any identifying information from the teachers. Only six of the 27 participants completed the company's feedback survey which is a limitation of this study.

Documents

The company built a micro-credential using draft templates and style manuals for consistency. They had standards for each part of the design process, such as the selection of sources, the authenticity of artifacts, and the consistency of competency indicators. Each micro-credential was reviewed by 3-5 staff before publication. Each reviewer was reading for different aspects of quality and consistency.

Throughout the case analysis, I collected documents and artifacts related to micro-credential training. The documents include the Coach Tracker. I memoed and made notations on documents and artifacts during the initial review. The review of documents occurred throughout the study process, from the IRB approval through the final analysis. Emergent themes were noted and documented in a code book for documents in Excel.

Interviews

The 27 teachers who completed the micro-credential were invited for interview, only two responded. I interviewed two teachers who participated in the micro-credential training (see Appendix D), one administrator from the school district (see Appendix E), and one representative from the micro-credential company (see Appendix F). Only those who completed all three micro-credentials were invited to participate in the interviews. Participation was voluntary. The interviews were conducted via Zoom. The sessions were recorded via Zoom for individual interviews and generating an auto transcription. The auto transcription was

downloaded as a text file and then copied into a Word document. Following an initial review of the Zoom auto transcription, I relistened to each interview to ensure the accuracy of the transcriptions. During the relistening process, I changed any misinterpretations of the auto transcription. Following the transcription process, I noticed initial themes emerging from the data. Each transcript was reviewed a second time, noting significant statements and coding to identify similarities among the transcripts (Creswell & Poth, 2018). I collected significant statements.

The administrator was selected based on their role in approving the micro-credential cohort. The administrator held a district-level position. A company representative was interviewed because of their involvement in designing and personalizing micro-credentials. The representative has multiple years of teaching experience.

Data Analysis

Documents, feedback surveys, and interviews were the three main sources of data for this case study. First, I describe how I analyzed these three data sources and then how I used the data analysis to answer the three research questions I used to develop the case study.

Research Questions

The research questions were designed to clarify the steps of implementation for the micro-credential course. Other micro-credential courses may be implemented differently.

Second, to what extent did the course provide teachers with the support and resources they needed. This focused on the coaching and assessors who interacted with the teachers throughout the course.

Third, to what extent was micro-credentialing successful as a form of professional development. This focused on the change micro-credentialing made on teachers teaching practices.

Research Question 1

How micro-credentialing was implemented for teachers was developed through analysis of documents from the company and the school district and then explored further in interviews with company representatives, school district representatives, and teachers. A description of the implementation was written.

Research Question 2

Since only six participants completed the feedback survey, the results were analyzed descriptively along with the two teacher interviews and school district interviews.

Research Question 3

The extent to which micro-credentialing is successful as professional development for the teachers was explored through interviews with a company representative, a school district administrator, and teachers. Common themes and perceptions of the success of professional development were identified and added to the case descriptions.

Trustworthiness

The trustworthiness of a study hinges upon measures a researcher takes to ensure validity, reliability, and ethics. Shenton (2004) suggested that the naturalistic nature of qualitative scholarship creates suspicion from more empirical positivist scholars on the validity and reliability of such studies. To further ground the trustworthiness of qualitative studies, Shenton (2004) outlined four constructs: credibility, transferability, dependability, and confirmability.

Construct Validity

Yin (2018) explained construct validity as “identifying correct operational measures for the concepts being studied” (p. 42). Within a case, this can be accomplished by using multiple sources of evidence (documents, surveys, and interviews) which results in the convergence of the data. Additionally, using a chain of evidence described earlier in the chapter assists as a tactic to establish construct validity. For Yin (2018), the test of construct validity can be assessed through informants reviewing the case. This study had key informants review a draft of the case. Creswell & Poth (2018) referred to this as member checking, which is also noted in the next section.

Credibility (Internal Validity)

Credibility is essential to establishing a study’s trustworthiness and focuses primarily on internal validity issues (Shenton, 2004). Shenton (2004) provided a robust list of means to establish credibility within a study. Since this is an integral step towards establishing trustworthiness, I took several steps to achieve credibility. I used peer review to help mitigate research bias in coding and theme creation. Similarly, I shared the findings with participants once the interviews were transcribed, and I constructed initial codes. This member-checking process also screened for potential researcher bias in interpreting the data. As noted earlier in this chapter, I actively engaged in reflective commentary during the study, which allowed me to consider themes as they emerged (Shenton, 2004). Because multiple types of data were collected and used in the case analysis, triangulation of the data evidence aided the study’s credibility (Shenton, 2004). Lastly, the nature of a case analysis helped to achieve a thick description of the phenomenon at hand.

Transferability (External Validity)

Transferability pertains to external concerns of a study and how it can be used beyond the study itself (Shenton, 2004). Qualitative research inherently limits the generalizability of studies, which is why provided context is essential. While the findings of this case analysis will not be generalizable to all micro-credentialing professional development, the case provided a thick description of the professional development implementation and teachers' and school administrators' perception of the training.

For Yin (2018), external validity occurs when the researcher shows how a case can be generalized. For this case study, the results were compared to other micro-credentialing professional development found in the literature review.

Dependability (Reliability)

The construct of dependability refers to a study's reliability. Research design helps shape the study's dependability (Shenton, 2004). A detailed methods section, noting the process and procedures followed, shaped the dependability of this case analysis. Yin (2018) described the dependability of the study as reliable. Leveraging a case study protocol, creating a database, and maintaining a chain of evidence for data collection are ways this case sought to achieve reliability (Yin, 2018).

Confirmability

Lastly, confirmability centers on the objectivity of a study (Shenton, 2004). Methods to ensure confirmability, in this case, relied upon tactics noted earlier, such as having a detailed method section, triangulation and comparison to other studies on this topic, and employing member checks and peer scrutiny.

Limitations and Assumptions of Design

Because the topic of this study [micro-credentialing] is still new, many teachers relied on limited experience to answer the survey questions. Providing teachers with an opportunity to learn more about the topic may help them answer the survey questions more accurately.

Teachers were directly impacted by the potential use of micro-credentialing for recertification and, therefore, had a personal interest in micro-credentialing.

An unexpected limitation was the small number of teachers who completed the feedback survey and who were willing to be interviewed.

Ethical Considerations

Each survey had an identification code, making it possible to document which teachers responded to the survey. The researcher did not maintain or distribute any data which identified the teacher by name. The survey data results protected the teachers' personal and school affiliation identities by removing personal and school affiliation identities.

CHAPTER 4

Results

This exploratory case study described the implementation of micro-credentialing. First, I described how micro-credentialing was implemented for teachers. Second, I determined to what extent the micro-credentialing course met the needs of the teachers. Third, I determined to what extent micro-credentialing is successful in teacher professional development. I will present data to determine to what extent micro-credentialing met the teachers who participated in the micro-credential cohort. I will also present data from two teachers who volunteered to participate in an interview. At the conclusion of the chapter, I will draw preliminary conclusions as to how the results connect to Andragogy, the theory of adult learning.

Case Context

Forty teachers from one school district signed up for the micro-credential course. Of the forty who signed up for the course, 25 (62%) teachers completed it. Three teach high school, six teach middle school, and sixteen teach elementary. The District funded a portion of the cost, and each participant was responsible for a nominal portion of the cost. The District shared information about the micro-credential offering via email to all certified teachers. Participation was optional and interested teachers attended a zoom session to learn more about micro-credentialing and expectations for participation. The micro-credential course was offered through a micro-credential company that designs and implements micro-credential courses. This course offered teachers three micro-credentials on Social Emotional Learning. The micro-credential course began in March of 2022. Teachers were given until early fall of the 2022-2023 school year to complete the course.

Findings

I will present the findings from three perspectives, the company provided the micro-credential course, the school district that hired the company to provide the micro-credential course, and teachers who completed the micro-credential course. I will then compare the three stakeholder perspectives to answer the research questions.

Micro-Credential Company

Teachers enrolled in a micro-credential program with a national company that designs micro-credentials. The company provided a framework for each micro-credential. The company trained education practitioners to serve as coaches for teachers. A coach was assigned only to those micro-credentials for which they have been trained. A coach was given the authority to customize a participant's micro-credential within the framework of the micro-credential. The company established the framework for each micro-credential.

1. Elevating Social Emotional Learning:

- Communicate an understanding of the domains of Social-Emotional Learning and how they positively impact students.
- Develop a plan to communicate with families about Social-Emotional Learning in your school or class.
- Develop Social-Emotional Learning resources for families.

2. Promoting Student Self-Management by Integrating Sensory Motor Practices:

- Analyze the benefits of integrating sensory motor practices into personal practice.
- Identify opportunities to integrate sensory-motor practices with students throughout the school day.

- Provide direct instruction on sensory-motor practices.
3. Promoting Student Self-Awareness through Emotional Insight:
- Instruct students on the benefits of developing emotional insight.
 - Model affective language during instruction and classroom interactions.
 - Promote emotional literacy through classroom visual supports.
 - Integrate emotional insight development into the school day.

Coaches periodically checked for teacher satisfaction in the micro-credential process through a Coach Tracker questionnaire. In addition, teachers submitted an Exit Ticket to their coach after Learning Community meetings with their cohort (see Appendix B). Teachers who completed all requirements received three graduate credits. The graduate credits are an inherent component of the cost. The school district paid the cost [\$999.00] per person. Teachers personally reimbursed the school district \$40 per credit hour for a total cost of \$120. The awarding of a micro-credential depended on the individual demonstration of competency in a specific skill via a portfolio of artifacts from classroom practice.

The onboarding of a coach is a six-month process. All coaches must complete a micro-credential that is designed specifically for coaching skills. In addition, a coach must complete a micro-credential in the content area where they will coach teachers.

At the completion of a micro-credential, two trained evaluators review artifacts submitted by the teacher. The evaluators may require revisions before the approval of a micro-credential. The evaluators work independently but use a rubric to ensure consistency. Coaches are not allowed to serve as evaluators of the teachers they coach.

Standards determine materials for a micro-credential for each part of the design process, such as the selection of sources, the authenticity of artifacts, and the consistency of competency indicators. A writer, editor, and senior content lead is assigned to each micro-credential. Each micro-credential is reviewed by 3-5 staff members who evaluate specific aspects for quality and consistency before publication. A micro-credential is then evaluated using a rubric within the first six months and twice a year after that by trained evaluators.

The micro-credential awarding depended on the individual demonstration of competency in a specific skill via a portfolio of artifacts from classroom practice. Each participant had up to sixteen weeks to complete the three micro-credentials. Each participant who fulfilled the micro-credential requirements received three micro-credentials. Awarding of the micro-credential was not dependent on an individual completing the post-survey.

When asked if they would do anything different with this cohort, the company stated based on the results from the teacher feedback survey they are redoing annotations to make them more intuitive. The company reported that teachers struggle with making annotations because they need to be aware of the techniques they use and explain why they use those techniques. They will also tighten up the suggested due dates for organizations. The reason being people take more time if more time is allowed. This cohort had a 62% completion rate. The company felt this was a high completion rate.

School District

I interviewed a district level administrator after the micro-credential course. The interview was conducted via a Zoom session.

When asked what attracted the school district to micro-credentialing, the administrator shared that they had been looking for professional development that could take place at any time, and the micro-credential course would provide just that. The asynchronous element of micro-credentialing was the most significant value for the district. When asked what was of the least value to the district, the administrator mentioned that cost was a factor in considering value. For the future, the district is considering developing their own professional development modules through its management learning system. Like micro-credentials, the modules will be asynchronous.

As a practice, The District surveys participants to measure teacher satisfaction of any professional development. The survey data is then used by curriculum directors to develop the next professional development event. In this study, the survey was issued by the micro-credential company.. The results of the survey are found in Appendix C Teacher response was voluntary for both the survey and the interview. Teacher response was low with six of 27 teachers completing the survey and two teachers agreeing to an interview.

During the micro-credential course, two district level administrators attended the Learning Community meetings. The meetings are an opportunity for teachers to come together as a group with their coach to ask questions. The company prefers school administrators to attend if possible. Throughout the course, administrators served as a second tier of support for teachers. Administrators approved extra-time for completion for teachers who needed additional time.

Teacher Perspective

Teacher data was collected from the Company's User Feedback Survey which was completed by the teachers, and teacher interviews. The survey used Likert-Type Scale responses

and open-ended questions. Survey questions relevant to this study are shown in Appendix C All 27 teachers were sent an email requesting their participation, but only two responded and were interviewed.

Data from the User Feedback Survey shows the majority of teachers agreed (four strongly agree and two agreed) that they were clear on the purpose and vision for this micro-credential program. When asked if the incentives for earning micro-credentials are compelling most of the teachers agreed (5/6). As to whether the program had clear and reasonable milestones and due dates, teachers again agreed (4/6). Most of the teachers (5/6) strongly agreed, one agreed) agreed that the district provided appropriate support and guidance and help in submitting micro-credentials.

The two teachers that agreed to be interviewed, one was elementary and the other secondary, stated they chose to participate in the micro-credential course because they could get graduate credits. One teacher stated that they were drawn by the topic, Social Emotional Learning. This is something she feels passionate about and wanted to learn more about. An influencing factor for one teacher was that her direct supervisor recommended it. Because the teacher values input from their supervisor, they chose to sign up for the course.

Micro-credential coaches meet with teachers via Zoom on a weekly basis if needed, to provide insight and encouragement. Evaluators (who do not double as coaches) provide written feedback to teachers as they submit artifacts. Evaluators do not meet with teachers via Zoom. One teacher reported that the feedback from the coach was positive and helpful. The teacher also reported that there were times when they had specific questions, however the coach indicated they had just finished their certification and were not sure how to help.

The teachers found the pre-orientation simulation valuable, one teacher found it to be of little value. Teachers (4/6) reported the coach lead support sessions were valuable. The micro-credential course's activities and resources were valuable for all the teachers. When asked if contacting the company's support team was of value, most teachers (4/6) found value in it. The company provided teachers with an in-platform collaboration/discussion space. This space allowed teachers to communicate with their coaches and peers, which most teachers (4/6) found valuable. The one-on-one sessions with a coach is an area where teachers varied as to whether this met their needs. The teachers' responses were varied (one no value, one little value, one found it valuable, and two found this to be extremely valuable).

The company engages a team of assessors to evaluate the submissions of each teacher. All teachers agreed that the assessors' feedback was timely (within five business days). Three teachers reported that the feedback was specific, detailed, and helped them when they had to resubmit artifacts. The other three teachers disagreed. In the area of technical support, one teacher felt it was not easy to contact technical support, three teachers stated that it was easy to get technical support, and two teachers did not need technical support.

Most teachers found the company's platform to be user-friendly, but two teachers did not. Teachers were required to submit multiple artifacts for the course. Teachers (5/6) found the artifacts were clearly defined. Teachers are given rubrics/competency indicators that define proficiency for submissions which they all felt the rubrics/competency indicators made proficiency measurable. Finally, all the teachers agreed that the Engage or Learn activities helped them prepare artifacts for submission.

Convergence of Stakeholders' Perspectives

The remaining two research questions will be answered through the convergency of the company's, The District's, and teachers' perspectives of micro-credentialing.

To what extent did the micro-credentialing course meet the needs of the teachers?

This question is considered in the context of whether the process of the course met the teacher's needs. Micro-credentialing met some but not all the needs of the teachers. Data from Appendix C show that 100% of teachers found value in the activities and resources. One teacher wrote, "I like having a learning coach and if we made mistakes, we could fix it and turn it in again." Most teachers found value in the following:

1. Pre-orientation simulation
2. Coach led synchronous support sessions
3. Contacting the support team
4. Using the in-platform space to communicate with a coach/peer
5. The asynchronous format

A minority of teachers surveyed found little value in the one-on-one sessions with a coach. Those who were interviewed shared that on occasion a coach could not answer their questions, stating that they could not answer the question(s) because they had recently completed their training. Teachers interviewed also expressed concern that examples of artifacts were not made available, making the submission process more laborious. The micro-credential company explained that this is a common request, however they want artifacts to be original, not replicas.

A second area where teachers' needs were not met was the feedback they received from the assessors. Teachers felt the feedback was not detailed enough to help with their resubmission. One teacher shared that assessors didn't seem to have the same expectations.

A teacher explained that they had worked on a submission with another teacher. While both teachers did their writing, only one teacher's submission was approved. The teachers had different assessors, which lead the teacher to believe assessors do not have the same expectations.

From the perspective of The District there is value in the fact that micro-credentials can be offered at any time throughout the school year. When asked what aspects of micro-credentialing are not of value to the district, the response was that cost was a factor. No other "non-value" aspects of micro-credentialing were identified.

The company recognized that teachers wanted to see examples of artifacts so they could fashion their artifact submissions after the examples. Because the experience is designed to be personal, the company prefers that teachers personalize artifacts in both content and design.

To what extent was micro-credentialing successful as professional development for teachers?

The results of this case study indicate that working on micro-credential made a positive impact on their practice as an educator. Likewise, teachers agreed that working on the micro-credential has had a positive impact on their students.

One of the teachers who was interviewed stated the experiences and knowledge gained from watching videos and from reading the material led to other things they wanted to research and learn more about. The teacher also shared that she learned to be more aware of her students' feelings and state of mind. Therefore, she can address issues sooner, which has improved her classroom management.

The district still needed to determine if the micro-credential experience was successful as professional development. The district surveys teachers at the end of a professional

development experience. Curriculum directors then use that data to develop the next event.

Data from the survey was not available for this study.

Application of Adult Learning Theory to Case Findings

Kurt (2020) cites Knowles's five assumptions related to adult learners (p. 5).

1. Self-concept: Adults move from being dependent on others to self-direction as they mature. One of the adjustments teachers had to make in this course is that they had to be self-directed in working through the credential, as opposed to being a passive listener in PD.

2. Experience: Adults gain experience as they grow, that, in turn, becomes a valuable tool in learning. Micro-credentialing may provide teachers with experiences that can be used more directly in their classroom as opposed to Sit and Get professional development experiences.

3. Readiness to learn: The priorities of adults shift as they begin to increase in value and are, therefore, more ready to learn about his or her role in society. Micro-credentialing provides personalized professional development as opposed to teachers having to sit through one size fits all PD.

4. Orientation to learning: Adults change their perspectives on learning as they grow, moving from procrastination to immediate application and from subject interest to problem-solving. The micro-credential course had direct application assignments. Teachers received guidance from their coach, and feedback from two assessors on each assignment.

5. Motivation to learn: Adults move from extrinsic towards intrinsic motivation as they grow and mature. Teachers may have initially enrolled in the micro-credential

course to earn graduate credit and found that they learned they could use it in their classroom to help students.

CHAPTER 5

Case Report

This chapter is the culmination of a study on personalized professional development for teachers. The reader will be given a conclusionary assessment of the effectiveness of micro-credentialing as. The case report is written to highlight key findings, limitations, and recommendations.

Introduction

Adult learners require a different approach to learning than school aged children (Knowles, 1984; Kurt, 2020; Loeng, 2017). Like the students they teach, each teacher has personal learning needs. Teachers look for professional development opportunities that both meet their needs and make them more effective in the classroom (Hill, 2016). Teachers learn through the act of teaching, but they rely on effective professional development to expand their learning. Personalized professional development may give teachers the opportunity to design, practice, and evaluate their teaching and ultimately become more effective in their classroom.

The Researcher

I was a classroom teacher for 17 years, a middle school principal for 11 years, an assistant superintendent for three years, and a superintendent for five years. This case study on personalized professional development was conducted in partial fulfillment of his doctorate in Adult and Higher Education.

Background and Methods

One school district was selected for this case study had implemented a personalized professional development. Micro-credentialing through a private company. The case sought to explain the implementation of micro-credentialing, identify to what degree micro-credentialing met the needs of teachers, and to what degree micro-credentialing is effective professional development. Case analysis data was drawn from user feedback surveys and interviews with teachers. A school administrator and a representative from the micro-credential company that provided the micro-credential services, was interviewed. The study was conducted from Spring 2022 to Fall 2023.

Participants and Data Sources

Teacher data was derived from a feedback survey and teacher interviews. Only those teachers who completed the micro-credential course were asked to take the survey. Participation in the survey was voluntary, six teachers completed the survey. The micro-credential company designed and disbursed the survey, the results were then shared with the researcher. One high school teacher and one elementary teacher agreed to participate in personal interviews. Participation in the interview was voluntary.

Micro-credentialing

The micro-credentialing course required a financial commitment on the part of the district, and a leap of faith on the part of the teachers. Forty teachers elected to sign up for the course. Ultimately, 27 teachers completed the course.

The company provided a framework for each micro-credential. The company trained education practitioners to serve as coaches for teachers. At the completion of a micro-credential, two trained assessors review artifacts submitted by the teacher.

The micro-credential awarding depended on the individual demonstration of competency in a specific skill via a portfolio of artifacts from classroom practice. Each participant had up to sixteen weeks to complete the three micro-credentials. Each participant who fulfilled the micro-credential requirements received three micro-credentials.

Most teachers found value in the following:

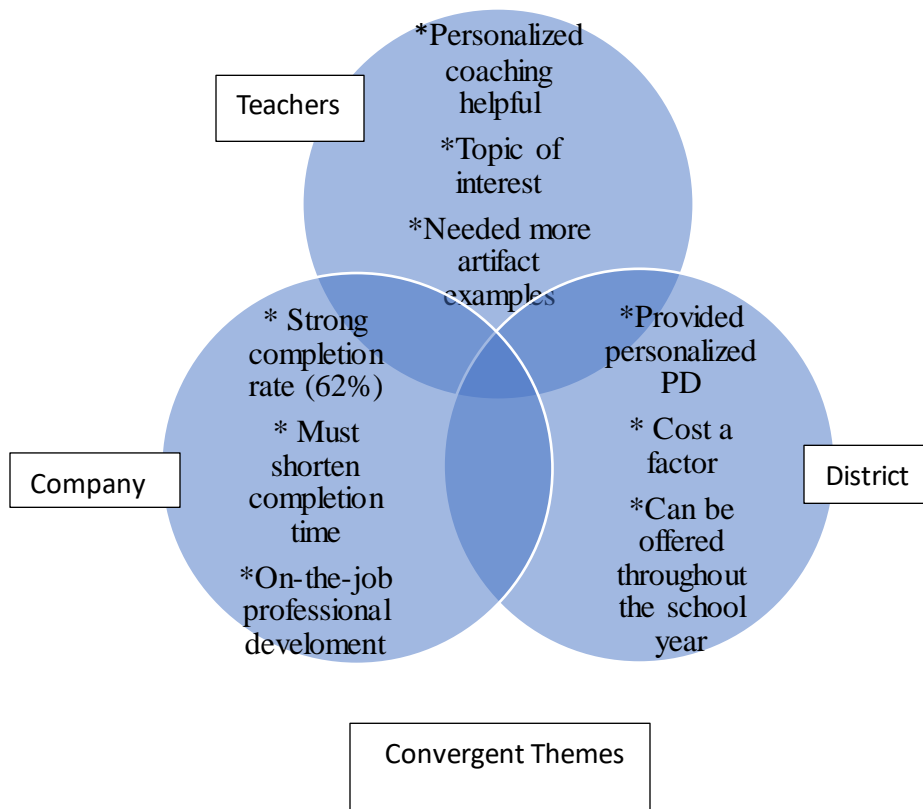
1. Pre-orientation simulation
2. Coach led synchronous support sessions
3. Contacting the support team
4. Using the in-platform space to communicate with a coach/peer
5. The asynchronous format

Case Analysis: Findings

Data from teacher surveys and interviews, school administration interviews, and the micro-credential company data and interviews were collectively analyzed. A convergence of the data from the three sources provided insight to key findings.

Figure 1: Convergent Theme

Personalized professional development is inclusive of on-the-job applications.



Key Finding 1: Teachers like the self-paced individualized Professional Development

Data from the teacher feedback survey (completed at the end of the course) suggests that teachers understood the purpose and vision of the micro-credential program. This indicates the micro-credential company effectively informed teachers of the goals for the course.

When teachers were asked what they valued most about the micro-credential experience compared with other professional learning opportunities, they liked that it was self-paced, differentiated for their classroom, it applied to their daily practices, and they had a coach helping them along the way.

Key Finding 2: Micro-credential made a positive impact

Most teachers indicated that working on the micro-credential made a positive impact on their practice as an educator, and that it had a positive impact on their students. Given the understanding that professional development is intended to improve student learning because of improved teaching, the results of this study show micro-credentialing is one potential avenue for effective professional development.

The survey data revealed that some teachers did not feel the amount of work associated with earning micro-credentials represented the value in earning a micro-credential.

"IT HAS GIVEN ME SOME BEST PRACTICES TO USE EVERY DAY WITH MY STUDENTS, AND TO USE WITH MYSELF."

They cite that micro-credentialing is not something their school district uses for advancement purposes.

The school administrator shared that the district surveys teachers at the end of professional development events. The data from the surveys are used by district curriculum directors to develop the next event.

Key Finding 3: Personalized Coaching

Support is a key component of the personalized micro-credential experience. Teachers received support from their coaches as they were developing and working on their personalized plan, and from evaluators who reviewed artifacts submitted by teachers. Teachers varied in the value they placed on the 1-1 sessions with their coaches. Limited interaction with assessors was also a point of concern. Teachers struggled most with not having examples of artifacts. While the company explained they wanted teacher artifacts to be individualized, teachers felt the lack of examples made submitting artifacts unnecessarily laborious.


Working with a coach and having an assessor as part of a professional development experience may be new to teachers. A more common approach (attend a conference and get graduate credit) to professional development allows teachers to be passive participants. Micro-credentialing is outcome-based professional development and is more rigorous, requiring teachers to be active participants.

Key Finding 4: Competence Assessment

Teachers were provided with learning activities intended to help them prepare activities for submission. All teachers agreed that the activities helped them. Most teachers agreed that artifacts for submission were clearly defined. This may seem to contradict their concern that they were not provided examples of artifacts. It is important to clarify that in this finding teachers are rating the learning activities and course content related to artifact submissions. The previous rating was referencing the process related to artifact submissions.

In the teacher interviews, one teacher questioned if assessors were applying criteria from rubrics to teacher artifact submissions equally. The

company provides training for those who are assessing artifact submissions. However, because the assessment process involves human judgment, it is possible that a variance will exist.



"SINCE COACHES ARE NOT MY ASSESSORS, THEY CAN'T OFFER ME ANY MORE ASSISTANCE THAN THE PLATFORM ALREADY PROVIDES. NOT GETTING ANY FEEDBACK FROM THE ASSESSORS WHILE MY WORK IS IN PROGRESS SEEMS LIKE POOR PEDAGOGY. FEEDBACK IS MORE IMPORTANT THAN A GRADE."

Interpretation of Findings

The key findings indicate that more research is needed to determine if micro-credentialing is a desirable method of personalized professional development. Teachers in this study found value in

the self-paced approach, and they could apply what they learned in their classroom.

Limitations of Study

The sample size of this study is small, the data is not to be perceived as representing personalized professional development on a larger scale.

The study did not analyze to what degree teachers were involved in designing their personal learning, a key element of micro-credentialing.

Recommendations

Because artifacts are weighted heavily in the awarding of a micro-credential and teachers indicate they would like more direction on what artifacts should look like, the company should find a balance of helping teachers personalize their artifacts while fulfilling content expectations.

Companies or organizations who develop micro-credentials could benefit from insight into the theory of Andragogy. Using research-based theory as a foundation for design of micro-credentials could provide a thread of continuity through all micro-credentials.

Micro-credentialing may be a particularly good opportunity for smaller and more rural school districts that may not have the staffing to provide individualized professional development.

Conclusion

Professional development must continue to evolve for the sake of teachers. Attending to the personal learning needs of individuals may be the next step in the evolution of professional development.

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Appendix A

Coach Tracker

Please indicate your agreement with the statement below: [Today's LC gave me the opportunity to ask questions about the submission and assessment process.]	Please indicate your agreement with the statement below: [Today's LC gave me the opportunity to make progress or receive feedback on an artifact.]	Please indicate your agreement with the statement below: [Today's LC gave me the opportunity to preview the requirements for upcoming MCs.]	Please indicate your agreement with the statement below: [Today's LC gave me an overview of what support will look like after Success Academy.]	Rate your agreement with the following statement: [Previewing upcoming MCs helped me feel more confident in choosing what to work on next.] 1 = highly disagree 5 = highly agree	Rate your agreement with the following statement: [Practicing annotations today during LC was valuable because I now feel more confident in preparing for and completing my own annotations successfully.] 1 = highly disagree 5 = highly agree	Rate your agreement with the following statement: [The annotation model done by my coach was beneficial for me to understand the purpose and process of annotation.] 1 = highly disagree 5 = highly agree	Rate your agreement with the following statement: [I am confident that I will submit a portfolio of evidence for assessment within the next 2 weeks.] 1 = highly disagree 5 = highly agree	In what ways, if any, was today's LC session most helpful to you? Please explain.	Which part, if any, of today's LC session was not helpful? Please explain.	Do you have any additional reflections or comments about your Success Academy experience? Please explain.
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Appendix B

Learning Communities 3 Exit Ticket

Please indicate your agreement with the statements below.

	Agree	Disagree
Today's LC gave me the opportunity to conduct a deep read of Artifact 2 directions and competency indicators.	<input type="radio"/>	<input type="radio"/>
Today's LC gave me the opportunity to discuss at least one Learn activity to connect learning to Artifact 2.	<input type="radio"/>	<input type="radio"/>
Today's LC gave me the opportunity to create a plan for which artifact I plan to share for LC 4.	<input type="radio"/>	<input type="radio"/>

Rate your comfort level in moving forward and working on Artifact 2.

	1	2	3	4	5	
Very Uncomfortable						Very
Comfortable						

Appendix C

User Feedback Survey Data

A1. Company Feedback Survey Data – Program Overview

Question	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
I am clear on the purpose and vision for this micro-credential program	0.00% 0	0.00% 0	33.33% 2	66.67% 4	6
The incentives available to me for earning micro-credentials are compelling	16.67% 1	0.00% 0	50.00% 3	33.33% 2	6
This program has clear and reasonable milestones and due dates	16.67% 1	16.67% 1	0.00% 0	66.67% 4	6
My school, district, or organizational leadership has provided appropriate supports to guide and helped me submit micro-credentials	0.00% 0	16.67% 1	16.67% 1	66.67% 4	6

A2. Company Feedback Survey Data – Perceived Value

Question	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Working on my micro-credential submission has made a positive impact on my practice as an educator	16.67% 1	0.00% 0	50.00% 3	33.33% 2	6
Working on my micro-credential submission has had a positive impact on my students.	0.00% 0	16.67% 1	66.67% 4	16.67% 1	6

A3. Company Feedback Survey Data - Supports

Question	Not Valuable	Of Little Value	Valuable	Extremely Valuable	I Did Not Have Use For This	Total
Pre-orientation micro-credential simulation (in- platform: Reflecting on Portfolio-based Learning)	0.00% 0	16.67% 1	66.67% 4	16.67% 1	0.00% 0	6
Coach led synchronous support sessions	0.00% 0	33.33% 2	33.33% 2	33.33% 2	0.00% 0	6
The activities and resources within the micro-credential	0.00% 0	0.00% 0	50.00% 3	50.00% 3	0.00% 0	6
Contacting Support Team	16.67% 1	16.67% 1	33.33% 2	33.33% 2	0.00% 0	6
Utilizing the in- platform Collaborate/discussion space to communicate with a coach/peers	0.00% 0	33.33% 2	50.00% 3	16.67% 1	0.00% 0	6
1-1 sessions(s) with a coach	16.67% 1	16.67% 1	16.67% 1	33.33% 2	16.67% 1	6

A4. Company Feedback Survey Data – Content and Assessment

Question	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A	Total
The Company platform is user-friendly	0.00% 0	33.33% 2	50.00% 3	16.67% 1	0.00% 0	6
The artifacts required for submission are clearly defined	0.00% 0	16.67% 1	83.33% 5	0.00% 0	0.00% 0	6
The rubrics/Competency Indicators define proficiency in measurable terms	0.00% 0	0.00% 0	33.33% 2	66.67% 4	0.00% 0	6
Generally, the Engage or Learn activities helped me prepare artifacts for submission (If your MC did not have either of these sections, select “N/A”)	0.00% 0	0.00% 0	83.33% 5	16.67% 1	0.00% 0	6
The assessor’s feedback was timely (within 5 business days)	0.00% 0	0.00% 0	33.33% 2	66.67% 4	0.00% 0	6
The assessor’s feedback was specific, detailed, and helped me with my resubmission (if necessary)	16.67% 1	33.33% 2	16.67% 1	33.33% 2	0.00% 0	6
It is easy to contact and get resolution from the Company Support Team when I need technical assistance	0.00% 0	16.67% 1	33.33% 2	16.67% 1	33.33% 2	6

Appendix D
Teacher Interview Questions

1. Why did you choose to participate in the micro-credential course?
2. How did the micro-credential experience meet your professional development needs.
3. How did the micro-credential experience not meet your professional development needs.
4. How did you use the feedback from your micro-credential experience.
5. How did the micro-credential experience help improve your teaching.

Appendix E

District Administrator Interview Questions

1. What attracted the school district to micro-credentialing?
2. How will the school district track the effectiveness of micro-credentialing in the classroom.
3. How does the school district measure teacher satisfaction with any professional development.
4. Please tell me the role of district administration during the micro-credential course.
5. What aspects of micro-credentialing are of value to the district?
6. What aspects of micro-credentialing are not of value to the district?

Appendix F

Company Representative Interview Questions

1. Do you designate a lead designer/engineer when a new micro-credential is developed?
2. Do you have a rubric for a designer/engineer to follow as they build a micro-credential to ensure consistency?
3. What is the training protocol for your staff who guide and evaluate teachers?
4. How did you develop the training for your coaches and evaluators?

Appendix G

Elevating Social-Emotional Learning in the School Setting Self-Assessment Questions

	Not yet	I'm not sure	I think so	Absolutely
I can describe the positive benefits of implementing social-emotional practices within my daily habits.				
I can discuss the benefits of Social Emotional Learning with my colleagues.				
I actively engage in social-emotional practices within my day.				
I understand the benefits of engaging multiple stakeholders in order to ensure a successful social-emotional learning implementation.				
I actively seek out and engage multiple stakeholders within my school setting in Social Emotional Learning implementation.				
I actively seek to improve stakeholders' understanding of the benefits of Social Emotional Learning for my students.				
I regularly create learning resources to inform families about Social Emotional Learning.				