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SOCIAL MEDIA AND PERSONALIZED PROFESSIONAL LEARNING:
AN ACTION RESEARCH STUDY

A Dissertation

Presented to

The Faculty of the School of Education

The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

By

Tiffany Truitt

December 2023

SOCIAL MEDIA AND PERSONALIZED PROFESSIONAL LEARNING:
AN ACTION RESEARCH STUDY

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Dedication

This dissertation is dedicated to the Truitt family, who have taught me the importance of perseverance and hard work above all else.

Acknowledgments

I could fill this entire dissertation with the names of people who have impacted me positively as I went through this very long and arduous journey. First, I would like to thank my dissertation chair, Dr. Constantino, who has been so patient with me throughout this process. As a mentor and leader, she always serves with kindness, respect, and authenticity. I hope to emulate these things in my future work as a leader. I would like to thank my committee, Dr. Stronge and Dr. Ward, for their thoughtful feedback. I would also like to thank my family, particularly my niece and nephew, Cheyenne and Carter. They bring so much joy to my life, and they drive me to show them what is possible in a world that sometimes seems full of the impossible. Next, I want to thank my friends. These folks have been instrumental in checking in and holding me accountable to getting this done! I would like to thank the teachers I serve. You all inspire me every day to be better. Finally, to the fine folks at Pour Favor – thank you for always providing me a place to work.

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Abstract

Although research indicates professional learning could positively influence both teacher retention and student achievement, many educators continue to express dissatisfaction with professional learning experiences. In a Virginia Department of Education (VDOE, 2019b) survey, teachers at Roth High School expressed issues with misalignment between the content of professional learning offerings and their specific learning needs, a lack of follow-up implementation support, and a failure to see an effect on student achievement. Using Guskey's (2000) *Five Levels of Professional Development Framework*, which uses a leveled approach to assessing professional learning, this action research study sought to achieve a better understanding of the potential benefits and potential challenges of using social media for professional learning; how teachers selected professional learning experiences while using the medium; and what additional supports might be needed to support its use. Data collected from a professional learning tracking document, survey, and focus group provided evidence that teachers were pleased with their experiences using social media for professional learning, citing its ability to provide specific learning aligned with their content and usability as two of its most compelling benefits. Because teachers did report some issues with collaboration and information overload, leaders may want to consider how to leverage elements of the 70-20-10 learning model to provide additional opportunities for collaboration, guidance on how to select meaningful learning experiences, and offer follow-up support. Despite these barriers, teachers believe using social media for professional learning to be a worthwhile endeavor, and school leaders should continue to explore ways to leverage it.

SOCIAL MEDIA AND PERSONALIZED PROFESSIONAL LEARNING:
AN ACTION RESEARCH STUDY

CHAPTER 1

INTRODUCTION

Background

Some researchers have linked effective professional learning to teacher retention, improved instructional practices, and increases in student achievement (Desimone et al., 2002; Rodgers & Skelton, 2014). Research has indicated many possible limitations to traditional professional learning offerings related to time, funding, duration, delivery, and alignment between perceived needs and actual needs (Richardson, 2003). These issues may limit the effectiveness and impact of professional learning for educators. Despite these limitations found in traditional professional learning, given the potential benefits, stakeholders responsible for designing and implementing professional learning may want to consider ways to improve it.

Despite the potential for quality professional learning to affect teachers' practices, research shows some teachers continue to express dissatisfaction with traditional learning opportunities (Darling-Hammond, 2006). A study focused on the effectiveness of 25 professional learning programs deemed well-designed according to national standards found that only seven of the programs affected teacher practices (Blank et al., 2008). An additional study reported that out of 1,300 teachers, only 29% found professional learning effective, and 35% found professional learning had improved in recent years (Bill & Melinda Gates Foundation, 2014). As some research has indicated teacher quality and school leadership have the greatest effect on student achievement (Darling-Hammond, 2000; Mizell, 2010), designing professional learning

experiences to build the efficacy and capacity of teachers in hopes of improving teacher quality should be made a priority for school leaders.

With research related to teacher professional learning in mind, this action research study was first inspired by the results of a Virginia Department of Education (VDOE, 2019b) Culture and Climate Study. The study revealed teachers' dissatisfaction with traditional professional learning opportunities at Roth High School (RHS). Teachers identified issues with alignment, follow-up support, and the ability of the professional learning opportunity to affect student achievement (VDOE, 2019b). The findings of this survey are supported by what research indicates are potential larger systemic issues with traditional professional learning offerings, such as an inability of the learning experience to meet the personalized needs of learners; a disconnect between the learner's preferred mode and duration of professional learning experience and the facilitator's design of the professional learning experience; and a lack of follow-through coaching to support change in teachers' instructional practices (Bayar, 2014; Richardson, 2003).

Although initially fueled by the survey, the study was also inspired by the pandemic. Because Cycle 1 of the study took place during the early days of the pandemic, it might be important to understand how teachers were using social media for professional learning before the pandemic and during this time in hopes of better understanding its potential. During the early days of this study, many educators turned to social media for assistance in navigating this time period as an educator because in addition to the issues highlighted by pre-existing literature, the pandemic may have exacerbated some of the limitations of traditional professional learning for teachers all over the world. The pandemic revealed the need for non-traditional professional learning opportunities as teachers worked in conditions unlike any before. In a recent analysis conducted by Microsoft concerning frequently searched items on its educational support website

in March 2020, the following content topics were viewed the most: “setting up a digital learning environment; voice and text-to-speech; assignments in the digital learning environment; distance learning and teaching; and communication in the digital learning environment” (Cavanaugh & DeWeese, 2020, p. 236). Teachers found themselves in instructional situations not addressed by their formal training. Because of social distancing and other safety mitigation protocols, many schools found their traditional professional learning offerings limited.

A recent study of teachers’ tweets since the pandemic began saw not only an increase in the use of social media but also revealed that 55% of teachers’ tweets were focused on sharing resources and insights concerning teaching during a pandemic (Carpenter et al., 2020). While teachers were certainly using social media for professional learning before the pandemic, school leaders could look at ways to capitalize from the use of the medium during this time to support teachers during future difficult times. The difficulties teachers faced during the pandemic reveal a persistent need for personalized professional learning that is in the moment, easy to access, and collaborative. Even with the pandemic now considered over, the effects on education linger on, and teachers need easy-to-access personalized learning to address current problems of practice. All of these are characteristics often associated with using social media for professional learning, which might be useful to meet the needs of teachers continuing to navigate the lingering effects of this crisis.

Social Media and Professional Learning

In today’s world, the connotative meanings associated with the term “social media” are numerous, complex, and often divisive. Social media is defined as online communities that allow for user-generated engagement centered on communication, information sharing, and knowledge seeking (Kitsantas & Dabbagh, 2011; Meier et al., 2014). As a result, the use of social media,

whether in the form of Twitter, Facebook, blogging, or other online affinity spaces might provide opportunities for personalized, self-initiated experiences (Visser et al., 2014). Because of these engagement practices and the medium's potential for personalization, educators looking for professional learning opportunities suited to their needs might consider using social media as an access point for these experiences.

Social media, rooted in the concept of forming and participating in online communities, has been used by educators to propel their own professional growth, to improve the quality of instruction in classrooms, and to connect with parents and school communities (Fuglei, 2014; Orlanda-Ventayen & Ventayen, 2018; Wade, n.d.). In terms of how educators use social media outside the realm of improving classroom practices, there is a growing bank of research focused on how educators use social media to meet their personalized professional learning needs. In fact, many educators are turning to social media to search out communities, learning experiences, and resources that speak to the needs traditional professional learning may not fulfill (Fuglei, 2014; Orlanda-Ventayen & Ventayen, 2018).

Research suggests that for professional learning to be effective and be received favorably, it should contain elements of inquiry-based learning or problem solving (Friesen et al., 2015; Palmisano, 2013). In a study which analyzed the 2,125 interactions of five physical education teachers using Facebook and Twitter over a 2-year span, researchers found these educators formed communities of practice online that promoted inquiry-based professional learning where teachers identified problems of practice and collaborated to develop solutions (Goodyear et al., 2019). The original purpose of the study was to promote the use of in-person communities of practice to affect teacher performance. Researchers found that in-person professional learning was supported by professional learning opportunities in online spaces.

As the study continued, the facilitator observed these teachers frequently interacting with her and other educators through social media in inquiry-based professional learning experiences meant to mitigate issues in the classroom and refine classroom practices. The researchers suggested social media could serve as an effective support to traditional professional learning designed by a facilitator (Goodyear et al., 2019). In these social media spaces, participating teachers were able to support each other, reinforce what was learned in the professional learning sessions associated with their in-person communities of practice, and promote the use of personalized professional learning rooted in inquiry (Goodyear et al., 2019). Because of the voluntary nature of participation in social media based professional learning, educators may explore issues and use inquiry strategies to solve pressing educational problems related to their personalized working conditions, instead of participating in professional learning that may not speak to their needs. In addition to this, the medium may be used to support traditional professional learning experiences that may benefit from further personalized inquiry-based learning opportunities.

In a study of 303 social studies teachers about the effects of using social media for professional learning, participants praised social media as a tool for professional learning, stating it was the “best professional development,” and that it was “free and better than most paid workshops” (Krutka & Carpenter, 2016, p. 46). Of all participants, 96% reported using Twitter for resource sharing and 84% reported using the medium for collaboration (Krutka & Carpenter, 2016). Additionally, 74% of the teachers reported participating in Twitter chats with one participant stating the chats “have revolutionized my teaching” (Krutka & Carpenter, 2016). This study, and the ones unpacked above, indicate it might be beneficial for educational stakeholders to explore the medium for professional learning as even before the pandemic teachers found the

medium useful for professional learning. Where some educational leaders may have been more apt to accept the use of social media for professional learning during the pandemic, it is clear many teachers found it useful even before the crisis.

While the purpose of this study was to gather information concerning teachers' perceptions of using social media for professional learning, it is important to note while there is an abundance of research on traditional professional learning and research is available concerning how teachers are using social media for their learning needs, there is little research on how teachers decide what to engage with on the medium. There has been some research done around the concept of the educator influencer. These are educators with over 50,000 followers on a social media medium (Engman et al., 2019). A 2020 study explored and coded the Instagram posts of 18 educator influencers over 4 weeks to summarize the types of content being posted, and, thus, attracting engagement from teacher participants. The study identified four types of posts: promotional content; motivational content; advocating for classroom change/approaches; or soliciting participation engagement (Shelton et al., 2020). The study also found the education influencers to be skilled at tagging or using hashtags to make their content searchable (Shelton et al., 2020). They also used cross-promotional giveaways to entice engagement. Although this 2020 study may provide necessary background information to understand the findings of this action research study, supporting research is limited. For this reason, questions were included in the study's data collection tools to solicit information to support a deeper understanding of participants' reactions and participant's learning, and how their professional learning decisions were made.

Conceptual Framework for the Study

Guskey's (2000) *Five Levels of Professional Development Framework* proposes that for professional learning to be effective it must first meet the needs of the adult learner. The framework evaluates professional learning using the following criteria: participants' reactions; participants' learning; organization support and change; participants' use of new knowledge and skills; and student learning outcomes (Guskey, 2000). Although this is an action research study and not a program evaluation, Guskey's (2000) framework supported the formulation of the study's research questions and data collection tools. Because this study was focused on supporting teachers' professional learning, the action research questions, and data tools used to assess the effectiveness of the study's interventions were derived in part from the first three categories of Guskey's framework (see Appendix A).

Statement of the Action Research Problem

In a 2019 survey conducted by the Virginia Department of Education (VDOE), teachers at RHS indicated they did not feel professional learning opportunities spoke to their personalized needs. Specifically, they highlighted issues concerning alignment, support, and an inability to identify a change in student achievement (VDOE, 2019b). In addition to this, the pandemic isolated many teachers and prohibited school leaders from offering traditional professional learning (Carpenter et al., 2020). For these reasons, it may be helpful to explore non-traditional media for professional learning that speak to the personalized needs of the participants. This action research study sought to explore the potential benefits of using social media as a medium for professional learning.

Context of the Action Research Problem

Fraser County Schools consists of nine schools. The county has two high schools, two middle schools, and five elementary schools. Fraser County Schools serves both rural communities and suburban communities. The school district is currently fully accredited by VDOE.

Information Related to the Organization

The *School Quality Report* stated enrollment for RHS, where this action research study was conducted, for the 2019–2020 school year was reported at 1,267 students (VDOE, 2019a). Additionally, 58.6% of the students identified as White, 29.5% of the students identified as Black, 5.3% of the students identified with two or more races, and 6.6% of the students identified with other subgroups (VDOE, 2019a). In terms of socio-economic status, 27.7% of the students were identified as economically disadvantaged (VDOE, 2019a).

In addition to student demographics, reviewing teacher quality may prove critically important considering this study focused on professional learning and there are many avenues for teachers to secure licensure. While some teachers complete a teacher prep program at an accredited college or university, others enter the workforce without formal training with the understanding they will take the necessary classes outlined by VDOE. Of the teachers employed at RHS during this study, 15.9% held a provisional license compared to the 7.8% of the teachers in the District and 7.3% of the teachers in the state (VDOE, 2019a). In addition to this, VDOE (2019a) identified 6.7% of the teachers as inexperienced compared to 4.1% from the District and 6.2% from the state. This implies a greater than average number of teachers at RHS had yet completed teacher preparatory programs or licensure requirements. Despite this, the District's professional learning plans were not differentiated across schools. Along these same lines, the

school, like the other eight schools in the county, had one instructional coach, regardless of teacher population size or the number of teachers with a provisional license.

Regarding professional learning at RHS, the 2019 School Climate Survey indicated 24% of teachers did not feel supported in their professional learning (VDOE, 2019b). Additionally, 15% of teachers did not feel professional learning fit their personalized needs, 27% of teachers did not feel follow-up support was offered after professional learning sessions, and 16% did not feel the professional learning offered affected student achievement (VDOE, 2019b). These data aligns with what research indicates are issues with traditional professional learning:

misalignment between professional learning and teachers' needs, isolated professional learning sessions that do not lead to continuous learning, and a failure to impact long lasting instructional practices and student performance (Fishman et al., 2014). Because I explored social media as a means of professional learning, it is important to note the 2019 survey (VDOE, 2019a) does not recognize social media as a medium for professional growth. There was no formal push for its use on the school level or division level outside of publicizing school events. Because of this, information will be provided about potential participants' comfort using the medium.

Information Related to the Intended Stakeholders

The primary intended stakeholders for this study were the teachers and administrators at RHS, because I sought to improve professional learning within the building. Although this action research study was conducted at only one school within the county, the information will be shared with various other stakeholders. Because of its focus on professional learning, the information gleaned from this study will be particularly important to District leadership responsible for professional learning and instructional coaches, as these parties are the ones most responsible for designing and facilitating professional learning. Finally, information collected

from this study may be helpful to those in other Districts who look to mitigate issues with traditional professional learning.

Brief Description of the Action Research Intervention

To mitigate issues related to traditional professional learning, this study's intervention was to explore using social media to meet the professional learning needs of teachers at RHS. Due to the nature of the identified problem, this study used the action research model. Action research is a cyclical and reflective process focused on the idea of enacting relevant change rooted in research and data (Mertler, 2017). Since the identified problem of practice for this study was centered on promoting personalized professional learning, it was imperative to include teachers' voices. This aligns with both the selected framework for this study and tenets of action research. Guskey's (2000) *Five Levels of Professional Development Framework* seeks to explore the effectiveness of professional learning experiences by exploring participants' reactions, participants' learning, organizational supports, and participants' implementation of new learning. While this study only focused on the first three, both the framework and action research honor participants' voices. Furthermore, the framework was used to identify areas of improvement based on research and collaborative work conducted with the participants themselves. The philosophy of action research is grounded in the idea of including teachers in the process to build teacher efficacy with a focus on life-long learning (Mertler, 2017). These beliefs directly align to the notion of personalized professional learning.

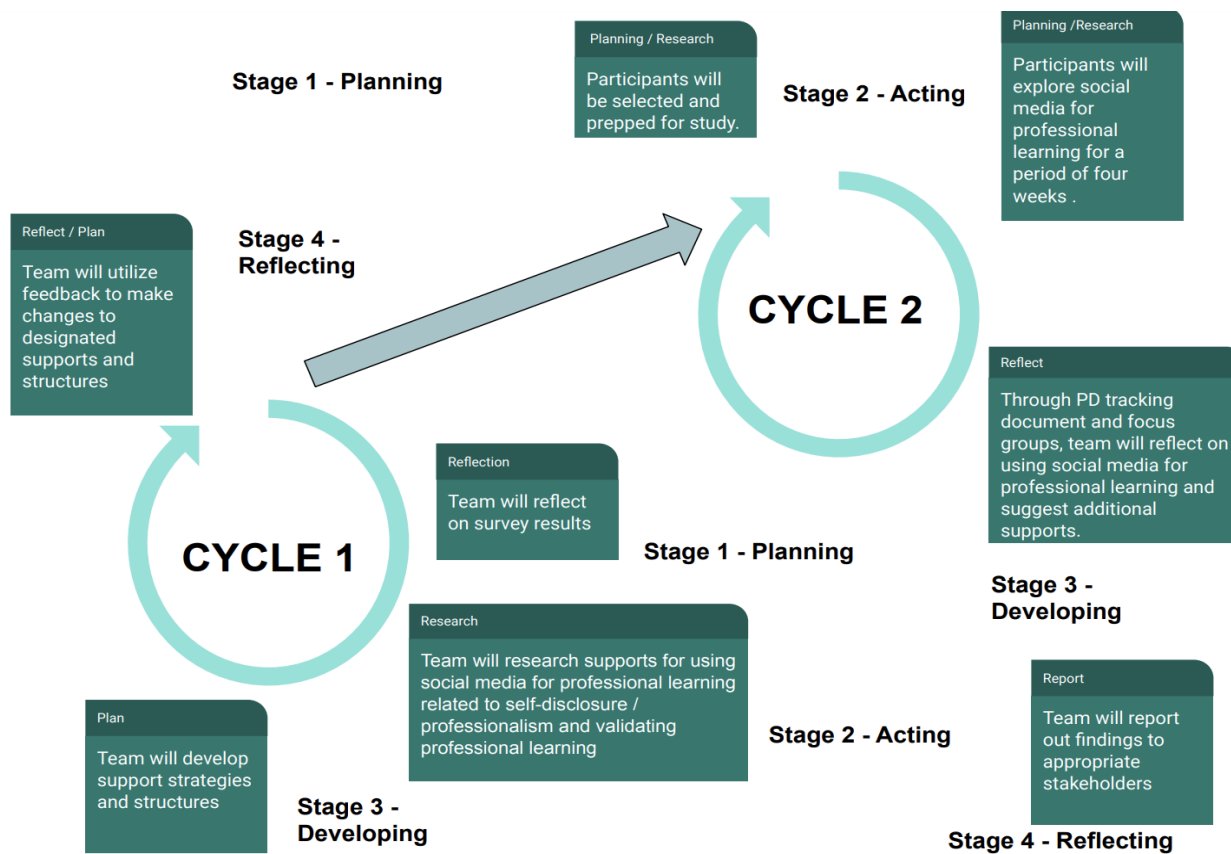
Furthermore, action research acknowledges a potential disconnect between traditional researchers and practitioners because of traditional researchers' "tendency to impose abstract research findings on schools and teachers with little or no attention to local variation (i.e., not all schools are the same) and required adaptations" (Mertler, 2017, p. 12–13). Action research

acknowledges the importance of understanding both context and the need for adaptability, personalizing the intervention or actionable steps for a particular context with hopes of adding to the greater body of knowledge and research in the field of education.

The action research process can be broken down into four stages: the planning stage, the acting stage, the developing stage, and the reflecting stage (Mertler, 2017). See Figure 1 for a graphical depiction of the action research model specific to the study.

Figure 1

Cycles of an Action Research Model



Cycle 1

As part of my work as the school's former instructional coach, I constantly strived to improve the professional learning opportunities offered to teachers. Informed through the responses from the VDOE staff survey, I knew there were many teachers in my building who felt professional learning was sometimes ineffective. Spurred by this knowledge and the imperative need for "in the moment" professional learning due to situations teachers found themselves in because of the pandemic, I was inspired to consider non-traditional approaches to professional learning.

Having often turned to social media for my own professional learning needs, even before the pandemic, I began to consider if the medium, with its many attributes related to costs, timeliness, personalization, and access, may be an effective option for the teachers I work with. Before providing these options to teachers, I conducted research about both the benefits and limitations of using the medium. Though relatively limited, research identified several issues associated with using social media for professional learning. These issues identified limitations connected to professionalism and identity, authenticity, and validating learning.

I surveyed teachers concerning these contextual limitations knowing, as outlined in Guskey's (2000) *Five Levels of Professional Development Framework*, that effective professional learning requires structures and supports. I felt it was important to understand what teachers felt were the limitations concerning the medium if hoping to maximize the potential benefits. This knowledge would hopefully allow me to design initial supports that might favorably affect Level 1 (participants' reactions) of our exploration of using social media for professional learning. Having aligned this survey question with what research indicated are the

contextual limitations of social media, teachers identified self-disclosure/professionalism and validating professional learning as the top two concerns limiting their use of the medium.

Working alongside teachers, the team used this information to design mitigation strategies and structures to remove or lessen these limitations in hopes of supporting social media as a medium for professional learning (Figure 1). By lessening these constraints, the study conducted in Cycle 2 was informed through the exploratory Cycle 1 to better understand the potential of using social media as a means of personalized professional learning. The intervention sought to provide a more effective professional learning experience for teachers.

Within this work in the exploratory Cycle 1, teachers volunteered to take part in several Zoom sessions to discuss how to support teachers who may be hesitant to try and use social media because of concerns over professional behavior while using the medium and questions about how to track learning while using the medium. Prior to the Zoom session on professionalism and social media, I shared with teachers several examples of social media guidelines used in the business world. This included guidelines and policies implemented by Intel, Best Buy, Ford, Association of Certified Fraud Examiners, Dell, Align, Nordstrom, Coca-Cola, and the Air Force. In addition to this, I also provided participating teachers with Fraser County's blurb on the use of social media by teachers. During the Zoom session, teachers discussed what they liked and did not like about these policies and guidelines. Knowing we did not have the authority to create policy, the team worked together to create social media guidelines for teachers at RHS.

Like the collaborative session on professionalism and social media, participating teachers were provided resources to explore concerning how to track professional learning before taking part in the Zoom session. Teachers reviewed professional learning tracking documents used by

school districts across the country. These included samples from Union County Public Schools in North Carolina, the Ohio Department of Education's State Comprehensive Literacy Professional Development tracking document, and the Professional Development Reflection form from the University of Denver's Office of Teaching and Learning. Through the Zoom discussion, I collaborated with teachers to create a professional learning tracking form to be used during the study. The tracking document asked participants to collect information about the dates and duration of their use of social media for professional learning; which social media platforms were used for their personalized professional learning during the study; what professional learning topics they engaged with during their use of social media; general reactions to their experiences using the medium; and tools or strategies they considered implementing.

Both the social media guidelines and professional learning tracking document I created were based on the collaborative discussions I had with teachers. These documents were sent out to the entire staff at RHS for voluntary feedback. Slight adjustments were made based on this feedback. Concerning the tracking document, feedback suggested additional information be solicited from participants in the strategies for implementation section. One teacher expressed that in her own use of social media, she often was overwhelmed by strategies she wished to implement. She felt it would be helpful to prioritize strategies for implementation by setting a professional learning goal. Further research into Guskey's (2000) *Five Levels of Professional Development Framework* supported this change as the framework indicates it is imperative to set a goal before the start of a professional development session or professional learning experience. The document was altered to provide a space for participants to set goals to center and focus their use of social media for professional learning. Both documents were used in Cycle 2 to support the use of social media for professional learning.

Cycle 2

As a result of Cycle 1, it was determined teachers would explore social media to fulfill professional learning needs not always met by traditional professional learning. Research has suggested using social media for this type of learning may be beneficial because of its ability to speak to the personalized needs of educators (Fuglei, 2014; Orlanda-Ventayen & Ventayen, 2018). In addition to this, social media was selected as a medium for this type of learning because it is easy to access for “in the moment” learning, costs little to use, and provides opportunities for educators to connect with other teachers around the world for joint inquiry-based, collaborative learning experiences (Fuglei, 2014; Orlanda-Ventayen & Ventayen, 2018). Because many teachers continue to find themselves in uncharted waters because of the lingering effects of the pandemic and may need access to “in the moment” professional learning coupled with the perceived limitations of traditional professional learning, the use of social media as a medium for this type of learning was selected as part of the intervention for Cycle 2.

The purpose of this study was to examine the intervention during Cycle 2 and focused on assessing teachers’ experiences accessing social media for professional learning. Participating teachers explored social media as a means of professional learning for a period of 6 weeks using the social media guidelines and the professional learning tracking document created during Cycle 1. Concerns over issues of self-disclosure/professionalism and validating professional learning were identified through work done during the exploratory Cycle 1. The team co-created the social media behavior guidelines and a professional learning tracking document. As Guskey’s (2000) *Five Levels of Professional Development Framework* asserts that it is important to analyze the effectiveness of professional learning through the analysis of supports, the team felt it was important to identify limitations to using the medium in hopes of creating supports and

structures that may aid its use as part of the intervention itself. While this study primarily focused on identifying if the intervention was successful based on an attempted analysis using Level 1 and Level 2 of the framework, data was also collected to inform potential necessary work according to Level 3.

Participants maintained their professional learning tracking documents during the study, which contained a reflection component, took part in focus group interviews, and completed a survey at the conclusion. The tracking document, survey, and focus group sought to gather information about participants' reactions and participants' learning, which aligned with Guskey's (2000) *Five Levels of Professional Development Framework*. These artifacts were used to assess the effectiveness of using social media for professional learning. Focus group questions also asked participants to identify potential supports needed for future cycles.

Action Research Questions

To explore the use of social media for professional learning as an alternative to traditional professional learning, these action research questions encouraged participants to assess the potential of the medium. These research questions were informed by three levels of Guskey's (2000) *Five Levels of Professional Development Framework* and focused on gathering information about participants' reactions, participants' learning, and organization supports.

1. After participating in social media-based professional learning experiences, what are teachers' reactions to the experience, including level of enjoyment, usability of the medium, usefulness of information, use of the participant's time and experiences related to their personalized learning needs?
2. After participating in social media-based professional learning experiences, what new knowledge and skills do participating teachers identify they have acquired?

- a. What do teachers describe as the critical attribute(s) of the professional learning content?
 - b. How do teachers select which professional learning experiences to engage with while using a social media medium?
 - c. In what ways has the social media-based professional learning contributed to changes in their instructional practice?
3. After participating in social media-based professional learning experiences, what do teachers believe are the benefits and limitations of using social media for professional learning?
- a. What additional supports are needed to assist participants' in using social media to meet personalized professional learning goals?

Definitions of Terms

Affordances: the perceived actions or perceived purpose of an object (Gibson, 1977).

Mitigation strategies: steps or procedures to limit risks or adverse factors.

Personalized learning: learning centered on choice, customization, and often self-regulation (McLoughlin, & Lee, 2008).

Professional development: structured professional learning that causes a shift in the educator's instructional practices and increases student achievement (Darling-Hammond et al., 2017).

Professional learning: active learning connected to concepts and skills that directly affect the educator's daily work, communal experiences with opportunities for coaching, a belief in the importance of continuous learning, and a desire to increase teacher capacity and agency (Calvert, 2016; Labone & Long, 2016; Scherff, 2018).

Self-disclosure, teacher professional identities: sharing personal information, which includes content concerning personal life, beliefs, and sensitive information regarding workplace policies or procedures in online spaces (Bazarova & Choi, 2014).

Social media: online communities that allow for user-generated engagement centered on communication, information sharing, and knowledge seeking (Kitsantas & Dabbagh, 2011; Meier et al., 2014).

Validating professional learning: formal structures used to reward professional development hours.

CHAPTER 2

REVIEW OF RELATED LITERATURE

I aimed to investigate how the use of social media for teachers' professional learning needs may mitigate some of the potential limitations of traditional professional learning. The pandemic, which continues to affect teachers' practices and leadership's decision making, has highlighted what research has indicated are the potential limitations of traditional professional learning. These limitations are often connected to problems aligned with time, funding, isolated learning, a misalignment between perceived teacher needs and actual teacher needs, and a lack of sustained community building opportunities (Bayar, 2014; Richardson, 2003). It is important to note educators were using social media for professional learning before the pandemic and continue to use it after. If anything, the pandemic highlighted the limitations of traditional professional learning offerings and forced educators to explore alternative options for learning that they may not have used before the pandemic. The question then becomes can educational leaders and teachers reap its benefits now that the pandemic is over?

If research shows authentic and effective professional learning may lead to both improvements in student achievement (Allensworth et al., 2021; Desimone et al., 2002) and teacher retention (Rodgers & Skelton, 2014), two issues exacerbated by the pandemic, it is imperative to seek solutions to the problems often associated with traditional professional learning. Issues associated with traditional professional learning that may have been neglected because of other seemingly important issues in education are now difficult to ignore because they have been compounded by the pandemic and should receive appropriate attention. Because the

world of education has found itself rooted in technology-based spaces because of the pandemic, it may benefit researchers to explore how these technology spaces can be used to improve professional learning as an avenue for improving larger educational issues.

To improve the professional learning experiences for teachers, this literature review will first explore the driving framework behind this study's design to better understand the purpose of the intervention and how it was assessed. Guskey's (2000) *Five Levels of Professional Development Framework* examines the effectiveness of professional learning by examining participants' reactions, participants' learning, organizational supports, and participants' implementation of new learning. Because the framework emphasizes the need for professional learning to first satisfy the participants' reactions and participants' learning before it can affect student achievement or teachers' beliefs, this study investigated participants' reactions and participants' learning while using social media for professional learning in hopes of improving the experience, so it may be used to support student achievement and teacher retention in future iterations.

Next, I will unpack the adult learning theory as a justification for selecting the study's framework. By examining research connected to both Guskey's (2000) *Five Levels of Professional Development Framework* and adult learning theory, I will attempt to identify the research-based foundation for mitigating barriers of traditional professional learning through designing and implementing an action research intervention. Furthermore, exploring the characteristics of adult learning theory will frame the understanding of the potential and limitations of professional learning experiences for adult learners. Understanding this framework and theory may support the use of social media for teacher professional learning during the pandemic and after the pandemic.

Professional learning is the focus for this study, and additional research will then be explored to highlight the misalignment between traditional professional learning offerings and what research indicates are the characteristics of effective professional learning experiences to support the use of social media for professional learning. I will also highlight this medium's perceived benefits and possible limitations in hopes of presenting a balanced review of the literature connected to the topic.

Finally, research will be shared concerning teaching and professional learning for teachers during the pandemic. While this is not the driving focus for the study's intervention, this research may be considered further support for the need for non-traditional professional learning experiences. I will highlight how the pandemic exacerbated issues with traditional professional learning and how educators have sought out social media to fulfill professional learning needs. Stakeholders responsible for designing professional learning experiences should consider this research and the study's findings when creating professional learning experiences in the future.

Guskey's Five Levels of Professional Development Framework

Before unpacking Guskey's (2000) *Five Levels of Professional Development Framework*, it is important to understand how previous iterations of evaluation models may have led to or influenced Guskey's work. Rooted in the belief empirical research and empirical evidence should drive evaluation, Stake (1998) was confounded by the many complexities that arose when evaluating educational practices. Stake (1998) surmised evaluation of educational programs is muddied by the numerous contextual factors that contribute to a teacher's success or increased student achievement. These factors could be anything from exposure to learning and language early in life to the influence of television and media to the influence of peers (Stake, 1998). Because of this, Stake (1998) suggested evaluation models follow these recommendations:

(a) researchers should use more than one instrument to gather data about a program's effectiveness; (b) educators' success should not be gleaned from the success of only students but also the success of the program/institution; and (c) research should be used to improve instructional practices. Guskey's (2000) *Five Levels of Professional Development Framework* acknowledges contextual factors may affect the success of professional learning experiences. While an increase in student achievement is the ultimate measure of the experience's effectiveness, the framework suggests success must first be achieved in other areas, not isolated to the performance of students alone. Finally, because this framework is used in conjunction with action research, research was used to inform the design of the interventions being measured by the framework itself. These components indicate an alignment to several of Stake's (1998) suggestions.

Like Stake (1998), Scriven (1972) also acknowledged the vast difficulties associated with effectively using evaluation models. He asserted it was often impossible to avoid bias when evaluating programs and contended that often the evaluator allows emotions to impede the process (Scriven, 1972). Taking this idea further, Scriven (1972) believed evaluators involved in the program evaluation could unconsciously assess in favor of the program. To combat some of these issues, Scriven (1972) suggested the following eight evaluation guidelines: (a) provide detailed descriptions of the program; (b) identify desired outcomes; (c) name potential cause and effect relationships; (d) identify consequences; (e) identify costs; (f) identify competing programs; (g) assess established goals; and (h) assess if the program is aligned to needs. While Guskey's (2000) *Five Levels of Professional Development Framework* does not directly follow all of these guidelines, it strongly correlates with the idea of identifying cause and effect relationships through its leveled approach to evaluation. However, its lack of specificity may fall

short in providing the necessary information to fully understand these relationships if using Scriven's guidelines. In terms of Guskey's reaction to Scriven's model, he believed the model did not fully recognize the importance of goal setting and its impact on evaluation (Erdas Kartal et al., 2019). In this study, teachers set a goal for professional learning as they explore social media.

Whereas evaluators such as Stake and Scriven used empirical evidence to drive their evaluation processes, Kirkpatrick and Kirkpatrick (2006) took a more balanced approach. Acknowledging as Stake (1998) and Scriven (1972) did, Kirkpatrick and Kirkpatrick (2006) understood context affects the effectiveness of using evaluation models. They believed changes in behaviors could be used as evidence for the effectiveness of a professional learning experience (Kirkpatrick & Kirkpatrick, 2006). They created the leveled approach to evaluation that, in fact, influenced Guskey's (2000) *Five Levels of Professional Development Framework*. Level 1 focuses on participants' reactions; Level 2 focuses on what the participants' learned; and Level 3 focuses on changes in behavior (Kirkpatrick & Kirkpatrick, 2006). Building upon these beliefs, Guskey's (2000) *Five Levels of Professional Development Framework* added an additional level to assess the support provided by the organization itself.

Reviewing Guskey's (2000) *Five Levels of Professional Development Framework* provides further evidence the framework builds upon the research outlined above, which informed earlier models of evaluation. The driving force behind the creation of Guskey's (2000) *Five Levels of Professional Development Framework* was to provide those hoping to evaluate the effectiveness of professional learning opportunities a set of guiding questions and practices to analyze professional learning in a systematic way that is intentional. Because I hoped to explore improving teachers' professional learning experiences, it was important to identify a research-

supported framework before designing the study to better inform its creation and assessment. The framework influenced my research questions, data collection tools, and data analysis methods.

Guskey (2000) contends the creation of this framework sought to mitigate the issues of earlier frameworks meant to evaluate professional learning as these frameworks often focused too much on identification questions seeking to collect information about the professional development experience and not enough “why” questions. Guskey’s (2000) *Five Levels of Professional Development Framework* identifies five key areas important to the exploration of the effectiveness of professional learning: participants’ reactions, participants’ learning; organization support and change; participants' use of new knowledge and skills; and student learning outcomes. These categories are organized according to complexity.

Guskey (2000) believed it was easier to identify participants’ reactions to a particular professional learning experience compared to identifying student outcomes’ relationship to a particular professional learning experience. Because Guskey (2000) believed success at one level was necessary for success at the next level, I did not attempt to analyze the use of social media for professional learning using every level of the framework. Instead, I focused on identifying participants’ reactions and participants’ learning to inform needed organization supports to affect future interventions and cycles if warranted. Initial work was conducted concerning what research indicated are the potential limitations of using social media for this type of learning, but because the research was relatively new and scarce, and this medium for learning has not been formally offered by the school, I sought information about Levels 1 and 2 to inform next steps regarding Level 3.

Participants' Reactions

Believing information belonging to this category of the framework to be the simplest to collect and analyze, Guskey (2000) contended professional learning evaluators often use rating scales, questionnaires, or open-ended questions to solicit reactions. I gleaned reactions concerning the use of social media for professional learning using a survey and open-ended questions in a focus group setting. Guskey provided the following question examples to assist evaluators when assessing Level 1 of the framework:

Did they like it? Was their time well spent?; Did the material make sense?; Was it useful?; Was the leader knowledgeable and helpful?; Were the refreshments fresh and tasty?; Was the room at the right temperature?; Were the chairs comfortable? (Appendix A)

The purpose of these questions is to identify the participants' initial reactions to the professional learning experience (Guskey, 2002). For a professional learning experience to be effective, Guskey (2002) believed that participants' most basic needs must first be met.

Participants' Learning

To further understand why this framework was selected for this study, it is essential to unpack its components. An assessment of participants' learning intends to determine if the professional learning experience allowed for a transfer of knowledge. Guskey (2002) encouraged the use of the following data collection tools to assess this level: written or oral reflections; simulations and demonstrations of learning; paper-pencil assessments; and portfolios. Questions associated with this level should provide opportunities for participants to demonstrate this new knowledge or reflect on it. Because this level focuses on the participants' attainment of knowledge, it is important to outline specific goals of the professional development session or

professional learning experience from the start (Guskey, 2002) Because of this, each participant in the study identified a specific learning goal. Questions in the focus group used to assess this level aimed to have participants reflect on this goal and its possible connection to their use of social media for professional learning. Information collected during this process for this level can be used to improve the content, format, and organization of the experience (Guskey, 2002).

Organization Supports

Level 3 of the framework focuses on assessing the effectiveness of organization supports as they relate to the professional learning experience in question. Evaluation questions at this level aim to gather information about how the organization provided resources, support (public support and in-house supports), and how the session or experience affected the climate and culture of the organization (Guskey, 2002). The framework suggests the following data collection tools be considered when attempting to assess at this level: interviews; school data and records; agendas from meetings; and portfolios (Guskey, 2002). As a result, my focus group was semi-structured. Although I included questions aligned with this level, the primary focus was to gather information that pertained to Levels 1 and 2. Because I attempted to explore social media as a means of mitigating potential issues of traditional professional learning, I used questions aligned to Level 3 to identify possible supports needed in a future cycle if Level 1 and Level 2 of the evaluation framework suggest the professional learning experience has been effective.

Evaluating Guskey's Framework

Using Guskey's framework as a means of evaluating professional learning has been supported by some because of its attention to detail and context; by analyzing professional learning through the five different levels of the framework, the framework is meticulous and thorough in its analysis (Polly et al., 2013). In addition to this, Guskey's framework builds on

earlier models of professional learning evaluation by making attempts to analyze the effectiveness of organizational supports to professional learning (Hanover Research, 2014). The framework is also endorsed by the U.S. Department of Education and referenced as a resource for school districts looking to improve their professional learning experiences (Hassel, 1999). Another compelling reason to select the framework is because it is one of the only frameworks that deals directly with professional learning in education (Newman, 2010).

This does not mean there have not been criticisms of the framework. Some argue against the leveled approach to evaluation. Holton (1996) suggested data does not assuredly imply that success in one level is dependent on success in the previous level. He particularly saw a weak connection with Level 3 of the framework, which is focused on organizational support and change (Holton, 1996). In a framework developed by Holton, the researcher attempted to identify the professional learning program's likelihood to result in learning, if learning would result in changed behaviors related to the participants, and if the changed behaviors would affect the organization itself (Coldwell & Simkins, 2011). In addition, Holton hypothesized outside factors such as the participant's motivation and how the organization rewarded changes in behavior may affect the success of the professional learning program (Coldwell & Simkins, 2011). Holton believed these are neglected by Guskey's framework.

In contrast to these arguments, there are those who argue in favor of Guskey's approach to assessing professional learning. In a 2009 study, researchers examined professional learning programs in England aimed at providing additional training to established educators to meet new technology requirements. Acknowledging context may be a contributing factor to the success of professional learning, the reform initiative found teachers' professional learning experiences varied greatly (Davis et al., 2009). Knowing this was a possibility, Guskey's (2000) *Five Levels*

of Professional Development Framework was selected particularly because of its inclusion of Level 3, organizational support and change. The 2009 study reviewed post professional learning surveys completed by participants to analyze its effectiveness for assessing professional learning experiences. The researchers completed factor-analysis and reliability tests on the nine questions built into the post-professional learning experience surveys, which were inspired by the framework (Davis et al., 2009). The Kaiser-Meyer-Olkin statistics test and Bartlett test results suggested the nine questions on the survey, inspired by the framework, were aligned to the design of the framework (Davis et al., 2009). This implies similar questions could be used in future use of the framework to assess professional learning. The researchers also conducted a linear regression test to determine if success in one level of the framework influenced success in a subsequent level of the framework (Davis et al., 2009). This has been a criticism of the framework by researchers such as Holton. The linear regression test showed that teachers' responses as they aligned to the first three levels of the framework explained variance in Level 4 of the framework. This suggests the leveled approach to evaluation may be credible (Davis et al., 2009).

Additional support for Guskey's (2000) *Five Levels of Professional Development Framework* can be derived from a 2010 study. In this study, Newman (2010) evaluated Guskey's (2000) *Five Levels of Professional Development Framework* using 6 years of reading data, teacher data, and student data. The study examined the framework's ability to predict success as it relates to professional learning provided to support growth on the Reading First Ohio assessment. The study was particularly concerned with the framework's leveled approach and the inclusion of organizational supports as a contributing factor to success. The data tools used to assess the effectiveness of the leveled approach to evaluation suggested by Guskey's (2000) *Five*

Levels of Professional Development Framework were data from the Reading First Ohio assessment, teacher surveys, and observations; this included surveys and instruments used to assess changes in behavior created and implemented by an outside company (Newman, 2010). The researcher conducted a Goodness of Fit test to ascertain if the levels were related. According to Newman (2010), “All of the theoretically-proposed paths were in the predicted direction” (p. 77–78). Additionally, 4 out of the 7 levels were considered significant. Perhaps, the most compelling piece of empirical evidence in favor of Guskey’s (2000) *Five Levels of Professional Development Framework* from the study is that Newman (2010) found a significant interaction between teacher satisfaction with the professional learning experience and teacher knowledge and their ability to predict a change in instructional practices. This supports the use of this framework for this particular study.

Other Professional Development Evaluation Models

It is important to note there are other modern evaluation models available. Desimone’s (2009) framework identifies the core features of professional development to be: content; participation; coherence; duration; and active learning. He contends these factors can lead to knowledge attainment and a change in beliefs, which then will lead to an increase in student achievement (Desimone, 2009). Like Guskey, Desimone asserted effective professional learning can affect student achievement (Kang et al., 2013) What this model fails to account for is contextual factors that may affect the success of professional learning experiences. Guskey’s (2000) *Five Levels of Professional Development Framework* suggests context plays a significant role in the potential for professional learning to lead to an increase in student achievement. In this sense, context can refer to anything from the space in which the professional learning is held to the lighting of the room or to more complex contextual issues such as administrative supports.

Unlike Desimone's (2009) model, the Clarke-Hollingsworth Model (Clarke & Hollingsworth, 2002) does acknowledge context. In contrast to Clarke-Hollingsworth Model, which does not follow a linear, cause and effect path, Guskey's (2000) *Five Levels of Professional Development Framework* implies that in order for professional learning to affect student achievement, it must first satisfy teachers' needs. Clarke-Hollingsworth Model (2002) takes a distributed approach to professional learning evaluation. An argument against the Clarke-Hollingsworth Model (2002) is that it fails to attach itself to solid philosophy by embracing the belief that professional learning can be affected by many factors or few factors, and no order can be assigned to these cause-and-effect relationships (Boylan et al., 2017). As evidenced above, Guskey's (2000) *Five Levels of Professional Development Framework* is built upon empirical-based evaluation models which came before it. Because of these reasons, Guskey's (2000) *Five Levels of Professional Development Framework* remained the best framework to use based on the purpose of this study.

Adult Learning Theory and Self-Directed Learning

To better understand why Guskey's (2000) *Five Levels of Professional Development Framework* was selected for this study, it may prove beneficial to explore adult learning theory. Andragogy, or the teaching of adult learners, is often defined by Malcom Knowles' work. Knowles (1996) surmised the adult learner can direct their own learning when necessary, often uses their own experiences when constructing meaning and decision-making, likes to problem solve, and is often driven by internal factors and not external factors. Adult learning theory places emphasis on the participant's ability to make professional learning decisions and assess his or her professional learning experiences. This supports the use of Guskey's (2000) *Five Levels of Professional Development Framework* because it claims that before professional

learning can affect student achievement, participants' professional learning needs and preferences must be met. This primary focus on the participant connects the theory to the selection of the framework for this study. In addition to supporting the selection of the framework, the theory supports the design of the study's intervention. The convergence of the problem of practice, adult learning theory, and the framework help to explain the study, its intervention, and the assessment tools.

Because the adult learning theory implies some educators may prefer to direct their own learning, designers of professional learning experiences may desire to contemplate ways to honor this within their design (Beavers, 2009; Trotter, 2006). Penland (1979) suggests the structures of traditional professional learning may limit such individualized self-directed learning. Because self-directed learners are often identified by the ability to self-manage and self-correct, a belief in his or her capabilities, being goal-oriented, and a commitment to learning, they may benefit from being able to have input in their own learning experiences (Cercone, 2008). This aligns with Guskey's framework because it correlates with the notion that the assessment of participants' reactions and participants' learning should be used in the creation of organizational supports needed to ensure learning is put into action.

Because the structures associated with traditional professional learning might not organically alter because of participants' reactions, the adult learning theory suggests traditional professional learning may not always be effective. Therefore, the theory might support the need for non-traditional professional learning, which is represented by the study's intervention, and using participants' reactions and learning to modify professional learning experiences, which aligns with Guskey's (2000) *Five Levels of Professional Development Framework*.

Traditional Professional Development

Because I am suggesting non-traditional media for professional learning, such as social media, have been used to support teacher professional learning during the pandemic and could be considered for future professional learning needs, it may be helpful to explore the potential limitations of traditional professional learning that existed prior to the pandemic. This may prove important in supporting the notion that the potential benefits of using the medium are not limited to the pandemic as issues with traditional professional learning, while exacerbated by the pandemic, were in existence long before it.

Professional Development Design

Traditional professional learning may not always speak to the personalized needs of educators. Professional learning experiences are often designed by senior-level stakeholders with very little input from the educators most directly affected (Schaffhauser, 2015; Southern Regional Education Board, n.d.; Visser et al., 2014). Without soliciting input from participants when designing professional learning opportunities, the learning opportunities may fail to address the true needs of the audience. For professional learning to transform educational practices, research suggests that it should be centered on content related to curriculum, standards, assessments, and other issues directly related to teachers' needs (Bayar, 2014; Darling-Hammond & Richardson, 2009; Holmes et al., 2013). Without including teachers in the design process, it becomes difficult to ascertain if the professional learning is meeting the personalized needs of its participants or fostering true professional learning.

Furthermore, research suggests designers of professional learning should consider context in order to create conditions that support the personalized needs of educators, which may allow for effective professional learning (Clarke, 1994). Whether this context is defined by content,

medium, or duration of the professional learning, senior-level stakeholders should consider involving participants in all steps of the planning process (Clarke, 1994; Southern Regional Education Board, n.d.). Traditional professional learning not tuned or shaped by its participants could fail to meet the individual's needs, suiting, instead, the perceived needs of the authority figures, leading educators to view the professional learning unfavorably (Bill & Melinda Gates Foundation, 2014; Ferlazzo, 2018). Because of this, senior-level stakeholders may want to explore ways social media can be used to provide opportunities for participant voice and choice concerning personal professional learning endeavors.

Policy Reforms and Professional Development

Policy reforms potentially dictate what kind of professional learning educators receive (Dilworth & Iming, 1995; Rose, 2010). Educational reforms have called on teachers to become content experts, problem solvers, and classroom management experts, but the professional learning needed to support these reforms are often stifled by funding and contextual limitations (Borko, 2004; Garet et al., 2001; Silberman, 2014). This may set the stage for ineffective professional learning. In addition, while policy may dictate what professional learning is needed, it often does not provide the resources to aid its effectiveness (Borko, 2004; Karam, 2015; Riley, 1993). If educational reforms are meant to develop teachers with mandated initiatives, senior-level stakeholders could explore alternative ways to deliver the professional learning, such as using social media, to lessen the burdens of financial limitations and resource limitations.

Professional Development as a Process

Research suggests successful professional learning is an ongoing process with opportunities for intensive reflection (Garet et al., 2001; Holmes et al., 2013). Contextual factors related to time and funding may limit the ability of schools to provide professional learning that

meets these requirements (ASCD, 2013). A study compiled by the Center for Public Education suggests many schools are unaware of how to justify the need for professional learning funds or do not understand how to use them effectively (Gulamhussein, 2013). Because of these budget – related issues, many schools offer one-time workshop learning opportunities. This does not align with what research has suggested is needed for effective professional learning, and one-time professional learning is rarely received positively (Gulamhussein, 2013; Strauss, 2014). Since, most research supports the idea that effective professional learning, learning that propels a change in teachers’ instructional practices, requires designers to understand professional learning is a process (Clarke, 1994; Guskey, 2002; Holmes et al., 2013), and many traditional professional learning experiences are often limited in these capacities by contextual factors related to time and funding, non-traditional PD should be considered.

Social Media and Personalized Learning

The use of social media for professional learning continues to grow in popularity, or, at least, the research concerning the use of it by educators appears to be growing. This was true before the pandemic. One medium for this personalized professional learning is participation in educational Twitter chats. Often held weekly, Twitter chats allow educators to search out topics that align with their personal interests and connect with educators who share similar ideas using a hashtag (Bearden, 2013; Caron, 2011; Lynch, 2018). The hashtag, an affordance of the medium rooted in the ideas of participant voice and choice, filters out tweets and information not directly related to the chat (Caron, 2011; Tsur & Rappoport, 2012). The follow button, another affordance of the medium, allows Twitter users to learn from fellow educators they respect without the expense of attending a conference (Beardon, 2013; Caron, 2011). These affordances may foster personalized learning experiences that fulfill the needs of educators.

These personalized learning experiences are not limited to participation in educational Twitter chats. Like Twitter, Facebook's affordances related to following allow users to expand their personal learning networks, enabling educators to connect with lead learners outside their school and even their district (Bodell & Hook, 2011; The Education Foundation, 2013; Rutherford, 2010). Unless deleted by the moderator, commentary in Facebook discussion groups remain in the affinity space. This allows educators to visit and revisit and comment and re-comment on the information and knowledge shared multiple times, allowing for the informal learning to be continuous in nature (Rutherford, 2010).

Because I explored teachers' perceptions of using social media for professional learning, it is important to explore how teachers select professional learning experiences while using the medium. This may inform future organizational supports for using the medium or could provide necessary information to support the study's findings in terms of understanding Level 1 and Level 2 of the framework, teachers' perceptions and teachers' learning.

Affordances

Educators may be drawn to social media because of its affordances, often understood through the work of psychologist James Gibson. According to Gibson (1977), affordances are the potential actions of an object. For example, the potential action of a keyboard is to type out information. Additional scholarly work has attempted to categorize affordances, adding another qualifier to Gibson's notion—the concept of perceived affordances suggests affordances are often conceptualized and defined by the user (Norman, 1999; Scarantino, 2003). Following this idea, ascertaining that the action of the keyboard is to type is only a reality because that is the action, or affordance, perceived by the user. Educators may desire to use social media as a means

of professional learning because of the perceived affordances they believe the medium may offer them.

The technological, social, and communicative affordances often associated with social media build upon the foundational affordances of Web 2.0 (Bucher & Helmond, 2018; Kaplan & Haenlein, 2010). For example, studies on teachers' use of Twitter chats for professional learning suggests educators enjoy the platform for its ability to allow them to connect with other teachers through engaging in self-initiated and self-directed learning (Carpenter & Krutka, 2014; Visser et al., 2014). The use of social media, whether through educational chats or participation in online discussion groups, allows learners to develop themselves based on their own self-identified needs and using methods that align with their personalized preferences (Carpenter & Krutka, 2014; Ferriter & Provenzano, 2013; Holmes et al., 2013). Additionally, social media, such as Twitter chats or Facebook groups, allows professional learning to be rooted in voluntary ongoing participation centered on inquiry where the learners determine authenticity (Duncan-Howell, 2010; Macià & García, 2016).

Potential Limitations of Social Media and Professional Learning

Self-Disclosure and Social Media. One issue of educators' use of social media for professional learning concerns self-disclosure. Research has begun to consider educators' use of social media and its relationship to problematic issues related to both professional identities and personal identities and a failure to understand the line between what should be shared and what should not be shared (Bazarova & Choi, 2014; Majchrzak et al., 2013; Visser et al., 2014). While some affinity spaces may be private, many online communities for educators are open to the public. Administrators, district leaders, parents, and students can track educators' use of social media, even when used as a professional learning tool, with a simple click of a follow button or

hashtag. Educators, falsely believing their speech is protected by the first amendment, have faced termination as a result of posting information deemed inappropriate by their administration or school district (Simpson, 2010; Sumner et al., 2014).

The failure of educators to ascertain what is appropriate to share is not limited to information about their personal life but also extends to the expression of beliefs and ideologies that do not align with their organization's beliefs or ideologies, causing opposition with their audience and strife with their organization (Lupton, 2014; Majchrzak et al., 2013). For example, teachers may support a particular educational initiative in a Twitter chat or a Facebook group that does not align with the school's initiatives or district's initiatives. Additionally, a teacher may express disagreement with the established instructional practices of his or her institution within these affinity spaces. While much of the research about the relationship between educators and self-disclosure concerns the punitive actions that may result from disclosing inappropriate material, further research is needed to understand how teacher preparatory programs or senior-level stakeholders may provide educators guiding advice and information about best practices concerning online behavior.

Validating Professional Learning Through Social Media. An additional contextual limitation of using social media as a tool for professional learning concerns ongoing questions regarding how the educator's organization can best validate the authenticity of the learning. The need to validate the authenticity of learning taking place within these online communities can often be tied to teacher certification and license renewal. Related to educational reforms and educational policies, most states require teachers to complete a certain number of professional learning hours before applying for licensure renewal (Dilworth & Imig, 1995; Hoffman & Harris, 2018).

While the goal of this requirement is to propel and enhance the instructional practices of teachers, most states' license renewal processes place a heavy emphasis on achieving this professional learning through institution awarded credit hours and not on-going school-based professional learning (Hoffman & Harris, 2018; Will, 2018). Despite the intended goal of the professional development requirement, research asserts this may not develop educators because it often involves taking isolated college courses not directly tied to the daily work of the teachers or involves participation in one-stop professional learning with little opportunities for coaching or follow-up (Sawchuk, 2017; Will, 2018). If professional learning using social media is ever to be considered as a valid component of the recertification process, future research will need to consider how to best validate the authenticity of the learning taking place.

Issues of Authenticity. Because online learning communities using social media are often started by educators, not stakeholders at the top of the organization's chain of authority, and participation is often voluntary, there are no formal organizational gatekeepers to authenticate the learning (Ferriter & Provenzano, 2013; Hilt, 2008). This complicates the issues of authenticity as they relate to professional learning and professional development using social media. While professional learning taking place at a university or within a school may be vetted for issues of bias, timeliness, and authenticity, the very freedoms associated with social media based professional learning, may not support these checks and balances. If participants wish senior-level stakeholders would value their professional learning using social media, consideration should be given to further research on how to best track instructional growth and professional growth as a result of participation in these online communities.

Issues of authenticity range from an inability to assess if learning has taken place to an inability to assess the quality of learning itself. Without formal structures in place or

organizational gatekeepers, such as professors for those taking credit bearing classes or district leaders and administrators overseeing school designed professional learning, educators' professional use of social media for learning may not be timely or purposeful (Hilt, 2008; Veletsianos, 2013). Furthermore, while educators' professional use of social media for learning is often valued for its freedoms and choice-centered affordances, these options may actually narrow perspectives. By allowing professional learning in professional learning networks to be entirely dependent on the participant's wishes, as is often the case of social media, the participant may choose to engross himself or herself in communities with only ideas that align with his or her own beliefs, rather than align with ideas that challenge him or her (Ferriter & Provenzano, 2013; Martin, 2013). Issues of validation and professional learning also extend to more pragmatic issues. Many school districts require formal tracking of professional learning (Ferriter & Provenzano, 2013; Hilt, 2008). At this time, little research has been conducted surrounding the ability to track learning in these informal communities.

Teaching and Learning in a Pandemic

Although this study is not directly related to the pandemic, it has been influenced by it. Cycle 1 of this study was influenced by the pandemic as teachers who participated in the study were working and actively participating in the study during this time. Examining teaching and professional learning during the pandemic may support the need to address the potential limitations of traditional professional learning. These limitations have been compounded by the barriers to professional learning created by the pandemic. Exploring how teachers used social media, a non-traditional medium for professional learning, supports the need for the study itself. Teachers from around the world who may have never explored the medium for professional learning before the pandemic found themselves exploring it. The pandemic forced many

educators to drastically change their teaching practices; this urgent need for change led many to see the additional professional learning that social media could provide (Kraft et al., 2021).

While teachers faced many difficulties related to teaching and learning prior to the pandemic, they have found themselves in uncharted waters since the lockdown of March 2020. The lockdown forced teachers to unexpectedly shift to remote learning with little to no professional learning support (Berry, 2020; Mohammed et al., 2020). In fact, some educational researchers have called the past several years the biggest worldwide experiment in student learning and teaching of all time (Berry, 2020). During the shift to remote learning and hybrid learning, teachers adapted preexisting curriculum to meet the needs of students while mitigating the limitations associated with new instructional delivery methods. Additionally, they learned new technologies while isolating from colleagues (Berry, 2020; Mohammed et al., 2020; Rasmitadila et al., 2020).

A national study found 99% of teachers in America experienced working within the constraints of remote learning at some point during the pandemic (Hamilton et al., 2020). Teaching remotely or hybrid produced an array of issues for some teachers, including lack of student engagement and motivation, difficulty maintaining a professional life and personal life balance, and mitigating issues related to student inequities (Reich et al., 2020). As indicated by this research, the pandemic's effects were not limited to students. For example, in a study concerning teacher confidence pre-pandemic and during the initial transition to remote learning, teacher confidence went from 96% in the previous spring to 73% (Kraft et al., 2021). Research suggests this decrease in confidence may not have only affected student learning but also teacher morale. A study of teachers in the United Kingdom cited an increase of 13 percentage points when comparing teachers who indicated they would leave the profession in the summer of 2022

prior to Covid and those who indicated leaving the profession in Summer 2022 after the pandemic began (Fullard, 2021). With research implying teacher performance and morale have been linked to the difficulties of working during a pandemic, educational leaders should look at ways to support educators during these difficult times and its aftermath.

For leaders looking at how to support teachers working in a pandemic and what comes after, it could be helpful to explore how teachers supported their own personalized professional learning during the pandemic. During the early days of the pandemic, many teachers, who found themselves working from home, had to seek out non-traditional avenues for professional learning, and for some this included using social media (Alwafi, 2021). In a study of 103 teachers' use of Twitter before the pandemic compared to teachers' use of the medium during the pandemic, teachers' tweets and interactions during the pandemic could be separated into the following categories: seeking information and answers to "in the moment" questions; resource sharing; and information concerning educational events and conferences (Alwafi, 2021). An analysis of teachers' tweets pre-pandemic and during the pandemic saw an increase in the number of tweets asking questions and sharing information (Alwafi, 2021). Additionally, the study saw a significant increase in the number of appreciation posts during the pandemic and only a slight increase in negative posts, which suggests many teachers were also using this affinity space for collegial support (Alwafi, 2021). Another study of teacher professional learning during the early days of the pandemic explored teachers' experiences in a self-created online professional learning community (PLC). Teachers used online social spaces for both synchronous and asynchronous informal learning sessions to address teachers' needs (Song et al., 2020). Participants reported the medium not only provided them "in the moment" support but also assisted them in alleviating stress and frustration associated with working in a pandemic

(Song et al., 2020). During the pandemic, social media provided teachers free, continuous, and collaborative professional learning. Stakeholders responsible for supporting teachers may want to look at the ways teachers sought out professional learning during the pandemic to improve professional learning moving forward as post-pandemic teaching may still be affected by the strain of the pandemic on education.

Summary

With the future of schools uncertain as Covid-19 continues to affect education along with the research that suggests traditional professional learning may be limited in its ability to affect teachers' practices, new media for delivering professional learning should be considered. As schools begin to consider education post-pandemic, educational leaders may also be contemplating how to deliver professional learning through social media, a resource used by teachers during the pandemic to support teacher learning. Research has indicated some teachers are drawn to social media as a means of participating in professional learning because of its affordances, which may allow for opportunities for educators to identify personalized professional learning needs and personalized learning preferences (Carpenter & Krutka, 2014; Ferriter & Provenzano, 2013; Holmes et al., 2013). Additionally, these affordances could benefit school systems that may face future budget cuts because use of the medium is free. While research has begun to identify potential limitations of using this medium professional learning related to issues concerned with self-disclosure, validating learning, and authenticity, little research has been conducted on how to mitigate these limitations.

CHAPTER 3

METHODS

The purpose of this action research study was to gauge teachers' perceptions of using social media as a medium for professional learning. Guskey's (2000) *Five Levels of Professional Development Framework* suggests that for professional learning to affect change in teacher behavior or affect student achievement, it must first meet the needs of teachers. Because of this, I attempted to first measure teachers' perceptions of using the medium for their personal learning needs. Because some research indicates teachers may not feel traditional professional learning speaks to their personalized needs (Blank et al., 2008), this study explored the use of social media as a means of engaging teachers in personalized professional learning. Action research may be particularly well suited for these goals. Action research, rooted in the belief teachers must work alongside school leaders in improvement efforts, often relies on teacher-initiated research-based improvement cycles driven by reflective practices (Mertler, 2017). Because this study was focused on the personalized learning experiences of teachers, teachers, themselves, were included in the design of the study's interventions and assisted in the assessment of the interventions' implementation.

With a focus on acting, I conformed to the principles associated with the pragmatic paradigm and the constructivist paradigm. Believing the scientific method is sometimes unable to acknowledge the contextual reasons a study is successful or is unsuccessful, the pragmatic paradigm often relies on a mixed methods approach to understand how both context and relationships affect outcomes (Mertens & Wilson, 2012). Since I aimed to identify and mitigate

contextual limitations as they relate to using social media in hopes of promoting its use as a means of professional learning, the pragmatic approach, an approach that encourages the exploration of how context and relationships affect outcomes (Mertens & Wilson, 2012), connects to components of action research.

Action research acknowledges findings are contextually based (Mertler, 2017). Much like other studies using the pragmatic approach, action research studies provide findings that may not be generalized but can be modified and applied to other situations (Mertler, 2017). The findings from this study will be used to enact further change, which aligns with the cyclical nature of action research (Mertler, 2017). Finally, as a bias for action is a driving component of both the pragmatic paradigm and action research (Mertler, 2017), it might benefit the goals of the study to use both.

In addition to the pragmatic paradigm, the constructivist paradigm also influenced this study. The constructivist paradigm is founded on the belief a person's experiences play a role in knowledge attainment (Erickson, 1988). This idea correlates to the leveled approach of Guskey's (2000) *Five Levels of Professional Development Framework*. Again, Guskey (2000) believes that for knowledge to be obtained in a way that results in change, the professional learning experiences must be perceived as favorable. This does not mean Erikson (1988) contends only positive experiences shape knowledge acquisition, but his learning theory does suggest a learner, when introduced to a new concept, will bring with them their pre-existing beliefs concerning what is relevant. Because of this, the constructivist paradigm played a role in not only selecting Guskey's (2000) *Five Levels of Professional Development Framework*, but it also played a role in choosing action research for this study. Action research invites participants to acknowledge preconceptions that may affect the study. In this case, participants identified potential barriers to

using social media as a medium for professional learning in Cycle 1 of the study. Teachers were invited to help develop ways to mitigate these barriers.

While this action research study was conducted primarily with a select group of teachers (those who participated in Cycle 1), and attempted to determine what additional supports may be needed to assist this particular group of teachers with personalized professional learning using social media, the findings will be shared with various stakeholders throughout the school district. With a focus on personalized professional learning, the information gleaned from this study will be particularly important to District leadership in charge of professional learning and instructional coaches, as these parties are the ones most responsible for designing and facilitating professional learning in the county. Because teachers reacted positively to the use of social media for professional learning, school leaders may want to encourage its use, and the information may be used in discussions with school administrative teams and central office personnel. Finally, since the issues illuminated by the research on the possible limitations of traditional professional learning and the issues brought to attention because of the pandemic, the findings and recommendations from this study may be helpful to others outside of this particular context as well.

Action Research Questions

Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* served as the basis for the development of the action research questions for this study and the development of data collection materials. The framework's guiding questions align with important components of action research: facilitating dialogue with stakeholders; collaborating to identify problems of practice; designing interventions to improve practices; and soliciting feedback to improve interventions (Mertler, 2017). Guiding questions from Levels 1 through 3 of

the framework focus on participants' reactions, participants' learning, and organizational support (Appendix A). Again, because I only focused on a small group of teachers, questions aligned to Level 3 of the framework are attempts to identify how these particular teachers may need additional support from the organization and not the context as a whole.

1. After participating in social media-based professional learning experiences, what are teachers' reactions to the experience, including level of enjoyment, usability of the medium, usefulness of information, use of the participant's time, and experiences related to their personalized learning needs?
2. After participating in social media-based professional learning experiences, what new knowledge and skills do participating teachers identify they have acquired?
 - a. What do teachers describe as the critical attribute(s) of the professional learning content?
 - b. How do teachers select which professional learning experiences to engage with while using a social media medium?
 - c. In what ways has the social media-based professional learning contributed to changes in their instructional practice?
3. After participating in social media-based professional learning experiences, what do teachers believe are the benefits and limitations of using social media for professional learning?
 - a. What additional supports are needed to assist participants in using social media to meet personalized professional learning goals?

Action Research Approach

Description of the Action Research Intervention

Knowing some teachers feel like traditional professional learning does not meet their personalized needs combined with the knowledge the pandemic has highlighted limitations of traditional professional learning, this study's intervention was focused on providing teachers the opportunity to explore using social media to meet professional learning needs. In Cycle 2, participating teachers explored social media for professional learning for 6 weeks. Prior to teachers' exploration of the medium, I Zoomed with participants to review the social media guidelines and tracking document. Both of these were co-created with the participating teachers as part of Cycle 1 of the action research study. Additionally, I highlighted how key affordances, such as the hashtag and search bar, could be used to search out particular learning interests while using the medium, whether it be Twitter, Instagram, or Facebook. This Zoom was also an opportunity for participants to ask questions prior to the start of the exploration period.

Prior to the start of the exploration period, teachers also identified a professional learning goal. During the 6-week exploration period, teachers used the professional learning tracking document created during Cycle 1. The purpose of this document was to authenticate and validate learning taking part within these media with the potential for earning professional learning points while also gathering information about how worthwhile this type of professional learning is. During this time, I sent out a weekly email reminding teachers of the perimeters of the study and used a Google form to solicit any questions. Teachers' tracking documents were kept in a Google folder, which I was able to review. I checked weekly to assess whether the tracking document had been updated. Beyond this, I did not give specific guidelines on what medium to use or how often teachers should use the medium as the purpose of the study was to allow teachers to

explore the medium freely to assess whether it had the potential to meet their personalized learning needs, and the preferred duration of learning and preferred specific medium may have differed for each teacher.

At the conclusion of these 6 weeks, participating teachers submitted their final professional learning tracking documents and took part in a focus group to further assess teachers' perceptions of using social media for personalized professional learning. They also completed a survey. All three of these data collection tools were used to gather information on the proposed research questions, which sought to collect information regarding the first three levels of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. Questions pertaining to Level 3 of the framework sought to design personalized supports for these specific participants and not the organization itself as the number of participants is limited. If teachers' reactions are favorable, a larger study may be warranted. These data collection tools were supported by research and informed by Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*.

Role of the Researcher

As both the school's former instructional coach and researcher for this study, I served as a consultant for this action research study. It is important to acknowledge my role to ensure transparency and that all efforts were made to avoid bias. As someone responsible for professional learning at both the school in question and on the district level, I can contribute to decisions about professional learning. In addition to this, I am a proponent of using social media as a medium for professional learning. I recently served as a co-moderator for a weekly education-based Twitter chat. As a result, I believe it is beneficial that I assumed the role of consultant rather than participant as my views and knowledge about professional learning may

be useful in the design of the intervention and the data measurement tools but may unfairly impact the study's findings. Protocols and strategies to increase credibility and reduce bias are outlined in this chapter under Ethical Considerations.

Participants

Efforts were made to include teachers who participated in Cycle 1 as the use of social media was explored. It was important to include these participants to ascertain if the supports designed and implemented based on teacher feedback in Cycle 1 impacted teachers' perceptions of using social media for professional learning. This also aligns with Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*, which explores organizational supports. Participation in this study was voluntary, and names were changed in an attempt to provide confidentiality. Serving as the consultant and the researcher leading this study, I was open and transparent about the reasons for the study and how the information would be shared, honoring the propriety standards.

A detailed summary of the action research study and an invitation to participate were sent out via email to the Cycle 1 participants at Roth High School (RHS). Teachers interested in the study indicated their intention to volunteer through a Google Form. The form solicited responses from volunteers to gauge perspectives on the use of social media as a means of professional learning and diversity considerations. Because efforts were made to include teachers who participated in Cycle 1, it is important to know one participant no longer works at RHS. Table 1 represents the demographics of potential study participants.

Table 1

Teacher Participants from Roth High School

Teacher	Years of Experience	License	Social media use for PD
A	5	Professional	Novice
B	9	Professional	Novice
C	7	Professional	Experienced
D	7	Professional	Experienced
E	2	Provisional	Novice
F	5	Professional	Experienced
G	3	Provisional	Novice

Note. This table provides information on participants’ years of experience, license type, and comfort level using social media for professional development (PD).

Participants represent a range from 3–9 years of teaching experience. Out of the seven, five hold professional licenses and two hold a provisional license. When asked to self-identify their level of comfort using social media as a means of professional learning, four selected novice, three selected experienced, and zero selected experts. Novice implies a lack of knowledge concerning how the medium can be used for professional learning. Experienced designation represents some familiarity with the medium. Participants may have social media accounts and follow fellow educators but do not frequently engage with it to meet professional learning needs. Experts report regularly using the medium for professional learning needs and actively participating in educator communities.

Data Sources

Taking a pragmatic and constructivist approach to action research means acknowledging the importance of engaging stakeholders affected by the research questions being explored “in a co-generative process of knowledge creation, action design, and evaluation of outcomes” (Greenwood, 2007, p. 133). As a result, the data collection tools used in this action research

study were centered on those that encourage participants to express opinions and perceptions in hopes of affecting change and inciting future action. During this action research study, I analyzed three data sources. All data collection tools were used during Cycle 2 of the study.

Participating teachers completed the professional learning tracking document collecting information on their experiences using social media as a means of professional learning. This was to inform all three research questions. Because I aimed to improve professional learning for teachers, participants also completed a survey and took part in a focus group at the conclusion of Cycle 2 to assess teachers' perceptions of using social media for professional learning. Questions for the survey were aligned with Level 1 of the framework and attempted to ascertain the participants' initial responses to the professional learning. Additional survey questions collected information on the interventions created in Cycle 1 of the study. For the focus group, I used a semi-structured protocol written, reviewed, and field tested prior to the group interview. These questions were aligned to all three levels of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. The focus group collected information about participant's learning and potential supports. It is important to note questions about Level 3 were used to assess supports designed as part of Cycle 1 of the study and additional supports needed to assist the learning for the specific participants in the study and not the organization as whole. Again, because initial perceptions were positive, a larger study may be warranted.

Professional Development Tracking Document

Teachers completed the professional learning tracking document during the 6 weeks they explored social media as a means of professional learning (see Appendix B). As Level 1 and Level 2 of the selected framework for this study sought to assess participants' reactions and participants' learning, the document asked participants to identify general reactions to the

experience. Additionally, in hopes of addressing Level 2, participants' learning, I asked teachers to consider and reflect on what types of social media they used for professional learning, the topics they searched out, the amount of time they spent engaged in professional learning using this medium, what they learned during these professional learning experiences, and potential next steps concerning how they will implement what they learned in their classrooms. These components connect to Levels 1 and 2 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. As the tracking document was created by participating teachers in Cycle 1 as an organizational support, observations on its usefulness were attempted.

Prior to being used by teachers in this study, I shared the tracking document with a Director of Professional Learning and Curriculum, a professional learning coordinator, and an additional instructional coordinator to assess if the document was easy to understand and provided enough content to solicit responses from teachers to inform the study. Based on their feedback, I added an additional column to solicit information about what strategies teachers were interested in implementing.

Teacher Survey

I surveyed all participants directly after the conclusion of the study (see Appendix C). Participants had access to the survey for 1 week. The survey addressed Research Question 1, which focused on the participants' reactions to the professional learning experience. I also attempted to ascertain if the supports designed as part of Cycle 1 were effective, which informed Research Question 3. I used a survey because of its low cost, its efficiency concerning data collection, and the technology used to facilitate the survey may provide greater assurance that all questions are answered (Creswell & Creswell, 2017). In this case, a Google Form was used in the creation of the survey. The format allows the designer of the survey to require participants

answer all questions before submitting. This helped with information management and the collection of valid and reliable information. The survey solicited responses to eight statements related to research question number one and three. These questions addressed what research indicates are descriptors of effective professional development at Level 1 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* and attempted to determine the effectiveness of supports designed in Cycle 1. The descriptors aligned with Level 1 solicited responses from participants to gauge the following: how well the participants liked the learning experience; if the participants felt like the learning experience was useful to their practice and a good use of their time; if the medium suited their needs; and if the medium allowed them to interact with knowledgeable educators. Answers were submitted through a 4-point semantic differential scale, using the words *strongly disagree* and *strongly agree* at opposing ends of the scale. The survey was reviewed by a panel of educators familiar with Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* for validity and potential alignment issues. Two of the three panel members have recently earned doctorates and are familiar with survey design.

Focus Group

Teacher participants took part in a focus group at the conclusion of this study (see Appendix D). A focus group may provide reluctant speakers a greater sense of comfort to express viewpoints while encouraging robust conversation (Mertler, 2017). Semi-structured questions for the focus group aligned with the first three levels of Guskey's (2000) *Five Levels of Professional Development Evaluation*. The first level focuses on participants' reactions, and the second level of the framework focuses on participants' learning. The third level of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* attempts to assess

organizational supports. A panel of experts familiar with Guskey's framework reviewed the focus group protocol to assess whether the questions appropriately aligned with what research says about professional learning and if the questions aligned with the study's action research questions. Feedback from these experts led to additional questions being added to assess specific reactions to using the medium for professional learning in an attempt to better align the focus group with Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*.

Data Collection

Professional Development Documents

Prior to participation in the study, participants were asked to complete an informed consent form (see Appendix E). The form explains the purpose of the study, the components of the study, the potential risks of participating in the study, and the potential benefits. Data collection tools were aligned with Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. This form was sent out to participants prior to participation in the study.

Professional Development Tracking Document. Teachers housed their professional development tracking documents in a Google Drive folder. Reminders were sent to participants each week to update the tracking documents. Because this was completed using a Google Document, I was able to see how often the tracking document was updated. The document was shared over a secure server to protect confidentiality. The document was only shared with the participant and me until the conclusion. The document's editing rights will be locked if a third party needs to review.

Teacher Survey. I sent out the survey at the conclusion of the professional learning experience. Teachers completed the survey using Google Forms. Participants had 1 week to

complete the survey as it was meant to assess their reactions to the professional learning experience. Reminders were sent out 2 days and 1 day before the close of the survey.

Focus Group. The focus group was conducted via Google Meet and lasted about an hour. The focus group was recorded. Access to this recording was only available to the participants and me.

Data Analysis

This study used quantitative and qualitative data and methods of analysis. Each data source was analyzed separately followed by a second level of analysis to compare and contrast the results.

Qualitative Analysis. The first step in the data collection and analysis process was to transcribe the information not collected electronically, particularly the data recorded and collected during the focus group. Once the Google Meet transcript has been coded, an overview of the themes was sent to participants. If there were questions concerning the identified themes based on the frequency of responses, transcripts could be sent for member checking, but no issues occurred. No teachers reported any issues with the identified themes.

The tracking document and focus group responses were analyzed through thematic coding. Because I am the facilitator of this study and knowingly admit I believe using social media for professional learning could be worthwhile for leaders to explore, I employed an inductive approach to thematic coding in an attempt to provide an additional support against bias. The first step in this process was to become familiar with the data. I reviewed the transcript provided by Google Meet to ensure it adequately aligned with the recording. Next, I reviewed the data and developed codes. I reviewed the data again and attempted to combine codes to develop and define themes.

I used a thematic coding tracking document, which asked me to identify the theme; provide direct quotes or examples as evidence of the theme; identify the number of people who expressed evidence related to the theme; signify the number of times the theme is referenced; and note my reactions to the theme. This type of coding assisted me in analyzing the data. To avoid researcher bias, I also used a reflexive journal.

Quantitative Analysis. The survey was analyzed using descriptive statistics. This information was used to determine if using social media for professional learning met the participants’ needs as outlined in Level 1 of Guskey’s (2000) *Five Levels of Professional Development Evaluation Framework*.

Table 2 represents the research questions, the sources employed to collect data in answer to each question, and the method of analysis.

Table 2

Action Research Questions, Data Sources and Methods of Analysis

Question	Data sources	Data analysis
1	Tracking document, focus group questions, and survey	Thematic coding, descriptive statistics
2	Tracking document and focus group questions	Thematic coding
3	Tracking document, focus group questions, and survey	Thematic coding, descriptive statistics

Note. This table provides information about how each research question was measured.

Delimitations, Limitations, and Assumptions

Delimitations

Because the action research study is only focused on one school, the results may not be applicable to other schools because of contextual factors. This is a delimitation of action research

itself. While action research, particularly when rooted in the pragmatic approach, includes the identification of contextual factors that may impact the study, it is these contextual factors that may prohibit the replication of the study. A well-designed study may influence future scholarly work. An additional delimitation of the study may be the timeline of the study itself. In addition to the study only being focused on one school, the sample size itself could be considered a delimitation.

Another possible delimitation is the selection of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. There are other viable frameworks available and using only this framework may have limited the study's findings. As a proponent of using social media for professional learning, I contend that this may have also affected my study. Finally, I have also selected to invite participants from a building that I previously worked in.

Limitations

Limitations reflect factors that may affect a study outside of the researcher's control or limit the usefulness of the findings. The action research study may be limited by the time constraints placed on teachers. Teachers in this context have additional responsibilities, both professional and personal, that may have influenced their interest and/or ability to participate. These factors may have limited the time they could commit to personalized learning.

Further limitations concern the sample size of the study. Out of a staff of nearly 80 teachers, only 10 volunteered. Because of the voluntary nature of the study and the limited number of participants, the data is isolated to one small group of teachers from the school. Additionally, because the data collection tools involved self-reporting, the data may not always reflect true experiences.

The study's use of qualitative data could be considered a limitation. For example, a limitation of conducting a semi-structured focus group could be a failure to ensure everyone is heard equally or the difficulties associated with managing focused discussion when multiple people are involved (Queirós et al., 2017). There are also limitations associated with the use of a tracking document. Its accuracy is dependent on the participant's honesty and can be influenced by his or her bias (Queirós et al., 2017). Although quantitative data collection tools are generally seen as more reliable, these can also present limitations. Surveys may fail to capture the context associated with the event being assessed (Queirós et al., 2017). Because of these limitations, multiple data collection tools were designed, and a mixed methods approach was used in this study.

Finally, because there is not a vast body of academic research concerning the use of social media as a medium for professional learning, the supports designed to mitigate the limitations of its use may not be appropriate. The results of the study may be useful to those in similar contexts but will not be generalizable but may be transferable to similar educational contexts.

Assumptions

Assumptions are factors that contribute to the study but are generally out of the researcher's control (Simon, 2011). The exclusion of these contributing factors may limit the ability for the researcher to conduct the study (Simon, 2011). Influenced by what research has said about professional learning, my experience working the past 5 years as an instructional leader often responsible for designing and implementing professional learning experiences, and as a moderator of a weekly Twitter chat for teachers, I assumed traditional professional development does not always meet the needs of teachers and new media should be explored. I

assumed that teachers would find the use of social media as a viable option for personalized professional learning. Another assumption was the belief teachers would be allowed time to explore personalized professional learning during a time that has seen education become more standardized because of COVID-19. Lastly, I assumed participants would complete the study and report on their experiences truthfully.

Ethical Considerations

To protect the participants in this action research study, participation was voluntary, and they could withdraw at any time without penalty or retribution. Participants were given pseudonyms when reporting findings. Before conducting the action research study, I met with District leadership in charge of professional development and non-participating school administrators to review the plans for the study, soliciting their assurance participants would be protected and the study met their approval. Furthermore, having first completed the appropriate Collaborative Institutional Training Initiative, I next submitted this study to the Protocol and Compliance Management System for committee approval.

In addition to serving as a consultant, I also included other strategies for mitigating bias during this study. A local professional development coordinator reviewed the focus group questions and survey to assess effectiveness in assessing the value of the professional learning experience. I also took part in reflexive journaling and analytic memoing during analysis of the tracking document, focus group responses, and survey data. Within research, it is important to acknowledge the “subjective influences” the researcher may impose on the analysis of the study’s findings (Birks et al., 2008). Because I am heavily involved in the use of social media for professional learning, I used both memoing and member checking during the analysis process.

Prior to starting the action research study, I communicated through writing and orally the scope of the study, the stakeholders involved, and how the findings would be reported. All data will be discarded at the conclusion of the dissertation process according to William & Mary guidelines.

CHAPTER 4

FINDINGS

This action research study focused on teachers' perceptions of using social media for professional learning. In a 2019 survey conducted by the Virginia Department of Education (VDOE), teachers at Roth High School (RHS) reported dissatisfaction with traditional professional learning opportunities. The study sought to better understand teachers' perceptions of using social media for professional learning to assess whether school leaders could leverage it to better align professional learning with the personalized needs of teachers.

In discussions with teachers during Cycle 1 of the study, teachers implied a need for both a way to track professional learning while using social media and a need for social media guidelines to inform teachers' behaviors while using the medium. These were the two most pressing issues teachers identified as barriers to using the medium for professional learning. Participating teachers and I worked to create a professional learning tracking document and came to a consensus on social media guidelines for teachers at RHS.

Cycle 2 of this study sought to analyze the effectiveness of these interventions while also further exploring teachers' perceptions of using the medium to fulfill professional learning needs. Participating teachers identified a professional learning goal and explored the medium for a 6-week period. During this 6-week period, teachers used the professional learning tracking document and social media guidelines. After the 6-week period, teachers completed a survey and took part in a focus group.

Data were analyzed and triangulated to answer the following research questions:

1. After participating in social media-based professional learning experiences, what are teachers' reactions to the experience, including level of enjoyment, usability of the medium, usefulness of information, use of the participant's time, and experiences related to their personalized learning needs?
2. After participating in social media-based professional learning experiences, what new knowledge and skills do participating teachers identify they have acquired?
 - a. What do teachers describe as the critical attribute(s) of the professional learning content?
 - b. How do teachers select which professional learning experiences to engage with while using a social media medium?
 - c. In what ways has the social media-based professional learning contributed to changes in their instructional practice?
3. After participating in social media-based professional learning experiences, what do teachers believe are the benefits and limitations of using social media for professional learning?
 - a. What additional supports are needed to assist participants in using social media to meet personalized professional learning goals?

The research questions are informed by Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. This framework suggests in order for professional learning to lead to a change in teachers' practices and an increase in student achievement, the teachers' initial needs must first be met by the professional learning experience. Because of this, both the research questions and data collection tools are primarily focused on Level 1 and Level 2 of the framework, which attempts to assess participants' reactions and participants' learning. Because

of the nature of action research, the data collection tools also included questions to ascertain if organizational supports, Level 3, may also be needed for future iterations of the intervention if the data supports them. In an attempt to analyze social media as an avenue to provide professional learning, it is essential to understand I was focused on teachers' perceptions. I did not attempt to determine the quality of learning teachers engaged with, the credibility of their self-reporting regarding learning, or the effectiveness of their implementation of learning.

Data analysis consisted of both quantitative methods and qualitative methods in this study. The professional learning tracking document, which attempted to answer all three research questions, has undergone both a quantitative analysis using descriptive statistics and a qualitative analysis using coding. Descriptive analysis was used to identify the mean (average) number of social media sessions teachers participated in during the 6-week period and the mean (average) of times strategies from the professional learning experiences were implemented into practice. Coding was used to identify themes that emerged from the tracking document as teachers were asked to note their professional learning goal; the professional learning topics explored; notes and reflections; and ideas they wished to implement.

The focus group also provided data on all three research questions. Like the tracking document, coding was used to complete qualitative analysis. For both the tracking document and the focus group, I used a thematic coding tracking document. Both the tracking document and focus group responses went through two rounds of coding. During the initial coding process, I reviewed each data source and identified emerging themes. For each identified theme, I collected direct quotes or examples as evidence of the theme. I also identified the number of participants who expressed sentiments related to the identified themes. I shared my thematic coding tracking documents with a professional knowledgeable with both action research and professional

learning to gather feedback on the accuracy of my themes. I then completed the coding process a second time to ensure, to the best of my ability, that themes were adequately identified. Finally, I shared my thematic tracking document with participants for member checking.

The survey was used to collect information to inform Questions 1, 2, and 3. Data analysis was focused on exploring descriptive statistics to better understand teachers' perceptions of using the medium for professional learning needs and the effectiveness of the interventions designed in Cycle 1 of the action research study.

Action Research Question 1

After participating in social media-based professional learning experiences, what are teachers' reactions to the experience, including level of enjoyment, usability of the medium, usefulness of information, use of the participant's time, and experiences related to their personalized learning needs?

The purpose of this research question was to ascertain participants' initial reactions to using social media for professional learning. The responses were overall positive in nature. All three data sources imply the majority of participants believe using social media for professional learning was a good use of their time. In fact, this sentiment was expressed with greater frequency than any other sentiment. Participants also agreed professional learning through the use of social media was enjoyable and aligned with their preferred style of professional learning experiences. Participants reported the medium often met their professional learning needs better than traditional professional learning options.

While initial reactions were favorable overall, participants did express they often felt overwhelmed by the amount of information available at their fingertips, expressed concerns regarding the amount of negativity expressed online by educators and about educators, and found

it was sometimes difficult to connect with knowledgeable educators because of the limits of the medium's affordances.

Professional Learning Tracking Document

The professional learning tracking document was analyzed to inform Questions 1–3 of this study. It is important to note only five of the seven teachers completed the professional learning tracking document. Weekly reminders via emails were sent to all participants about completing the document.

For action research question one, I coded the notes/reflections section of the document as question one of this study is aligned with Level 1 (participants' reactions) of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. During the coding process, statements were first organized by likeness. Sometimes this meant the statements were grouped by similar sentiments expressed or similar topics discussed. For this question, sentiments were also looked at according to sample topics associated with Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*. For example, these could be groupings based on reactions to use of time, access to learning, or enjoyment of the experience. Then, I reviewed the groups to determine if themes could be identified. The coding process revealed the following themes: professional learning sessions meeting personalized learning needs; scrolling for inspiration; and frustrations with collaboration attempts.

Professional Learning Sessions Meeting Personalized Learning Needs. Four of the five participants who completed the professional learning tracking document expressed feeling like the medium provided professional learning sessions that met their personalized professional learning needs. This aligns with Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* that suggests in order for a professional learning experience to be

considered a success, it must first be received favorably by the participants. It must meet the participant's most basic needs, including feeling like the learning honors the needs of the participant. This seems like an essential component of effective professional learning according to the participants as they were very targeted in searching out very specific professional learning sessions that matched their desired outcomes.

- “Want to do a project about color. Looking for projects about color theory.”
- “I looked on a couple Instagrams for thoughts on how to attempt to create a center for different job ideas.”
- “I found an idea for how to have multiple student discussions at once.”

Scrolling for Inspiration. Three of the five teachers who completed the professional learning tracking document spent at least two of their professional learning sessions scrolling for inspiration. Whether they felt stuck or were searching for ways to improve their instructional practices, these teachers used social media to solicit new ideas. While not always related to their established professional learning goal, the participants still felt like using the medium met other professional learning needs right there in the moment. Using social media for professional learning was enjoyable because it allowed them an opportunity to simply explore. They appeared to enjoy the freedom of a topic-less professional learning session where the main objective was to be inspired. While this may not satisfy leadership's professional learning expectations, professional learning facilitators could explore how to benefit from this affordance to positively affect teachers' professional learning experiences.

- “I wasn't looking for anything but stumbled upon an activity.”
- “Was initially just scrolling but found a cool idea to make something and ‘camouflage’ it in the classroom and have an outsider try and find them!”

- “Scrolling and they made a great point that actually changed my perception of activities and exercises.”

Focus Group

Seven questions were asked during the focus group to collect information regarding Research Question 1. During the coding process, the following codes were identified: familiarity with the medium; alignment with content specific needs; information overload; and not here for the negativity.

Familiarity With the Medium. During the focus group, teachers were asked about what they enjoyed about using social media for professional learning. They were asked specifically about the usability of the medium and whether this contributed to their like or dislike of the medium for professional learning. Of the five participants who expounded on what they liked about the medium, three specifically discussed its usability as a benefit. An initial coding of the statements revealed a sense of ease in using the medium. It was not an additional thing to learn. Teachers were “already doing it.” They were already using social media in their daily lives and to shift their use of social media to explore professional learning needs was unchallenging. Familiarity with the medium was a theme that emerged as a contributing factor to whether a participant enjoyed using social media for professional learning.

- “I really liked that we were able to use social media platforms that we were already familiar with, so you could kind of already know where to go and didn't have to learn something new before we could use it.”
- “I feel the same way, like I'm already doing it, so it was kind of nice.”

These sentiments align with Guskey’s (2000) *Five Levels of Professional Development Evaluation Framework*, which indicates participants’ initial reactions are often influenced by the

ease of access to the professional learning experience. Those unfamiliar with using social media may feel like it is a barrier.

Alignment to Content Specific Needs. Another area explored related to Level 1 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* was how well the learning experiences connected to the professional learning needs of the participants. Like usability, participants had the opportunity to speak specifically about whether it was a benefit or barrier of using the medium. An initial coding of the statements revealed a theme of individual needs. A second coding of the statements revealed these needs were often content-related, and teachers felt social media had the potential to align professional learning with their content specific needs. During the focus group, nine statements were expressed about the ability of professional learning using social media to meet the personalized professional learning needs of the participants. Of those statements, 44% of them directly referenced the medium's potential to meet specific content needs. These were endorsed by the participants' who taught contents other than those directly related to math, English, science, and history. For those teachers who felt traditional professional learning was often geared towards those common content areas, social media was a way to seek specific knowledge for their very specific challenges.

- “And everything is super specific to what you want. You can look specifically for MD [multiple disabilities] activities or ways to relate to parents who are caretakers. Like you know it's super specific, which is super appreciative.”
- “There's only one of me in the district, so it's kind of hard for me to have my actual [professional development] and make it meaningful. This way I can connect with other people who do what I do all over and get ideas.”

- “I was kind of in the same boat. There's not a whole lot of cyber security in this area, so being able to expand out beyond just the immediate location, as well as a kind of network with a bunch of individuals that I may not have always considered on the same category levels.”

Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* suggests in order for professional learning to affect teachers' instructional practices, the professional learning must first meet the participants' learning needs. In this case, the participants overwhelmingly expressed a belief the medium had this potential. Specifically, those teachers who taught content areas not typically addressed in county-wide or school-wide professional learning sessions felt the medium provided them access to information aligned with their needs, unlike traditional professional learning offerings.

Information Overload. While participants were happy with the medium's usability and its ability to connect professional learning with personalized learning needs, they did express concern with information overload. These statements were expressed when specifically asked whether the medium was a beneficial use of their time and, again, when asked about how using social media for professional learning compared to other professional learning opportunities. A first round of coding revealed there were several statements about the amount of information available when choosing to use social media for professional learning. Once I pulled these statements together from the two questions, I coded again to discover participants often felt overwhelmed by the amount of information provided. Sentiments were shared concerning how easy it was for participants to “fall down the rabbit hole.” Some expressed feeling overwhelmed by the numerous ideas or strategies they learned about. In some cases, this led to delayed implementation of the ideas or strategies in their classroom.

- “You start looking for one thing, and then you kind of veer off and start seeing all these other cool things. You kind of lose track of the time sometimes...but, overall, to me, it was more beneficial than negative.”
- “Digging through the trash to find the treasure...it is time consuming, but the benefit is you can tailor what you're doing your [professional development] for to specifically what it is unique about your class.”
- “I would come up with so much stuff that I would literally start getting dizzy.”
- “When you're looking for something specific and you keep getting all these good ideas, it's like these are all really cool, but it just makes it, you know, just hard to [home] in on one thing. It would almost make it more difficult for me to make up my mind on what I wanted to pursue, because there were just so many options.”

If stakeholders were looking to leverage social media for professional learning, these statements may indicate a need for additional interventions to mitigate this concern or search out ways to balance the desire for personalized learning and exploration with structures that support targeted learning.

Not Here for the Negative. Another potential barrier revealed through the focus group that correlates with Level 1 of Guskey’s (2000) *Five Levels of Professional Development Evaluation Framework* is the potential negativity found on the medium. When asked about barriers to using social media for professional learning, participants expressed a concern with the negativity expressed by educators and about educators or education on the medium. They felt that while working in education has always been tough, it has been extremely difficult since the pandemic. Navigating around these negative expressions while searching out knowledge was sometimes difficult and affected their initial reactions to the learning experience.

- “It’s the negativity...sometimes you get burnt out teachers...then you start to feel like ‘Hey, I think I feel like that too.’”
- “Or you know just the negativity...sometimes that comes along with social media.”

Although Cycle 1 of this study implied a need for social media guidelines to provide clarity on how teachers should conduct themselves while using the medium, the guidelines are unable to inform the behaviors of others. The guidelines could be expanded to provide information on how to deal with the negativity of others.

Survey

Questions 1–5 of the survey were used to assess teachers’ perceptions of using social media for professional learning with a particular focus on participants’ initial reactions to using the medium. This aligns with Level 1 of Guskey’s (2000) *Five Levels of Professional Development Evaluation Framework*. According to the framework, participants’ initial reactions must be favorable in order for the professional learning experience to affect teachers’ instructional practices and student achievement. The survey used a 4-point linear scale. Teachers were asked to rate each statement using the 4-point scale with 1 representing *strongly disagree* and 4 representing *strongly agree*. All seven participants completed the survey. Table 3 shows responses to the survey.

Table 3*Survey Responses Related to Research Question 1*

Question	Strongly Disagree ← → Strongly Agree				M
	1	2	3	4	
The experience of using social media for professional learning was enjoyable.	0	1	2	4	3.43
The knowledge gained from the experience of using social media will be useful and will inform instructional practices related to the professional goal selected at the start of this professional learning experience.	0	0	4	3	3.43
The experience of using social media for professional learning offered opportunities to collaborate with knowledgeable educators.	0	1	5	1	3.00
Social media met the participant's preferred style for learning, duration of learning, and ease of access to learning.	0	0	3	4	3.57
The use of social media for professional learning was time well spent.	0	0	2	5	3.71
The information shared during the experience of using social media was easy to understand.	0	1	2	4	3.43

Note. This table represents responses to survey questions aligned with Research Question 1, providing the number of responses for each descriptor by question and the mean score.

According to the survey, teachers felt using social media for professional learning was a good use of their time. Additionally, the medium met their preferred style of learning, and they liked having control of how they learned, when they learned, and what they learned. Scoring low in comparison to the other questions, participants did express some concerns about the ability to connect with other knowledgeable educators while using social media. This echoes some of the sentiments shared during the focus group and on the professional learning tracking document. Teachers also felt what they learned would be useful and could be used to inform their instructional practices. They indicated alignment between what they learned during their 6-week

exploration of social media for professional learning and their identified professional learning goal.

Summary

While participants felt using the medium for professional learning was a good use of their time, especially compared to other traditional professional learning options, and felt the medium offered learning opportunities that gave them a greater sense of control of their learning experiences, both the survey and professional learning tracking document reflect the need for additional support in assisting educators with how to connect with other knowledgeable educators. Participants expressed numerous times that while they enjoyed having access to so many resources and educators through using social media, it was often difficult to determine the validity of the content shared and assurance they were connecting with credible experts.

Additionally, they liked the medium's ability to connect them with content specific knowledge, but sometimes felt overwhelmed by the amount of information available to them. They also found it difficult navigating through negativity. Even with these barriers, the participants' initial reactions to using the medium for professional learning were positive. The identified barriers did not limit their desire to use the medium but may reveal the need for additional supports to assist teachers from moving from learning to implementation. According to Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*, because the participants' initial reactions to the professional learning were positive, it would now be beneficial to assess Level 2 of the professional learning experience: participants' learning.

Action Research Question 2

After participating in social media-based professional learning experiences, what new knowledge and skills do participating teachers identify they have acquired?

- a. What do teachers describe as the critical attribute(s) of the professional learning content?
- b. How do teachers select which professional learning experiences to engage with while using a social media medium?
- c. In what ways has the social media-based professional learning contributed to changes in their instructional practice?

This question aligns with Level 2 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*, which focuses on participants' learning. Data collected through the professional learning tracking document and the focus group were used to explore this question.

Professional Learning Tracking Document

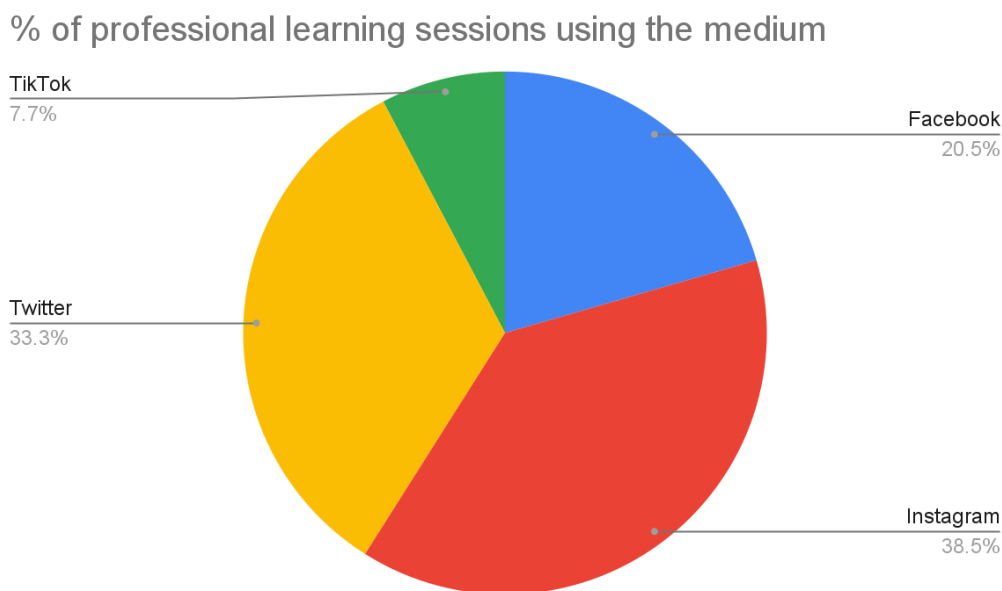
Data analysis was completed on the activities/PD platform section of the document and the PD topic section of the document to better understand how teachers selected their professional learning experiences using social media. Additionally, the implementation section of the document was reviewed to provide information on whether teachers intended to implement what they learned. As Level 2 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* explores participants' learning, these sections of the document provided information on how teachers selected to engage with professional learning using the medium, what medium they used, what they wanted to learn, and how often learning led to a change in practice.

Social Media Medium. As the purpose of this study was to gather information concerning teachers' perceptions of using social media for professional learning, teachers were allowed to freely explore the medium to meet their personalized learning needs during the 6-

week period. Teachers noted using Facebook, Twitter, Instagram, and TikTok during the study. The highest number of professional learning sessions occurred using Instagram with 38.5%. This was followed closely by Twitter with 33.3% of the sessions. The top two media are rather different in the type of professional learning experiences they present. The affordances of Instagram and TikTok allow users to post images or videos highlighting instructional strategies or activities, but the affordances limit the ability for users to connect with colleagues outside of leaving comments or direct messages. Twitter, on the other hand, provides opportunities for participants to engage in live chats. A deeper look into the content explored by these five teachers may provide insight into why certain media were selected. Figure 2 represents the percent of sessions engaged in by medium.

Figure 2

Professional Learning Sessions by Medium

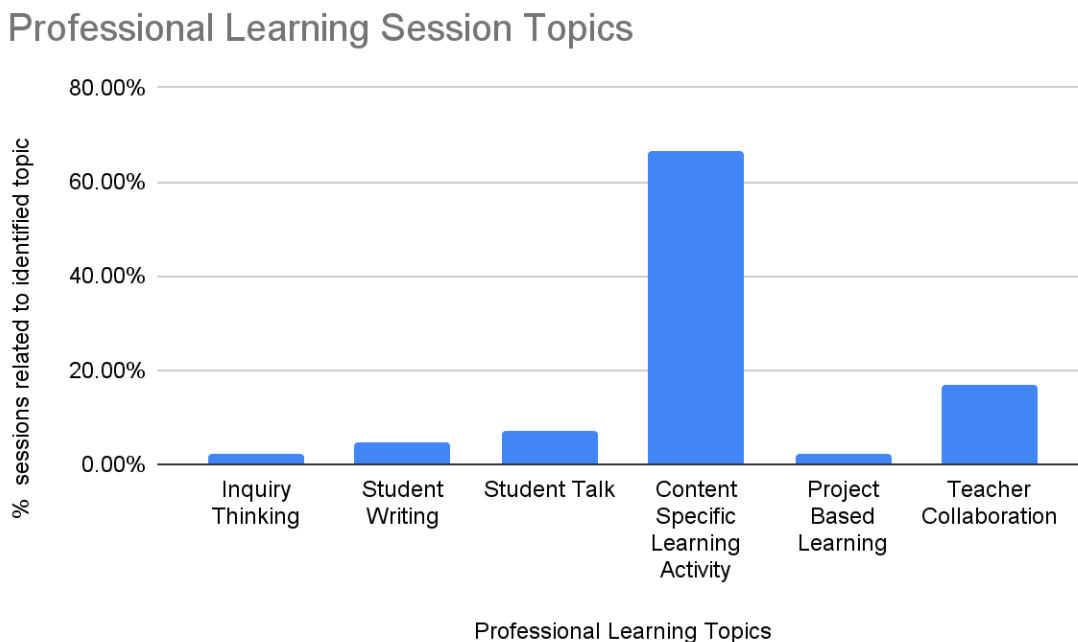


Note. Pie chart describing number of sessions using each social media channel.

Professional Learning Session Content. As noted previously, many teachers turned to scrolling through social media platforms for inspiration during the 6-week study. While these interactions were not always tied directly to their identified professional learning goals, many of the teachers found scrolling beneficial to their practice, and it may be helpful for school leaders to leverage these media for idea sessions or inspiration sessions in their buildings. This might be the reason many of the professional learning sessions occurred using Instagram, which offers quick images and videos, and instant idea and strategy sharing. Information about teachers’ professional learning topics in Figure 3 suggest teachers seemed driven to seek out learning experiences that meet their personalized professional needs.

Figure 3

Percent of Professional Learning Sessions by Topic



Note. Figure representing the percentage of professional learning sessions aligned with each identified learning topic.

Although the professional learning tracking documents represented a variety of topics that could benefit any classroom, 66.70% of all sessions were focused on content-specific strategies or problems of practice. The participants in this study teach history, special education, art, English, programming, and science. This data supports what was also expressed in the focus group—teachers desire professional learning that meets their specialized and specific needs.

In addition to this desire for personalized professional learning, the data also supports a desire for teachers to be able to connect with educators that may also be struggling with their specific needs. These needs may not always be addressed in traditional professional learning sessions. 16.70% of the professional learning sessions were focused on attempting to connect with other educators. While other data implies this was not always successful, school leaders should note this is an identified need of teachers.

Professional Learning Implementation. Analyzing the implementation section of the professional learning tracking document provided necessary information to track how often teachers took part in professional learning sessions using social media and how often they planned to implement something they learned during their social media based professional learning sessions. Using information provided by the five teachers who completed the tracking document, on average, teachers participated in 10.80 professional learning experiences using social media in a 6-week period. On average, teachers implemented something they learned from these sessions 48.15% of the time. Research indicates teachers implement 10% of learning from professional development when not provided follow-up coaching or support from leadership (Germuth, 2018). While teachers in this study reported a greater percentage of implementation, there is still room for improvement.

Additional research might be needed to ascertain what barriers prevented a greater percentage of instructional practices from these learning sessions to be implemented. As noted in the focus group responses and the coding of the reflection section of the professional learning tracking document, teachers expressed feeling overwhelmed by the amount of information available while using social media for professional learning and expressed a desire for assistance fostering more effective collaboration with experts and knowledgeable peers while using the medium. These identified barriers may be the cause of the implementation rate and may warrant additional support by those wishing to leverage social media for professional learning. Table 4 identifies the number of professional learning sessions teachers participated in and highlights implementation.

Table 4

Analyzing Implementation Section of Professional Learning Tracking Document

Teacher	No. of Experiences	Times Implemented in Classroom	Implementation Rate (%)
A	15	7	46.67%
B	1	1	100.00%
C	20	5	25.00%
D	13	8	61.54%
E	5	5	100.00%

Note. Table exploring each teacher’s number of professional learning sessions during the study compared to the number of times teachers identified implementing something they learned.

Focus Group

During the focus group, three questions were asked to solicit information regarding Level 2 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*, participants' learning.

Learning From Fellow Teachers. While the professional learning tracking document revealed a need for additional support helping teachers connect with knowledgeable educators while using social media, the focus group emphasized this desire from participants to learn from fellow teachers, not just school leaders.

- “We also always talk about how sometimes people giving [professional development] haven't been in the classroom for a while, especially after covid...if you haven't been in a room since covid, I don't think you know anything about education anymore, so the people that are doing stuff online are typically giving you what's happening currently in their classrooms, and that is relevant to what's happening in our rooms.”
- “Most of the groups I primarily use are on Facebook, and most of the groups that I was with were with teachers who are currently in the classroom. There's just a lot of different skill levels all coming with different ideas and things.”

Although participants did note they did not always find the educators they connected with to be knowledgeable and reported that they sometimes had to wait to hear back from educators while using the medium, there still seems to be a desire to connect and learn from educators currently working in classrooms rather than those removed from it. Participants felt like district leadership and school leadership may be ill-equipped to understand the complexities of teaching in a post-pandemic classroom.

Lesson Ideas vs. Instructional Strategies. When asked about implementation, all of the participants expressed they had implemented something they learned while using social media for professional learning. Most of the participants expressed implementing lesson ideas while a few expressed implementing instructional strategies. Those who expressed implementing lesson ideas indicated these were something they found while scrolling Twitter, Instagram, and Tik Tok. Teachers who tended to implement instructional strategies seemed to participate more in Facebook groups or Twitter chats.

- “I’ll take something I found randomly and try it!...sometimes like right before a lesson that I’ve taught a million times.”
- “I get ideas all the time. And I just get bored pretty easily, so I like changing it up and adding new things in class. Today, we tried a new quiz that I learned about called a Sesame Street quiz.”
- “It definitely changed the way I look at how to flow ideas and concepts...specifically using the Socratic method. Being a history teacher, we try to push a lot of cause and effect, so they can make those relationship connections.”

Because participants’ initial reactions were positive, Level 1 of Guskey’s (2000) *Five Levels of Professional Development Evaluation Framework*, teachers were open to learning new information. All teachers confirmed implementing something they learned using social media for professional learning. They enjoyed learning from fellow educators currently working in the classroom. Teachers who tended to scroll seemed to be more open to implementing new lesson ideas, and teachers who tended to participate in Twitter chats or Facebook groups appeared to be more focused on implementing new instructional strategies.

Summary

According to the participants, a benefit of using social media for professional learning is the medium's ability to connect them with fellow teachers. While they wished collaborating, or getting answers to their direct questions, was easier, they still felt the teachers they connected with through social media were better able to address their professional learning needs than district leadership or school leaderships tasked with leading traditional professional learning sessions. Although all teachers implemented something they learned during the 6-week period, not all professional learning sessions led directly to implementation. Sometimes the professional learning sessions were simply scrolling for inspiration. If not scrolling, many of the professional learning lessons were focused on content specific questions or knowledge seeking that many participants felt were neglected by district-wide or school-wide professional learning sessions. Most of the implementation centered on lesson ideas and not instructional strategies.

Action Research Question 3

After participating in social media-based professional learning experiences, what do teachers believe are the benefits and limitations of using social media for professional learning?

- a. What additional supports are needed to assist participants in using social media to meet personalized professional learning goals?

Information was collected through the focus group and survey to explore this question. It is important to note that according to Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*, professional learning must first meet the participants' initial needs (mode of learning, duration of learning, etc.) and personalized learning needs before long-lasting changes in instructional practices can occur, and changes in student achievement cannot occur until the professional learning can change teachers' practices. As the data collected during this

study has been rather positive regarding Levels 1 and 2 of the framework, it may now prove to be beneficial to explore the effectiveness of the interventions put in place during Cycle 1 of the study and identify what data indicates may be additional interventions needed for future iterations.

Survey

Two questions from the survey were used to assess the usefulness of the interventions designed in Cycle 1 of the study: the social media guidelines and the professional learning tracking document. It is important to note that two participants did not use the professional tracking document, but the survey still sought their input on its usefulness. When asked about the usefulness of the professional learning tracking document, the mean for the responses using the 4-point scale was 3.20. Using the same scale, when asked about the usefulness of the social media guidelines, the mean was 3.60. In the focus group, participants expressed a concern regarding the negativity of others online, but they never expressed any concerns on how to professionally engage while using the platform. Concerns were brought up regarding tracking professional learning, though those concerns seemed to be geared towards authenticating learning for school leadership. These concerns may suggest a need to modify the professional learning tracking document and social media guidelines.

Focus Group

The primary benefit participants identified about using social media for professional learning was its ability to provide personalized professional learning. While the survey garnered positive reactions to both the social media guidelines and the professional learning tracking document developed during Cycle 1 of the research study, the focus group revealed a need to reevaluate and modify the professional learning tracking document and the social media

guidelines. Issues concerning validating learning and focusing the exploration of topics while using the medium were consistently brought up as well as issues with dealing with the negativity of others.

Validating Learning and Focusing Exploration. While teachers expressed a need to modify the personalized learning tracking document, they expressed it might be more helpful to create a master tracking document where teachers could identify specific chats, groups, or educators that may be helpful for others to join or follow. Teachers could then indicate if they participated in these specific chats or interacted with specific educators on the document. There seemed to be a belief this would allow administrators or district leadership to authenticate the worth of the learning and to help those educators who felt overwhelmed by the amount of knowledge available to focus their exploration.

- “Building that list for everyone else to go to...we just find something and just add it, and then we’re also keeping track of where we’ve been and what we found in different places, and it might make admin more comfortable.”
- “The spreadsheet will allow admin to vet and trust that we are learning.”
- “That’s something really cool. Maybe somebody within our school is looking for something similar, and then that leads them to something specific and not down the rabbit hole.”

Summary

Participants seemed to feel the social media guidelines were helpful while navigating using social media for professional learning. Still, many noted the negativity of others as a potential barrier while using the medium. Issues concerning distractibility and being overwhelmed by the amount of information being available seemed to be aligned by participants

to a need for a better tracking system. They suggested a school tracking system that outlined vetted resources and track how teachers engaged with them.

CHAPTER 5

RECOMMENDATIONS

The purpose of this action research study was to gain a better understanding of teachers' perceptions of using social media for professional learning. The study was inspired by a 2019 survey conducted by the Virginia Department of Education (VDOE, 2019b). In this survey, teachers at Roth High School (RHS) expressed dissatisfaction with traditional professional learning offerings from their district leadership teams and school leadership teams. The teachers cited issues with misalignment between the content of the professional learning offerings and their personalized professional learning needs; a lack of follow-up support; and an inability to see a change in student achievement connected to the professional learning offerings (VDOE, 2019b). These issues are supported by what research indicates are potential limitations of traditional professional learning offerings. Research implies traditional professional learning often does not meet the needs of teachers; fails due to a lack of follow-up coaching and collaboration; and does not necessarily result in gains in student achievement (Bayar, 2014; Richardson, 2003).

As a result of the VDOE survey, I initiated Cycle 1 of this action research study to determine what barriers prevented teachers from using social media for professional learning. I was an avid user of the medium for my own professional learning, often turning to Twitter to search out knowledge related to my job as the school's instructional coach. I also moderated a weekly Twitter chat focused on common educational issues.

During Cycle 1 of this study, teachers were also struggling with teaching during the pandemic, which drastically changed education and presented teachers with complex issues traditional professional learning was unable to address. Teachers around the country were turning to social media to seek answers to “in the moment” problems of practice; connect with other educators for moral support and encouragement; and to better understand teaching and student learning using online platforms (Berry, 2020; Mohammed et al., 2020; Rasmitadila et al., 2020). While many educators, including me, were using social media for professional learning before the pandemic, more educators were exploring its benefits as a result of the issues caused by the pandemic (Kraft et al., 2021). Between the results of the 2019 VDOE survey and the struggles of the teachers I coached during the pandemic, it felt like the necessary time to enact this action research study.

Before encouraging teachers to explore the medium, the participating teachers identified issues with validating learning and establishing and maintaining professional identities as barriers to using social media for professional learning. Based on these identified barriers, I collaborated with teachers to create a professional learning tracking document and social media guidelines to support teachers with how to engage in social media while representing their school and district. Cycle 2 of the study allowed teachers to explore the medium for professional learning to better gauge their perceptions of the medium and to better understand the effectiveness of the interventions put in place during Cycle 1 to support its use.

The three research questions developed for this study were informed by Guskey’s (2000) *Five Levels of Professional Development Evaluation Framework*. This framework seeks to provide a leveled approach to evaluating professional learning experiences. Guskey (2000)

contends that in order for professional learning to affect a change in teachers' practices and student achievement, the professional learning must first meet the basic needs of the participant.

Research Question 1 explored the teachers' initial reactions to using social media for professional learning. The research question explored participants' thoughts concerning the usability of the medium, whether they enjoyed using the medium, whether the medium provided professional learning that met their personalized learning needs, and whether professional learning using social media was a good use of their time. Because I examined teachers' perceptions concerning using the medium for professional learning, data collection was focused on self-reporting. According to Guskey (2000), if the participants' initial reactions to the professional learning were favorable, the next step to evaluating professional learning was to explore the participants' learning. Research Question 2 sought to explore what participants learned during their 6-week exploration of the medium for professional learning and how they selected those learning experiences. Again, data collection was concerned with what teachers reported learning rather than authentication of the learning by leadership. Finally, because this was an action research study and this is Cycle 2 of the study, Research Question 3 explored the effectiveness of the supports created during Cycle 1. These supports include the creation of the professional learning tracking document and social media guidelines. The research questions also informed potential next steps for supporting this kind of learning.

Major findings for each research question will be discussed in order to expand on the study's potential suggestions for changes aligned to policy and practice. Based on the major findings from Cycle 2 of this study, recommendations will be made to enact the next iteration of this action research study. As the purpose of this study was to ascertain teachers' perceptions of using social media for professional learning, this study does not account for the authenticity of

these learning experiences, the effectiveness of the implementation of learning from these experiences, or the creditability of the self-reporting of learning. Findings below represent data aligned with Levels 1-3 of Guskey's (2000) framework with some inferences made about Levels 4 and 5. Because teachers reported positive experiences with using social media for professional learning, recommendations will be made to assist with authenticating learning and assisting with the effective implementation of learning from these experiences.

Discussion of Major Findings

Action Research Question 1

After participating in social media-based professional learning experiences, what are teachers' reactions to the experience, including level of enjoyment, usability of the medium, usefulness of information, use of the participant's time, and experiences related to their personalized learning needs?

This research questions aligns with Level 1 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*, which seeks to ascertain if the professional learning experience met the participants' basic needs. Questions related to Level 1 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* often include attempts to determine participants' initial reactions to the professional learning experience. Overall, teachers' initial reactions to using social media for professional learning were positive. When reviewing the professional learning tracking document, survey, and responses to focus group questions, several themes emerged about participants' general feelings towards using the medium for professional learning related to Level 1 of the framework. These themes were identified as: professional learning sessions meeting personalized learning needs; scrolling for inspiration; familiarity with the medium; and alignment to content specific needs. Throughout

the analysis of these themes and their corresponding data, it became clear participants felt if their personalized professional learning needs were met, and they were generally happy with the learning experience. In fact, because the medium was able to provide learning which met their needs, most of the participants agreed using the medium was enjoyable, the information was useful, and using the medium was a good use of their time. Even when identifying potential issues such as confronting negativity in these online affinity spaces and feeling that it was sometimes difficult to connect with credible collaborators, initial reactions were positive because participants valued the medium's ability to align professional learning experiences with their personalized learning needs over any initial barriers they encountered.

Research supports the idea that effective professional learning is learning that meets the specific needs of its participants (Bayar, 2014; Darling-Hammond & Richardson, 2009; Holmes et al., 2013). Often, traditional professional learning fails to meet the personalized learning needs of participants because it is designed by stakeholders unable to determine what the participants' true learning needs are or follows a one size fits all model (Schaffhauser, 2015; Southern Regional Education Board, n.d.; Visser et al., 2014). One of the benefits researchers have identified for using social media for professional learning is its ability to meet the personalized learning needs of its users (Carpenter, Morrison, et al., 2020).

The affordances of social media enable users to direct their own learning in a way that the structures of traditional professional learning may limit (Orlanda-Ventayen & Ventayen, 2018). Because the affordances of social media allow participants to specifically search out professional learning suited to their needs through the use of hashtags or a follow button, it is designed to allow for personalized learning (Carpenter & Krutka, 2014; Ferriter & Provenzano, 2013; Holmes et al., 2013). Using a hashtag or follow button, participants in this study reported being

able to scroll for inspiration and engage with professional learning related to their specialized content. Participants agreed with research that suggests using social media for professional learning allows learners to engage in personalized and self-driven learning experiences (Visser et al., 2014). Four of the five participants who completed the professional learning tracking document cited this as a particular strength of the medium. Social media enabled them to connect with educators or content that specifically answered problems of practice they were grappling with.

When asked in the survey if using the medium was a good use of the participants' time, the mean was a 3.71 using a 4-point scale. This descriptor had the highest reported mean, which supports the idea that learning which speaks to the participants' needs affects how participants perceive the professional learning experience (Guskey, 2000). Because teachers felt like the learning sessions aligned with their personalized learning needs, teachers in this study reported they felt using the medium for professional learning was a good use of their time.

Additional support for this idea could be found through the analysis of the focus group responses. Of the nine statements expressed concerning the medium's ability to meet the participants' personalized learning needs, 44% of the statements specifically highlighted the medium's ability to connect teachers with knowledge surrounding their specialized content needs. Many of the teachers in this study represent specialized content fields: art, special education, and career and technical education. Traditional professional learning often neglects these specialized fields (Burnaford, 2009), and because participants felt like using social media was able to meet their personalized learning needs, the participants valued the learning experiences.

Another benefit to using social media for professional learning identified by the participants concerned its usability. Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* suggest questions seeking to analyze the effectiveness of professional learning experiences should attempt to determine the accessibility of the information presented as part of Level 1 of the framework, which focuses on participants' initial reactions. For this study, participants were asked about the usability of the medium itself to determine accessibility. Through analysis of the focus group responses, an additional theme was identified that offered further support that participants' initial needs, particularly as it related to usability, were met with familiarity with the medium. Responses during the focus group revealed many teachers were already using social media in their daily lives, so they found the medium easy to use for professional learning. Some of the participants acknowledged using social media during the pandemic for professional learning. Whether they used the medium for personal reasons or professional learning, usability was not a barrier during this study. Research cites educators' familiarity with the medium as one of the benefits to using it for professional learning (Prestridge, 2019).

In fact, because educators use social media in their daily lives, there has been an increase in its use for professional learning over the past decade (Prestridge, 2019). The affordances of social media actually remove some of the barriers that prevent participants from accessing knowledge or support during traditional professional learning experiences. Using specific hashtags, teachers can self-generate their own learning experiences to align with their personalized needs and collaborate with other educators to combat feelings of isolation that may arise once the expert delivering the traditional professional learning session leaves (Prestridge, 2019). Whether through engaging with hashtags, newsfeeds, following an educator

knowledgeable about the specific content being explored, liking and retweeting posts, and the subsequent engagement opportunities presented based on algorithms, the technological advances of social media enable users to align their professional learning sessions with their professional learning needs with ease (Greenhow & Lewin, 2016).

Because participants already had experience using the medium, whether for personal reasons or to address professional learning needs during the pandemic and after, participants found the medium to be user friendly, and this contributed to their overall enjoyment of the professional learning experience. This is supported by the study's survey. When asked about the medium's capability to provide easy access to learning, participants gave the descriptor the second highest rating. The mean average was 3.57 on a 4-point scale. Participants did not identify additional barriers to mitigate regarding usability of the medium because the majority of them felt familiar with how to use it.

While participating teachers' initial reactions to using social media for professional learning were overwhelmingly positive, teachers did identify some additional barriers not considered during Cycle 1's design of interventions. During the analysis of the tracking document, it became clear some teachers were: frustrated with collaboration attempts. While teachers agreed with research that indicated professional learning through social media may be better able to connect them with experts beyond the initial professional learning experience to provide feedback and follow-up coaching compared to traditional professional learning offerings (Oddone et al., 2019), they still sometimes faced difficulties connecting with credible experts to collaborate with. In fact, several statements from the tracking document indicated a desire to collaborate with other educators to specifically discuss implementation of the ideas that were shared.

In a recent study of how 60 educational hashtags were used over a 6-month time period, the primary purpose for using the hashtag was to share instructional ideas (Greenhalgh, 2021). Participants in this study identified the medium's ability to allow them to scroll for inspiration as one of its primary benefits, not its ability to connect them with experts to discuss implementation. In fact, the survey's descriptor which assessed the medium's ability to connect with participants garnered a 3.0, the lowest scoring indicator. Despite this, teachers still reacted favorably to using the medium for professional learning.

Another barrier identified through analyzing teachers' initial reactions concerns encountering negativity while using social media for professional learning. During the focus group, teachers expressed feeling impacted through their interactions with other teachers using the medium to vent about the profession or expound on feelings of teacher burnout. While research suggests many educators turned to social media for emotional support during the pandemic (Alwafi, 2021), today's political landscape may have affected the medium's ability to provide these opportunities as there has seemed to have been a shift on how the profession is viewed as seen by social media from teachers and those outside of the profession (Nerlino, 2023).

During Cycle 1 of this study, teachers identified fears surrounding their own behaviors online. As a result, we created social media guidelines. These guidelines may need to be expanded to include suggestions on how to navigate interactions with others. Despite this barrier and some frustrations with collaboration attempts, analysis of the professional learning tracking document, the responses from the focus group, and the survey results reveal teachers reacted favorably to their exploration of using social media for professional learning. The barriers

identified through action Research Question 1 indicate a need for additional supports and not an abandonment of the medium.

Action Research Question 2

After participating in social media-based professional learning experiences, what new knowledge and skills do participating teachers identify they have acquired?

What do teachers describe as the critical attribute(s) of the professional learning content?

How do teachers select which professional learning experiences to engage with while using a social media medium?

In what ways has the social media-based professional learning contributed to changes in their instructional practice?

Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* suggests if participants' initial reactions to a professional learning experience are favorably, the professional learning experience should then be evaluated using Level 2 of the framework, which focuses on participants' learning. Action Research Question 2 attempts to ascertain what teachers believe are the necessary attributes of effective professional learning; how teachers select professional learning experiences; and how what they learned during professional learning experiences has impacted their instructional practices. Ultimately, the intention of Level 2 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* is to gauge if teachers truly learned something from their professional learning experience and if this experience resulted in a change in a teacher's practice. It is important to note that it does not attempt to determine how effectively teachers implemented what they learned during the professional learning experience, merely if they will attempt implementation. According to Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*, teachers must

first be willing to try implementing a new practice or strategy before we can explore how to support them with implementation.

All three data sources were used to provide information to answer question two of this study. An analysis of the professional learning tracking document and focus group responses revealed that teachers sought out professional learning experiences which aligned to their specific professional learning needs. They also looked for opportunities to collaborate with teachers in the field or experts aligned with their specific contents. This reveals their beliefs that professional learning should be aligned to personalized needs and should provide opportunities for collaboration. Participating teachers also indicated a willingness to implement new ideas they learned while using social media for professional learning.

Research on both traditional professional learning and professional learning using social media indicate teachers feel professional learning should align to their personalized needs and allow for collaboration (Carpenter, Morrison, et al., 2020). While research supports this notion, it also suggests traditional professional learning often fails to do this because it is designed by stakeholders unfamiliar with teachers' needs (Schaffhauser, 2015; Southern Regional Education Board, n.d.; Visser et al., 2014). An analysis of the professional learning tracking document shows that 66.70% of teachers' professional learning sessions using social media were focused on content-specific learning activities. 16.70% of the learning sessions, the second highest reported category, were focused on collaboration. Additionally, comments provided during the focus group suggest teachers may sometimes feel facilitators of traditional professional learning experiences may not be relevant because these presenters have not been in the classroom in a long time.

Teachers participating in this study identified alignment between the content of professional learning sessions and their personalized learning needs as the most important attribute of effective professional learning. Both the study's survey responses and the focus group discussion support this assertion. According to the study's survey responses, teachers felt using social media for professional learning was time well spent. This descriptor scored a 3.71 on a 4-point scale. Research suggest teachers are drawn to using social media for professional learning specifically because it allows them to explore self-directed learning (Carpenter & Krutka, 2014; Visser et al., 2014). In the focus group, participating teachers expressed they valued the medium because it allowed them to seek out learning directly aligned with their needs. As one teacher stated: "and everything is super specific to what you want...it's super specific, which is super appreciative."

Along with the ability to connect professional learning with participants' professional learning needs, opportunities for collaboration were identified by participants as a critical attribute of effective professional learning. While participants did imply there were some barriers with collaborating with other educators while using social media for professional learning during the study, it still compelled them to use the medium. While using the professional learning tracking document, one teacher repeatedly expressed a desire to connect with other middle school science educators. Another teacher worried she would be unable to connect with other educators because she merely viewed, liked, and shared Instagram posts and did not create her own. In studies conducted about using social media for professional learning, researchers found users enjoyed the experiences because it provided opportunities for ongoing collaboration (Goodyear et al., 2019). Although participants seemed to recognize the medium has this potential, they were not always successful in using it to collaborate. Because participants

identified collaboration as a key attribute of effective professional learning and the affordances of social media, including the follow button, the use of hashtags, the reply and comment buttons, and ongoing discussion groups, promote collaboration (Bucher & Helmond, 2016; Kaplan & Haenlein, 2010), additional supports may need to be developed to maximize the medium's potential.

While teachers searched out learning centered on instructional strategies such as inquiry thinking, student writing, student talk, and project-based learning, most participants sought out specific activities for their classes. Teachers spent most of their time on Instagram during the 6-week exploration period. In a 2020 study of 841 educators using Instagram, 87.7% of participants said the main reason they use Instagram was to get ideas and activities from fellow educators (Carpenter et al., 2020). This seems to suggest teachers are interested in professional learning that aligns with "in-the-moment" needs. Researchers who studied teachers' use of social media for professional learning during the pandemic noted an increase of teachers' using the medium to answer "in the moment" questions and seek activities that worked in very specific contexts such as digital learning spaces or hybrid learning spaces (Alwafi, 2021). During the pandemic, many teachers found the medium helpful to solving everyday problems of practice and helpful in inspiring them to try new ideas and lessons; teachers in this study, many of whom first turned to social media for professional learning during the pandemic, still use the medium for inspiration and ideas specifically aligned to their contents.

The second most used medium during this study was Twitter. In a 2016 study of teachers' use of Twitter, 86% of teachers reported using the medium for collaboration while 96% of teachers reported using it for idea and resource sharing (Krutka & Carpenter, 2016). When reviewing the professional learning tracking documents completed during the study, 67.70% of

the sessions were focused on content-specific resources; the second highest reported topic of these professional learning sessions was teacher collaboration, which accounted for 16.70% of the session. Because the affordances of Instagram and Twitter specifically allow for sharing ideas and promote collaboration and teachers gravitated to these two media, this may be further proof that teachers selected professional learning sessions which aligned with their content needs, offer instructional ideas and resources, and allowed for collaboration.

Because Level 2 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* focuses on participants' learning, it is not only important to explore what participants reported learning and why they chose specific learning experiences, but also to explore implementation of learning. Again, Level 2 of Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* does not seek to evaluate the effectiveness of implementation, rather it explores if teachers attempted to implement something they learned during the professional learning experience. On average, participants in this study reported engaging in ten professional learning experiences using social media over the 6-week study. On average, teachers implemented something they learned from the professional learning sessions 48.15% of the time. It may be beneficial for the next iteration of this study to determine barriers to implementation and necessary supports.

Action Research Question 3

After participating in social media-based professional learning experiences, what do teachers believe are the benefits and limitations of using social media for professional learning?

What additional supports are needed to assist participants in using social media to meet personalized professional learning goals?

The majority of this study's findings align with what research suggests are the benefits to having teachers use social media for professional learning. Research indicates that many teachers enjoy using the medium for professional learning because it aligns with their personalized needs (Carpenter & Krutka, 2014; Ferriter & Provenzano, 2013; Holmes et al., 2013) and is easy to use and access (Prestridge, 2019). Because teachers participating in this study felt like the learning was easy to access and aligned with their specific needs, they felt like the professional learning was a good use of their time. Research indicates that many educators feel like traditional professional learning offerings typically don't align with their learning needs (Bayar, 2014; Darling-Hammond & Richardson, 2009; Holmes et al., 2013).

Teachers in this study tend to agree. Focus group responses suggested a disconnect between professional learning facilitators and teachers currently working in the field. One participant commented:

We also always talk about how sometimes people giving PDs [professional developments] haven't been in the classroom for a while, especially after covid...if you haven't been in a room since covid, I don't think you know anything about education anymore.

Participants felt like using social media for professional learning allows them the possibility, with some acknowledged difficulties, to connect with educators currently working in the classroom to discuss current problems of practice or discuss ideas that meet in the moment needs. Even when participants identified collaboration concerns, they still felt like the medium was able to provide them with more relevant professional learning compared to traditional professional learning offerings. If hoping to increase collaboration, an additional support could

be developed by looking at ways to involve the school's instructional coach to assist in fostering these opportunities.

While participating teachers felt like the medium had potential to provide opportunities for collaboration and despite the research that indicates collaboration as one of the positive attributes of the medium (Krutka & Carpenter, 2016), participating teachers expressed some frustration with collaboration attempts. Despite the many benefits identified by teachers on their professional learning tracking document, it is important to note two of the five teachers signaled frustration with attempts to collaborate with other educators while using the medium. These sentiments align with data from both the survey and focus group responses.

- “It has been tough to find a good cohort of science educators.”
- “My only issue with using TikTok is that I don't make videos, I just scroll and comment, so I am not certain if I will be able to build bonds if I do not share videos myself. But, who knows, maybe sharing messages with ideas will work.”
- “I am still struggling to have a middle school science PLN [professional learning networks]. I ended up buying an activity from TpT [Teachers Pay Teachers] because I wasn't certain how to recreate it. Really wishing science teachers shared freely like social studies teachers.”

While research indicated authenticating learning as a barrier to using social media for professional learning (Ferriter & Provenzano, 2013; Hilt, 2015), teachers did not cite this as an issue during Cycle 1. Teachers did report issues regarding the credibility of those they interacted with, the time it took for others to get back to them, and the negativity they witnessed from other educators as barriers during Cycle 2.

As part of Cycle 1 of this action research study, teachers collaborated to create social media guidelines to help govern their behaviors in hopes of maintaining professionalism while using the medium for professional learning. Using the study's survey, teachers gave the guidelines a 3.60 using a 4-point scale, which does suggest improvements could be made. The social media guidelines could be revised to include suggestions for dealing with the negativity of others as research indicates it is an issue affecting many. In a study of 1,548 education-based tweets in the Philippines, 912 were identified as negative (Relucio & Palaoag, 2018). It may benefit this study for additional research to be reviewed regarding negativity in teacher-centered affinity spaces if hoping to expand the social media guidelines in an effective way.

In addition to reporting issues with collaboration, teachers reported feeling overwhelmed by the amount of information they were presented while using the medium. Research indicates this may be a barrier for those hoping to harness social media for professional learning (Carpenter & Harvey, 2019). During the focus group, teachers suggested creating a master list of relevant people to follow, chats to participate in, or groups to join. Again, this may be an opportunity for the school's instructional coach to support this process.

Despite participants' issues with collaboration, negativity, and feeling overwhelmed by the amount of information available, the medium's potential outweighs the barriers. These concerns suggest a need for additional supports/interventions for moving forward with using social media for professional learning.

Implications for Policy and Practice

The primary purpose of this study was to explore teachers' perceptions of using social media for professional learning. In a 2019 VDOE Culture and Climate survey, teachers at RHS reported feeling unhappy with traditional professional learning offerings. Specifically, teachers

identified issues with alignment between the content of the professional learning experience and their personalized needs, a lack of follow-up support, and an inability to see a connection between the professional learning sessions and an increase in student achievement. Research supports the notion that traditional professional learning offerings may not always meet the needs of its participants. Traditional professional learning sometimes fails because it is designed and facilitated by people unfamiliar with the professional learning needs of the participants (Bill & Melinda Gates Foundation, 2014; Ferlazzo, 2018) or because policy dictates what professional learning is offered despite the needs of learners (Borko, 2004; Karam, 2015; Riley, 1993). Traditional professional learning is also often limited by contextual issues related to time and funding which may affect facilitators' ability to provide follow-up support (ASCD, 2013; Gulamhussein, 2013). All of these factors may impact participants' reactions, participants' learning, and the ability of professional learning to affect student achievement (Guskey, 2000).

At the time of the 2019 survey, I was working at RHS as the instructional coach. As someone passionate about professional learning and knowing research suggests effective professional learning can positively affect teacher retention, the implementation of high-yield instructional practices, and student achievement (Desimone et al., 2002; Rodgers & Skelton, 2014), it was necessary to rethink how professional learning was designed and offered in my building. As more teachers, including some in this study, were turning to social media to seek answers to in the moment questions during the pandemic and because of my own experiences as a moderator of a weekly Twitter chat, the use of social media to explore personalized learning needs was suggested.

Despite what I felt were the many benefits of using the medium for my own professional learning, some teachers felt there were barriers to using it. Research identifies several potential

barriers to using social media for professional learning. These barriers concern issues with self-disclosure and the conflict between personal identities and professional identities while using the medium (Bazarova & Choi, 2014; Majchrzak et al., 2013; Visser et al., 2014); difficulties validating professional learning for recertification (Luo et al., 2020); and authenticating the learning taking place (Ferriter & Provenzano, 2013; Hilt, 2008). Teachers at RHS were specifically concerned with self-disclosure and the conflict between professional identities and personal identities and issues with validating learning.

Working alongside teachers, we created a professional learning tracking document to help validate the learning taking place while using social media for professional learning and created social media guidelines to provide suggestions for maintaining professional identities while using the medium. Teachers, both those that participated in this study and others, were asked to be involved in the creation of both documents as I felt that in order to meet their personalized learning needs, it was imperative for me to include them at every step of this journey. Action research supports the notion of including participants in the development and assessment of interventions (Mertler, 2017). As the school's instructional coach, one of my primary goals was to build the efficacy of my teachers and to amplify their voices. Action research felt particularly suited to these ideas as it encourages participants' voice, choice, and action (Mertler, 2017). Teachers used their voices while completing the 2019 study, and it was in the best interest of the educators who worked in my building to invite them to use their voices while attempting to improve the professional learning offerings at RHS.

After developing the professional learning tracking document and social media guidelines, participants explored the medium for professional learning for a 6-week period to gather information on teachers' perceptions of its benefits and limitations. Overwhelmingly,

participants' reactions to using the medium for professional learning were positive. Participants reported the medium's ability to align learning with their in the moment needs as the primary benefit of using social media for professional learning. Research indicates that many educators who use the medium also find this to be the most compelling benefit of social media based professional learning experiences as its affordances, such as the follow button or the hashtag, allow participants to seek personalized learning directly connected to their needs (Visser et al., 2015). Because one of the goals of this study was to better inform decisions regarding professional learning offerings in hopes of creating opportunities that more effectively address personalized learning needs, it is my belief that social media should be leveraged to address deficiencies noted by the survey in this area. I believe the findings of this study support this.

Additionally, since participants in this study were using the medium in their personal lives, transitioning to using it for professional reasons did not produce additional technical barriers. Research supports the idea that many educators identify usability as another benefit to using social media for professional learning (Prestridge, 2019). If district leadership or school leadership were considering using social media in any type of professional learning capacity, I would recommend doing so because it is free, always available, and easy to use (Krutka & Carpenter, 2016).

Another identified benefit of the medium was its potential to connect participants with teachers currently in the classroom. Research supports the conclusion that using social media may allow teachers to connect with other educators (Krutka & Carpenter, 2016). Surprisingly, despite what research implies and what participants felt like the medium could provide, teachers in this study also reported issues with collaboration. Teachers sometimes struggled to connect with credible educators, felt like they were unable to reach out to educators if they were only

consumers of content rather than producers of content, and found that fellow educators did not always respond back to direct inquiries in a timely manner. Even with these issues, teachers expressed a desire to use social media for professional learning rather than attend traditional professional learning sessions because they still felt like the medium had the ability to connect them more effectively with educators still working in the classroom when compared to traditional professional learning offerings.

As the school's former instructional coach and current county instructional coordinator, it would be easy for me to take this personally, but when I think about my own personalized learning needs, I recognize there are very specific to what I do. A one size fit all professional learning session would most likely not address the everyday problems I face in a central office role. As I still use Twitter for my professional learning, it would be negligent of me to think that I could meet the varied needs of all of the teachers I serve. Instead of continuing to provide traditional professional learning that leaves so many dissatisfied, I recommend school leadership consider using social media as a tool to address some of these specific needs, and I feel like this study's findings support this.

In my own experiences using social media for professional learning, I found that joining a weekly Twitter chat allowed me to form a professional learning community (PLC) of educators from around the world. During the focus group, some teachers indicated they desired a list of specific chats or groups to join in hopes of fostering more effective collaboration. It is my suggestion that district leadership and school leadership looked at ways to provide this information if hoping to move forward with supporting teachers with using social media for professional learning.

While all participants reported learning something while using the medium, they only reported implementing what they learned from their sessions 48.15% of the time. Participants reported feeling overwhelmed by the amount of information available to them while using social media. This was not a barrier initially discussed during Cycle 1 of this study, but research does indicate it is a common feeling shared by many who turn to the medium for their professional learning needs (Carpenter & Harvey, 2019). Another iteration of this study may need to be conducted to explore if information overload impacted implementation of learning. Additional structures should be considered to help teachers navigate the abundance of learning available when logging onto their social media accounts.

Finally, while no specific objections were brought up about the professional learning tracking document or social media guidelines created during Cycle 1 of this study, it is clear that both could be improved. By improving both the guidelines and the professional learning tracking document, it is my hope that additional barriers identified can also be addressed.

Moving forward, it is my recommendation that elements of the 70-20-10 learning framework be adopted to support continued use of social media for professional learning. By adopting elements of this model, teachers have the potential to receive additional support from their instructional coach and in-school colleagues to more effectively foster collaboration to support implementation of what was learned. It will also allow for additional structures and supports to assist teachers with mitigating feelings of information overload.

My second recommendation is to improve the social media guidelines. It is my recommendation that they are expanded to include suggestions for dealing with the negativity of others while online. By expanding the guidelines and adopting elements of the 70-20-10 learning framework to include opportunities for collaboration with in-school colleagues and the

instructional coach, I hope to remove the additional identified barriers to encourage future use of social media for professional learning. Table 5 identifies recommendations to support teachers' use of social media for professional learning.

Table 5

Recommendations Related to the Findings of the Action Research Study

Finding	Related recommendation	Supporting literature
While teachers enjoyed using social media for professional learning for its ability to align learning with professional learning needs, they reported feeling overwhelmed by the amount of information available.	Adopt elements of the 70-20-10 learning framework to ensure teachers receive support from instructional coach and school / district leadership to focus learning.	Carpenter & Harvey, 2019; Johnson et al., 2018
Teachers were not satisfied by the opportunities for collaboration provided by social media.	Adopt elements of the 70-20-10 learning framework to leverage PLCs to ensure teachers are provided opportunities for collaboration.	Johnson et al., 2018
Teachers struggled engaging with the negativity of other social media participants.	Revisit social media guidelines to include suggestions for how to deal with the negativity of others.	Nerlino, 2023

Note. In this table, PLCs refers to professional learning communities.

Policy or Practice Recommendation 1

Adopt Elements of the 70-20-10 Learning Framework to Ensure Teachers Receive Support From Instructional Coach and School/District Leadership to Focus Learning.

The 70-20-10 learning framework proposes 70% of learning originates from on the job learning experiences, 20% of learning comes from social learning (feedback we receive from others and interactions with others in our field), and 10% of learning stems from formal training (McCall et al., 1991). McCall and his team developed this framework by studying the learning methods of over 200 executives in the business world. The 70-20-10 framework places a significant emphasis on informal learning, which accounts for the 70% focused on job embedded learning (Johnson et al., 2018). The learning framework proposes that knowledge acquisition in

the workplace occurs when formal learning and social learning interconnect with job-embedded experimentation (Johnson et al., 2018). Formal learning experiences, such as traditional professional learning offerings, could, in theory, be supported by opportunities for coaching or support from colleagues in an environment that encourages experimentation.

While research is still emerging about the effectiveness of the learning framework, a 2018 study may be helpful to highlight some of its potential benefits and pitfalls. The study of 122 middle managers provided data on each of the model's components. In terms of the on the job learning experiences, which represents 70% of learning in the framework, participants identified the ability to take risks as a benefit of implementing this model as leaders seemed more willing to allow learners to fail forward (Johnson et al., 2018). A potential barrier to the heavy emphasis on job-embedded learning was that if not monitored appropriately, participants reported instances of workers adapting ineffective habits or skills (Johnson et al., 2018).

This seems to support a need for social learning, which can be satisfied through coaching or support from peers. Participants in the study suggested the social aspect of the learning model not only helped build a larger community of learners in their workplace but also helped them better apply their knowledge in effective ways (Johnson et al., 2018). This was most successful where there were intentional coaching supports or managed mentoring opportunities (Johnson et al., 2018).

While participants recognized the need for formal learning experiences, they were less enthusiastic about its benefits (Johnson et al., 2018). In fact, most of the criticism against the formal learning experiences align with what research indicates are the potential barriers to traditional professional learning offerings. The study suggests that any one of these things in isolation, on the job experiential learning, social learning, or formal learning, may not be as

effective as when compared to learning experiences that combine all three components. Even when combining the three elements, there is a need for formal oversight (Johnson et al., 2018).

The model seemingly aligns with what teachers in this study indicated they enjoyed about using social media for professional learning and what they indicated are the barriers. First, teachers enjoyed that it provided learning experiences that aligned with current problems of practice they were facing. They also enjoyed that they could use social media for learning anytime that they wanted and as much or as little as they wanted. Participants frequently reported they scrolled for inspiration and enjoyed looking for new ideas to implement in their classrooms. Teachers wanted to experiment. Often the ideas they sought out were suggestions they wanted to implement quickly after acquisition. Furthermore, this model is also supported by the adult learning theory, which implies adults enjoy learning that is self-driven and inquiry-based (Knowles, 1996). The 70-20-10 learning framework emphasizes experimentation and working with colleagues to solve problems of practice.

Despite expressing that they enjoyed using social media for professional learning, teachers reported only implementing what they learned 48.15% of the time. While the study did not specifically attempt to identify barriers to implementation of learning, teachers did report feeling overwhelmed by the amount of information available to them while using social media for professional learning and expressed a desire for a master list of teachers to follow and groups to learn from to help direct their learning. Information paralysis, or feeling unable to translate learning into action, has been connected to using social media for professional learning (Mercado & Shin, 2023). In a 2019 study of 29 educators, 59% of participants reported feeling overwhelmed by the amount of information available when using the medium for professional learning (Carpenter & Harvey, 2019). This could be potentially mitigated if school leaders

provided additional support to help teachers design structures to determine the best way to identify users or groups that aligned with their personalized needs. The 70-20-10 learning framework encourages social learning, which can include coaching support from school leaders or colleagues (Johnson et al., 2018).

As outlined by the framework and supported by the findings of this study, teachers who wished to experiment with what they learned from using social media for professional learning could benefit from formal support and social learning. The school's instructional coach could develop additional structures to promote targeted learning in hopes of mitigating feelings of information overload. First, the instructional coach could develop a survey to assess the learning needs of the staff at RHS. Then, the instructional coach could develop a master list of credible educators to follow, groups to join, and chats to participate in that align with these needs. As there are teachers successfully using social media for professional learning at RHS, the coach could seek input from others when developing the list.

The 70-20-10 learning framework suggests there is a need for formal learning. It is my hope that the instructional coach could be used to provide this formal learning. In addition to helping to create a master list of credible resources, the instructional coach could suggest a coaching round to assist teachers with implementation of what was learned from using social media for professional learning. Effective instructional coaching models suggest there must be trust between the coach and teacher, the coaching session must acknowledge that both the coach and teacher can offer valuable insights on teaching and learning, and the coach and teacher should collaborate on ways to implement learning that is manageable according to context (Eastman, 2019). In a 2020 study on the relationships between teacher efficacy and instructional coaching, teachers reported a willingness to try something new with the support of the

instructional coach (Walsh et al., 2020). It is my recommendation that these coaching rounds are optional and only for those seeking to formalize or authenticate learning for school leadership. This will, hopefully, further honor the teacher's personalized learning needs while also providing a formal learning experience for those who desire it.

Implementation of a 70-20-10 learning framework to assist with allowing teachers to use social media for professional learning will provide validation of learning while also empowering teachers to make decisions about their own learning. Without accountability measures, it would be difficult to ascertain if self-reporting of learning was accurate and would be difficult to determine the effectiveness of the implementation of learning. This is acceptable for teachers who simply want to use the medium for their own learning on their own time, but for those seeking ways to authenticate this as a valid support for personalized professional learning, the use of a 70-20-10 plan may add the accountability needed to verify learning for professional learning points.

Policy or Practice Recommendation 2

Adopt Elements of the 70-20-10 Learning Framework to Leverage PLCs to Ensure Teachers are Provided Opportunities for Collaboration.

In addition to issues with information overload, teachers expressed some frustrations with collaboration attempts. If we were to adopt elements of the 70-20-10 learning framework, there may be ways to maximize formal PLCs to provide not only traditional professional learning support but also structured collaboration opportunities, which represents 10% of the model.

In a 2019 study of five physical education teachers' use of social media for professional learning over a two-year span, it was discovered that educators were using the medium to problem-solve content-specific issues (Goodyear et al., 2019). As evident by this study, some

teachers feel like the professional learning offerings at RHS failed to address their content specific needs. Social media can connect educators with content-specific groups and should be offered as an option for learning for those often neglected. The study also suggests a need for training on how to engage in online PLCs and on how to navigate learning in these affinity spaces (Goodyear et al., 2019). Again, this was echoed by participants in this study who struggled with information overload and felt dissatisfied by attempts to collaborate. PE teachers in study also struggled with the amount of information available to them and feeling disjointed or unsupported once the Twitter chat was over (Goodyear et al., 2019). School leadership or the instructional coach could look at ways to use the 10% of the framework, which focuses on social learning, to allow teachers to explore social media with guidance during PLCs or provide opportunities for follow-up discussion during PLCs with fellow colleagues to discuss what they learned while using social media for professional learning.

Effective PLCs provide opportunities for discussions around experiential learning and inquiry-based problem solving (Reynolds, 2016). It is my recommendation that teachers work with school leadership and the instructional coach to consider revamping PLCs to provide a portion that allows teachers to explore social media for professional learning with the guidance of the facilitator and/or opportunities for teachers to discuss with colleagues what they learned while using the medium. Using PLCs will also provide another accountability structure for those seeking to recognize this type of learning as a viable support for personalized professional learning.

Policy or Practice Recommendation 3

Update Social Media Guidelines to Include Additional Guidelines for Dealing with Negativity.

During Cycle 1 of this study, teachers collaborated to create social media guidelines. The purpose of these guidelines was to provide suggestions for how to maintain professional behavior while using social media for professional learning. Overall, teachers reacted positively to these guidelines and gave them a 3.60 using a 4-point scale. During the focus group, teachers reported negative interactions with other teachers using the medium and a fear that the negativity of others may affect them. Research is continuing to emerge about the interpersonal problems of engaging in professional learning using social media. In a 2019 study on barriers to using social media for professional learning, 43% of participating educators noted issues with what other teachers posted with 27% specifically identifying the negativity of others as alarming (Carpenter & Harvey, 2019).

It is my recommendation that the team revisits the social media guidelines created during Cycle 1 of this study to include additional suggestions for dealing with the negativity of other educators. During Cycle 1 of the study, the team found it helpful to review the social media guidelines of businesses and their own school district as a foundation for creating our own. There are many education-centered articles out there with tips and tricks for dealing with the negativity of others while using the medium. Much like we did the first time, the proposed additions would be sent out for feedback and revisions would be made before a final draft is adopted.

Summary

To support professional learning at RHS, school leaders should continue to explore ways that social media could be used for professional learning. Participants found the medium useful because it provided learning opportunities aligned to their specific needs. In addition, teachers felt like the medium was easy to use as many of them were already using it daily for personal reasons. Because participants believed the medium can connect them to teachers currently

working in the classroom, participants felt like the professional learning was more relevant to their personal experiences because it was often being facilitated by someone currently in the classroom and not a school leader that may be far removed from teaching. What participants perceive as the benefits of using social media for professional learning are what research indicates may be the limits of traditional professional learning.

Research suggests that many teachers feel traditional professional learning is ineffective because of issues related to alignment, access, follow-up support, and lack of opportunities for collaboration (Bayar, 2014; Richardson, 2003). Teachers at RHS identified these as barriers to effective professional learning as part of the 2019 VDOE Culture and Climate survey. School leaders hoping to leverage social media for professional learning may benefit from the findings of this study. Guskey's (2000) *Five Levels of Professional Development Evaluation Framework* suggest that participants' initial reactions to professional learning must be positive for learning to occur. Initial reactions can be judgements associated with the mode of learning, the duration of learning, and the content of the learning session. Participants' reactions to using social media for professional learning were positive. They believed the learning was aligned to their needs and was easy to access. Participants did report some issues with opportunities for collaboration and feeling overwhelmed by the amount of information available.

If there was to be another iteration of this action research study, it would be beneficial to explore ways to address the additional barriers identified by participants in this study. School leaders could adopt elements of the 70-20-10 learning framework to explore ways to use the instructional coach and PLCs to support professional learning using social media. Additionally, while the interventions designed during Cycle 1 of this study to mitigate issues regarding professional behaviors and tracking professional learning were found to be somewhat effective,

the interventions could be strengthened by revisiting the professional learning tracking document and expanding the social media guidelines to provide recommendations for how to deal with the negativity of others.

While teachers did not have specific recommendations for improving the professional learning tracking document, they did not necessarily rank it high using the survey, and only five of the seven teachers completed it. A plethora of sample 70-20-10 learning framework tracking documents is available that could be potentially looked at to improve the authenticity and usability of our professional learning tracking document. Many of these documents ask participants to identify how specific learning goals could be supported through formal learning and coaching from management or peers. It is my recommendation that the professional learning tracking document is revised to include elements of this model for those seeking ways to validate learning.

The 70-20-20 learning framework acknowledges context plays an important role in learning, and all learners need different supports (Scott & Ferguson, 2016). By adopting elements of the model, the hope is we can continue to honor what teachers love most about using social media for professional learning: its ability to provide learning aligned with personalized learning needs, through additional formal and informal supports.

Since the pandemic, it is my belief that teaching has become increasingly more difficult. Due to concerning teacher shortages, we are now welcoming more teachers who do not currently hold a license. Additionally, certified teachers who remained working in my district report having to deal with behaviors and instructional issues unlike those they saw before the pandemic. We must seek new way to support our teachers. As many school leaders in my district may not have been in the classroom since prior to the pandemic, we may be unable to relate to the current

needs of our staff. If we are truly dedicated to supporting our teachers, we must acknowledge that we may need additional support in meeting their needs. Finally, the benefits of harnessing social media for professional learning also apply to the school district itself. Social media is free to use, can provide in-the-moment guidance, and has the potential to connect educators with content-specific peers. If both time and costs are a barrier to providing ongoing professional learning to teachers, administrators and schools leaders could explore ways to harness social media to mitigate these barriers. I believe this study indicates social media may be a tool that could be leveraged in formal settings and informal settings to support teachers' professional learning needs.

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APPENDIX A

GUSKEY’S FIVE CRITICAL LEVELS OF PROFESSIONAL DEVELOPMENT

EVALUATION

Evaluation level	Typical questions addressed	Typical info. gathering methods	What is measured or assessed?	How will information be used?
1. Participants’ reactions	<ul style="list-style-type: none"> • Did participants like it? • Was time well spent? • Did the material make sense? • Will it be useful? • Was the presenter knowledgeable? • Did the physical conditions of the activity support learning? 	<ul style="list-style-type: none"> • Questionnaires administered at the end of sessions. • Focus groups • Interviews • Personal learning log • MeetingWorks internet-based sessions • Analysis of threaded discussion forums 	<ul style="list-style-type: none"> • Initial satisfaction with experience. 	<ul style="list-style-type: none"> • To improve program delivery and design
2. Participants’ learning	<ul style="list-style-type: none"> • Did participants acquire the intended knowledge or skill? 	<ul style="list-style-type: none"> • Paper and pencil tests • Simulations and demonstrations • Participant reflections (oral and/or written) • Participant portfolios • Case study analysis • MeetingWorks internet-based sessions • Analysis of threaded discussion forums 	<ul style="list-style-type: none"> • New knowledge and/or skills of participants 	<ul style="list-style-type: none"> • To improve program content, format, and organization
3. Organization support and change	<ul style="list-style-type: none"> • What was the impact on the organization? • Did it affect organizational climate or procedures? • Was implementation advocated, facilitated, and supported? • Was the support public and overt? • Were problems addressed quickly and efficiently? • Were sufficient resources made available? • Were successes recognized and shared? 	<ul style="list-style-type: none"> • District and school records • Minutes from meetings • Questionnaires • Focus groups • Structured interviews with participants and school or district administrators • Participant portfolios • MeetingWorks internet-based sessions • Analysis of threaded discussion forums 	<ul style="list-style-type: none"> • The organization’s advocacy, support, accommodations, facilitation and recognition 	<ul style="list-style-type: none"> • To document and improve organizational support • To improve future change efforts
Evaluation level	Typical questions addressed	Typical info. gathering methods	What is measured or assessed?	How will information be used?

4. Participants' use of new knowledge or skills	<ul style="list-style-type: none"> • Did participants effectively apply the new knowledge and skills? 	<ul style="list-style-type: none"> • Questionnaires • Structured interviews with participants and their supervisors • Participant reflections (oral and/or written) • Participant portfolios • Direct observations • Video or audio tapes • Concerns-based Adoption Model 	<ul style="list-style-type: none"> • Degree and quality of information 	<ul style="list-style-type: none"> • To document and improve the implementation of program content
5. Student learning outcomes	<ul style="list-style-type: none"> • What was the impact on students? • Did it affect student performance or achievement? • Did it influence students' physical or emotional well-being? • Are students more confident as learners? • Is student attendance improving? • Are dropouts decreasing? 	<ul style="list-style-type: none"> • Student records • School records • Questionnaires • Structured interviews with students, parents, teachers, and/or administrators • Participant portfolios 	<ul style="list-style-type: none"> • Student learning outcomes: <ol style="list-style-type: none"> 1. cognitive (performance and achievement) 2. affective (attitudes and dispositions) 3. psychomotor (skills and behavior) 	<ul style="list-style-type: none"> • To focus and improve all aspects of program design, implementation, and follow-up • To demonstrate the overall impact of professional development

Note. Adapted from *Guskey's Five Critical Levels of Professional Development Evaluation*, n.d., Retrieved December 5, 2022, from <https://learningforward.org/wp-content/uploads/2014/05/guskey-5-levels.pdf>

APPENDIX B

PROFESSIONAL DEVELOPMENT TRACKING DOCUMENT

Social Media Guidelines:

1. Disclose relationships
2. Identify opinions are your own and not the organization's
3. Be aware that what you say is permanent
4. Protect information

Research Questions:

1. After participating in social media-based professional learning experiences, what are teachers' reactions to the experience, including level of enjoyment, usability of the medium, usefulness of information, use of the participant's time, and experiences related to their personalized learning needs?
2. After participating in social media-based professional learning experiences, what new knowledge and skills do participating teachers identify they have acquired?
 - a. What do teachers describe as the critical attribute(s) of the professional learning content?
 - b. How do teachers select which professional learning experiences to engage with while using a social media medium?
 - c. In what ways has the social media-based professional learning contributed to changes in their instructional practice?
3. After participating in social media-based professional learning experiences, what do teachers believe are the benefits and limitations of using social media for professional learning?

- a. What additional supports are needed to assist participants in using social media to meet personalized professional learning goals?

Guskey's (2000) *Five Levels of Professional Development Evaluation Framework*: Level 1

Participant's Reactions and Level 2 Participant's Learning

Name:	Position:
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Step 1: Review the [Guidelines for Uniform Performance Standards and Evaluation Criteria for Teachers](#) created by the Virginia Department of Education. Select one standard to focus on while exploring social media for professional learning.

Identify the standard here:

Briefly explain your reasoning for selecting this standard as your focus:

Helpful Hints for Completing this Tracking Document:

Date and Duration - In this section, please list the date and number of total minutes you spent engaging with social media for professional learning on this date

Social Media Platform - In this section, please list which platform you visited and provide any pertinent clarifying information. For example, if using Twitter, did you participate in a chat? If using Facebook, did you participate in a live chat, message board, or simply review resources? If scrolling through Instagram, did you watch reels or search specific posts?

PD Topic(S) - In this section, please describe what professional learning topics you engaged with during your time utilizing social media.

PD Selection- In this section, please describe how you selected to engage with this particular professional learning. For example, did you search using a particular hashtag? Was a certain Twitter chat recommended to you? Etc...

Notes / Reflections - In this section, place any notes or general reflections you may feel are important to document concerning your experience engaging in social media for professional development. These notes could include (but are not limited to) your reactions to the professional

learning experience (what you liked about the experience; what you found difficult about the experience; etc) or about what you learned from the experience and how the learning experience could be improved.

What do I want to implement - In this section, jot down any ideas/strategies you would like to implement as you move through these professional learning experiences. If you do not feel inspired to implement anything after a particular session, you do not need to add anything to this column.

Date and Duration	Social Media Platform and Description of Activity	PD Topic(s)	Notes / Reflections	What do I want to Implement and why?

APPENDIX C
SURVEY

Research Question:

1. After participating in social media-based professional learning experiences, what are teachers’ reactions to the experience, including level of enjoyment, usability of the medium, usefulness of information, use of the participant’s time, and experiences related to their personalized learning needs?

3. After participating in social media-based professional learning experiences, what do teachers believe are the benefits and limitations of using social media for professional learning?
 - a. What additional supports are needed to assist participants in using social media to meet personalized professional learning goals?

Guskey’s (2000) *Five Levels of Professional Development Evaluation Framework*: Level 1

Participant’s Reactions

The experience of using social media for professional learning was enjoyable. (Q1)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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The information shared during the experience of using social media was easy to understand. (Q1)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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The knowledge gained from the experience of using social media will be useful and will inform instructional practices related to the professional goal selected at the start of this professional learning experience.. (Q1)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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The experience of using social media for professional learning offered opportunities to collaborate with knowledgeable educators. (Q1)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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Social media met the participant's preferred style for learning, duration of learning, and ease of access to learning. (Q1)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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The use of social media for professional learning was time well spent (Q1)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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The Professional Learning Tracking Document was useful in tracking learning (Q3)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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The Social Media Guidelines were helping in determining appropriate behavior while using the medium (Q3)

1 Strongly Disagree	2 Somewhat Disagree	3 Neutral	4 Somewhat agree	5 Strongly Agree
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APPENDIX D

FOCUS GROUP PROTOCOL

Focus Group Protocol

The focus group will last one hour. As the facilitator for this study, I will run this focus group.

The focus group will have scripted questions, but the researcher/facilitator will allow for questions that organically come about as prompted by the discussion. This discussion will be held over Zoom and will be recorded. The researcher/facilitator will set and share the following norms prior to the focus group (in an email) and at the start of the focus group:

1. Share the air. The facilitator/researcher will step in if necessary.
2. The facilitator/researcher and participants will respect the fact that some participants may not want to answer questions.
3. Make every attempt to stay on topic. The facilitator/researcher will step in if necessary.
4. Honor truthful statements even when they do not align with your own beliefs.
5. While discussion points from the focus group will be reported in the study, confidentiality pertaining to specific speakers and off-topic conversation must be respected and maintained by all participants.
6. Any participant may leave at any time without judgment.

Focus Group Questions

1. What did you like about using social media for professional learning? Your answers may be connected to (but are not limited to) the potential ease of using the medium; the medium's potential to provide participants' choice concerning professional learning experiences; the medium's potential to connect knowledgeable educators

- around the world; the medium's potential to address specific professional learning needs just in time. (Q1, Level 1 Participants' Reactions)
2. What did you not like about using social media for professional learning? (Q1) Your answers may be connected to (but are not limited to) the potential difficulty of using the medium; the medium's potentially limited professional learning options; the potential of the medium to connect educators with false information; the potential inability of the medium to provide learning experiences that align with the personalized needs of the user. (Q1, Level 1 Participants' Reactions)
 3. Considering your professional learning needs and preferences, did you find utilizing social media for these experiences a beneficial use of your time? Why or why not? (Q1, Level Participants' Reactions)
 4. How would you describe the knowledge level or expertise of the professionals you engaged with on social media during your professional learning experiences? (Q1, Level 1 Participants' Reactions)
 5. How does social media compare to other mediums for professional learning? What are its benefits? What are its difficulties? (Q1 and Q3, Level 1 Participants' Reactions and Level 3 Organizational Supports)
 6. What are the potential barriers of using technology (social media) to explore self-directed professional learning? (Q1 and Q3, Level 1 Participants' Reactions and Level 3 Organizational Supports)
 7. How relevant to your personal professional learning needs were the learning experiences on social media? (Q1a, Level 1 Participants' Reactions)

8. Describe the professional learning goal you selected for yourself prior to the start of this experience. Did using social media for professional learning help you meet this goal or did it hinder you? Explain. ? (Q2, Level 2 Participants' Learning)
9. Did you implement anything new in your classroom as a result of your professional learning through social media? If so, describe. If not, what limited you? (Q2c, Level 2 Participants' Learning)
10. Describe your process for selecting which professional learning experiences using social media to engage with. (Q2b, Level 2 Participant's Learning)
11. How might the use of social media for professional learning impact your school?
(Q3)
12. What additional supports might you need to continue using social media for professional learning? (Q3, Level 3 Organizational Supports).
13. Is there anything else you would like to share about the experience of using social media for professional learning?

APPENDIX E
PARTICIPANT INFORMED CONSENT FORM

I, _____, agree to participate in a research study to explore teachers' use of social media for professional learning.

I understand that all teachers at the school in question will be asked and have the opportunity to participate in the action research process, and that my participation in the study is purposeful and voluntary. Data collection will be ongoing throughout the cycle from 02/15/2023 to 02/15/2024. Data collection methods will include professional learning tracking documents and completion of a survey. All participants will also have the opportunity to participate in a semi-structured focus group conducted through Zoom.

I understand that the interviewer has been trained in the research of human subjects, my responses will be confidential, and that my name will not be associated with any results of this study. I understand that the data will be collected using Zoom and then transcribed for analysis. Information from the Zoom recording and transcription will be safeguarded so my identity will never be disclosed. My true identity will not be associated with the research findings. I understand that there is no known risk or discomfort directly involved with this research and that I am free to withdraw my consent and discontinue participation at any time. I agree that should I choose to withdraw my consent and discontinue participation in the study that I will notify the researcher listed below, in writing. A decision not to participate in the study or to withdraw from the study will not affect my relationship with the researcher, the College of William & Mary generally or the School of Education, specifically.

If I have any questions or problems that may arise as a result of my participation in the study, I understand that I should contact the researcher, Tiffany Truitt, at phone number: (757)679-1362 and/or email at: ttruitt@iwcs.k12.va.us. I understand that I may also contact Dr. Margaret Constantino at 757-221-2323 and/or email at meconstantino@wm.edu. You may also contact Dr. Tom Ward at (757) 221-2358 or EDIRC-L@wm.edu. My signature below signifies that I am at least 18 years of age, that I have received a copy of this consent form, and that I consent to participate in this research study.

Signature of Participant _____ Date _____

Signature of Researcher. _____ Date _____

VITA

Tiffany Irene Truitt was born in Peoria, Illinois on February 17, 1983. She graduated from Longwood University in 2004 with a degree in English and minor in theater. She obtained her master's degree in literature from Old Dominion University in 2010. Tiffany taught English at the secondary level for ten years before serving as a literacy coach and instructional coach for five years. Currently, Tiffany serves as the instructional coordinator for secondary gifted, history, and English and K-12 fine arts. Tiffany earned her EdD from William and Mary in Educational Policy, Planning and Leadership – Executive K-12 Leadership on January 19, 2024