TEACHERS' PERCEPTIONS OF EDCAMP PROFESSIONAL DEVELOPMENT: A Q METHOD STUDY

By

TOBY BROWN

Bachelor of Arts in U.S. History
Oklahoma State University
Stillwater, OK
1997

Master of Arts in Russian History
Oklahoma State University
Stillwater, OK
2000

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July, 2015

TEACHERS' PERCEPTIONS OF EDCAMP

PROFESSIONAL DEVELOPMENT:

A Q METHOD STUDY

Dissertation Approved:

Dr. Susan Stansberry
Dissertation Adviser

Dr. Penny Thompson

Dr. Steve Marks

Dr. Diane Montgomery

Dr. Stephanie Hathcock

ACKNOWLEDGMENTS

This has truly been a long and winding road. I arrive at this point in the journey through the kindness, encouragement, and support of many dear friends and colleagues. I wish to thank all of my Willard friends—staff, faculty, and fellow graduate students—for the words of encouragement along the way. Very special thanks to J.D., Mitch, Candace, Christy, and Rachel. To Mark, Kathy & Kathy, Kat, Robin, Pat, Amber, Chad, Toni & Dustin, Todd, Leslie, Andy, Zarrina, and Kim—my regards. I owe you cookies.

I wish to thank my 3123 students for learning along with me for the past five years... Okay, so, I loved every minute of it. Thanks for your well wishes, for putting up with me through Quals, and for many of you truly becoming colleagues and friends.

To my friends, colleagues, and tweeps at the now 30-plus Edcamps I've attended—thanks. You inspire me to become a better educator. Thanks for sharing your learning and experiences with me. Special thanks are due to my Edcamp organizer friends for allowing me to end your Edcamps with pleas for research participants: Kyle Pace, Laura Gilchrist, Josh Allen, Kristina Peters, Chris McGee, Bob Dillon, Wes Fryer, Tammy Parks, Doug Brown, and, of course, the amazing Kristen Swanson. Thanks, friends, I'll see you on the Twitter!

To the members of my committee—thank you. Dr. Susan Stansberry has been a constant voice of reassurance—all those "You're going to graduate!" pep talks worked.

Thanks Dr. S; I still love semicolons! Dr. Penny Thompson and Dr. Stephanie Hathcock were welcome additions to the team—thanks for your suggestions and support, I appreciate it. Dr. Diane Montgomery patiently held my hand through two Q studies in my graduate career—thanks for your mentorship and discussions about the importance of creativity and gifted ed. Dr. Steve Marks is the only person I know on this planet who actually volunteered to be on a dissertation committee. Thanks Boss, I'm honored you wanted to sit in on mine. Thanks for believing in me and allowing me to cut my professional teeth in the best first-job-out-of-college a person could ever hope for…I will always treasure those memories and relationships I made in that Cordell office.

My deepest and most heartfelt thanks are reserved for my family. Without their constant love and support, this journey would have not been possible. I am blessed beyond compare. To my grandparents, parents, sister, aunts, uncles, and cousins, in-laws & nephews—thank you. To A & B, thank you for putting up with this process…I pray my example is one of dedication, perseverance, and the importance of life-long learning. You are my favorites…I love you. To L, what can I say? You are the wind benea…no, I hate that Bette Midler song. I will always love yo…no, I don't like that Whitney Houston one either. Let's just go with—for enduring this with me, for your endless cheerleading, and your constant, sustaining, and (unbelievably) increasing love and support—thank you.

#done

Name: TOBY BROWN

Date of Degree: July, 2015

Title of Study: TEACHERS' PERCEPTIONS OF EDCAMP PROFESSIONAL DEVELOPMENT: A Q METHOD STUDY

Major Field: EDUCATION

Abstract: This study described the subjective opinions of teachers about their experiences at Edcamp, an unconference-style form of teacher professional development (PD). Traditional PD has been maligned for being overly expensive and ineffectual in affecting changes in teacher practice. In order to defend teachers' decisions to partake in Edcamp-style PD, it was necessary to identify their views about their experiences. Q methodology was used to determine the teachers' perspectives. A review of relevant literature in teacher PD, professional learning communities, communities of practice, and social media was undertaken, as well as a demographic survey of Edcamp participants, to better understand the phenomenon of Edcamp. The result of the literature review and demographic survey was a set of 36 statements that was sorted by 19 teachers. A three-factor solution was the result of analysis using PQMethod software. Themes for the resulting factors were augmented using interviews from exemplar sorters in each factor as well as Twitter data from the day of the Edcamp event. The three factors were interpreted as Tweeting Edcampers, who highly valued the opportunity for social learning and sharing via Twitter at Edcamp, One-Time Edcampers, who preferred traditional PD and did not find Edcamp PD to be considerably helpful, and Edcamp Converts, who found Edcamp PD to be transformative and relevant to the contexts of their classrooms. All participants indicated a strong preference for continual, meaningful PD. Conclusions included the importance of giving teachers choices in PD opportunities, teachers' preferences for participating in informal learning opportunities, and the considerable meaning teachers attribute to the social media application Twitter for learning and sharing. Future research should study administrators' opinions of Edcamp-style PD and its relevance to their teachers. The conclusions indicate that future research should study administrators' opinions of Edcamp-style PD and its relevance to their teachers. The conclusions did not address the long-term effects of Edcamp-style PD and Twitter use on teachers' professional practices, which appears to be a necessary next step in research.

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CHAPTER I

INTRODUCTION TO THE STUDY

Teachers are in the business of helping others learn. In order to do this task effectively, teachers engage in activities in which they learn new content, skills, and practices. Teacher professional development (PD) is recognized as a crucial component of all modern educational reform (Guskey, 1995). Just over a decade ago, however, Borko (2004) reported that the majority of teacher PD was "woefully inadequate" and that "millions, if not billions, of dollars" were being spent on traditional, didactic PD (p. 3). Despite legislative-mandated educational reforms like No Child Left Behind (NCLB, 2001) and the Elementary and Secondary Education Act (ESEA) (U.S. Department of Education, 2010) that ushered in a new era of focus and spending on PD, there remained little change in the style of PD being offered to teachers—the majority was still passive workshop-based training (Webster-Wright, 2009). The didactic *sit-and-get* style of many PD opportunities fails to address teachers' specific classroom contexts that are "technically, politically, and ethically ambiguous rather than well understood and procedural. We must promote learning from practice…rather than learning for practice" (Wilson, 2000, p. 78).

Teachers desire individualized and personalized PD that takes into account their skills, knowledge and understanding, experiences, and environments (Opfer & Pedder, 2011; Starkey, et al, 2009). PD needs to be relevant to what teachers are doing in

their classrooms, dynamic, meaningful, sustained over time, and needs to include adequate time for teachers to reflect on what they learned and how they will incorporate new learning into their practice (Garet, Porter, Desimone, Birman, & Yoon, 2001). Since traditional PD is not always successful at fulfilling these needs, teachers are seeking out alternative, reform-based PD opportunities.

Background of the Problem

Teachers are using technology applications to have conversations about their ideas, experiences, successes and failures in their classrooms, schools, and districts. Teachers who used the social media network Twitter gathered in Philadelphia in 2009 for a meeting they named BarCamp to carry on these conversations. The success of that event prompted a subsequent gathering, rebranded as Edcamp, which gained a substantial following on Twitter and resulted in over one hundred participants registering for the event (K. Swanson, 2014). Since that first meeting, Edcamp has grown through social media and word-of-mouth into a global grassroots movement, with over 550 Edcamps being held to date (K. Swanson, personal communication, November 17, 2014**)**.

Edcamp events are examples of unconferences which are "gatherings of people united by a passion, where the content of the day is driven by the participants" (Greenhill & Wiebrands, 2008, p. 2). Edcamps are typically held on Saturdays in public schools that offer the meeting space. Edcamps attendees—not event organizers or sponsors—organically develop the events, a difference from standard practice at traditional education conferences.

At Edcamp, attendees collaboratively build schedule sessions related to their own personal and professional interests and needs of their classrooms, buildings, or school districts. Any teacher or attendee can present or moderate sessions, however, corporate- or vendor-led sessions are generally discouraged. The intent of Edcamp sessions is to empower teachers to share, not to merely attend or hear a sales pitch.

The relative lack of structure could prompt questions about the quality content of Edcamp sessions. Researchers stated that merely giving teachers a forum to talk is not legitimate PD—teacher PD must have a coherent content focus (Darling-Hammond & Richardson, 2009). However, this perspective may not fully recognize teachers as professional learners. Swanson (2014) notes that, while there are no guarantees of quality content at Edcamp, "we have to trust that teachers are professionals who…are motivated to engage in authentic learning" (p. 39). Lastly, it is noted in comparison that there is no guarantee of quality PD in traditional offerings (Borko, 2004).

Technology plays a major role in the organization, planning, and learning at Edcamp. Edcamps are not technology-focused events but attendees are generally technology-savvy (Swanson, 2014). Many technology applications are used at various Edcamps, including email, Google Docs, blogs, wikis, and other social networks (Crossett, Kraus, & Lawson, 2009).

One technology that dominates at many Edcamps is Twitter, which attendees use as a backchannel conversation to share ideas and thoughts about Edcamp sessions through the use of novel hashtags. In general, Twitter users follow and contribute to conversations by adding the hashtag (pound sign, #) and name of the intended recipient group to their tweets. In the case of Edcamp, organizers create a hashtag containing

"edcamp" and the name, nickname, or initials of the city hosting the event (e.g. #edcampDallas, #edcampPhilly, #edcampOKC) to facilitate conversations. Many of these conversations occur before and after the Edcamp event; these Twitter conversations allow attendees to share resources with friends or colleagues who may have been unable to attend the event. Hundreds of thousands of tweets have been sent using the #edcamp hashtag (Swanson, 2014).

Teachers are using Edcamp and Twitter to supplement school-, district-, state-, and federally- mandated PD requirements. What is unknown, however, is the meaning teachers ascribe to those experiences. Given that Edcamp is a relatively recent phenomenon, research is needed to examine teachers' subjective views about their experiences in Edcamp PD. A research method that is particularly helpful in discerning individuals' subjective perspectives is Q methodology (Stevenson, 1993). Therefore I chose to employ this methodology for this study.

Statement of the Research Problem

Teachers need quality PD, yet research shows that traditional offerings of PD are ineffective and expensive (Borko, 2004) and rarely lead to significant change in teacher practice (Freidus et al., 2009). It is speculated that reform-based PD experiences will result in a better experience and change in teachers' practices (Parise & Spillane, 2010). Edcamp, a novel form of PD (K. N. Swanson & Leanness, 2012), is intended to meet teachers' specific needs (The Edcamp Foundation, 2014), yet questions remain about Edcamp. It is unknown how participants in Edcamp perceive its utility as PD, how these experiences in Edcamp correlate to changes in their professional practice, and how

participants in Edcamp use the social media network Twitter to continue conversations from Edcamp after the event. The purpose of this study is to describe the phenomenon of Edcamps and examine teachers' perceptions of its utility as PD, related to their experiences.

Conceptual Framework

This study of teacher PD followed a conceptual framework that included the concepts of professional learning communities, the role of technology in teacher PD, social media, teachers' use of social media in online communities of practice, and Edcamp itself.

Research Question

In order to develop a better understanding of unconference-style PD, this study sought to answer this research question: What are participants' perceptions of the utility of professional development via Edcamp?

Importance of the Study

The study addressed the perceived utility of Edcamp as a meaningful component of teachers' PD. Determining the value of teacher-centered PD will give a more diverse choice of learning opportunities to administrators and teachers who make decisions about what kinds of PD teachers are encouraged or required to attend. The results of this study will familiarize higher education researchers with the Edcamp model of PD with the goal of increasing study on a phenomenon that is growing in popularity around the world.

Definitions of Terms

Community of practice—An informal group of people "who form to do work, share concerns about a topic, and who deepen their knowledge and expertise in that area by interacting on an ongoing basis" (Blankenship & Ruona, 2007, p. 3). Lave and Wenger (1998) state that these groups offer a process of social participation in learning—that the social processes include and subsume the learning of knowledgeable skills. Brown & Duguid (1991) note that individual learning is inseparable from collective learning; that insight accumulated is socially constructed and distributed.

Edcamp—An Edcamp is a gathering of teachers based on the unconference model. These are "free, democratic, participant-driven professional development" events that invite "attendees to completely break with past practice and past values regarding professional development" (Swanson & Leanness, 2012, p. 8).

Professional development—A formal definition of PD, according to *LearningForward* (formerly the National Staff Development Council) and adopted by ESEA, is "a comprehensive, sustained, and intensive approach to improving teachers' and principals' effectiveness in raising student achievement" (U.S. Department of Education Office of Planning Evaluation and Policy Development, 2010). Avalos (2011) gives a practical definition of PD—it "is about teachers learning, learning how to learn, and transforming their knowledge into practice for the benefit of their students' growth" (p. 10). In operational terms, this study delineates two categories of teacher PD — *traditional* and *non-traditional*. *Traditional professional development* typically includes workshops, courses, and conferences; these are considered a "structured approach to

professional development that occurs outside the teacher's own classroom [that] generally involves a leader or leaders with special expertise and participants who attend at scheduled times" (Garet et al., 2001, p. 920). Conversely, *non-traditional professional development* represents a new paradigm of teacher PD that transcends previous categories such as formal and informal learning and is characterized by choice, interaction, and active teacher learning; these characteristics are important for promoting school change beyond individual classrooms, may be more sustainable over time, and focus attention on individual teachers' needs and learning (Darling-Hammond & Richardson, 2009; Garet et al., 2001; Joyce & Calhoun, 2010).

Twitter—Twitter is an online social media network. This microblog service enables users to share information in short 140-character messages called "tweets." According to Rodesiler (2011), teachers are using Twitter to establish "professional learning beyond the workshops provided in their respective buildings or districts as they receive and distribute content tailored to their specific interests in teaching and learning" (p. 52).

Teacher—A teacher, in this study, refers to any professional educator who is involved in the field of education, including classroom teachers, school administrators, technology directors, or other specialists.

Unconferences—These are organic, flexible meetings based on Owen's (1997) Open Space Technology theory which incorporates The Law of Two Feet in which meeting participants are advised to leave if they are "neither contributing nor learning" (p. 11) and Owen's Four Principles of meetings:

1. whoever comes is the right people,

2. whatever happens is the only thing that could have,
3. whenever it starts is the right time, and
4. when it's over, it's over (Owen, 1997, p. 11).

CHAPTER II

LITERATURE REVIEW

The purpose of this study is to describe the phenomenon of Edcamps and examine teachers' perceptions of its utility as PD, related to their experiences. This chapter reviews the literature relevant to this purpose and integrates literature from professional development (PD), communities of practice (COPs), social media (SM) and Twitter, and Edcamp to demonstrate the need for this study.

Researchers have written about PD for decades but the implementation of No Child Left Behind mandates in the early 2000s was the impetus for a new focus on the importance of continual teacher learning. In order to understand PD for teachers, it is imperative to conduct a review of the current state of research in the field. This scope of this review included research outcomes as well as theoretical and practical literature; this literature review was intended to provide the foundation for the study (Imel, 2011). The focus of the literature review was published empirical research on PD that supports teacher learning and research on teachers' use of social media that supports teacher learning.

To search for and identify relevant, empirical literature on teacher PD, I used EBSCOhost in these databases: Academic Search Premier, Computers & Applied Sciences Complete, ERIC, Library, Information Science & Technology Abstracts, MLA Directory of Periodicals, Newspaper Source Plus, Professional Development Collection, Teacher

Reference Center, and TOPICsearch. I performed other searches via Google Scholar and ProQuest (Dissertations & Theses database). Search terms across databases included: "teachers and professional development," "professional development," "social media," "social media and teachers," "social media and professional development," and "twitter and teachers."

The conceptual framework of this study consisted of major elements identified in the research literature as relevant to teacher PD. The framework was used to organize the literature review by sections, following a broad-to-narrow sequence: an overview of teacher PD (an introduction to PD, why teachers need PD, what good teacher PD should look like, what teachers want from their PD, and the current state and trends and issues of teacher PD), an introduction to professional learning communities, the role of technology in teacher PD, an introduction to social media, teachers' use of social media and online communities of practice, social media as PD, and, finally, an introduction to Edcamp.

Professional Development—An Introduction

Education professionals are motivated to help others learn. For teachers to be effective, it is imperative for them to model a passion for discovering new methods of teaching and learning, to seek new ideas and perspectives, and to improve their thoughts, actions, and reasoning (R. D. Anderson, 1996; Joyce & Calhoun, 2010). Teachers must constantly work at becoming better teachers by becoming better students…what they study matters. The learning of teachers is intertwined with their ongoing practice, making it likely that what they learn will influence and meaningfully affect their teaching practices (Putnam & Borko, 2000).

Avalos (2011) claims that PD should be focused on

> Teacher learning, learning how to learn, and transforming their knowledge into practice for the benefit of their students' growth. Teacher professional learning is a complex process, which requires cognitive and emotional involvement of teachers individually and collectively, the capacity and willingness to examine where each one stands in terms of convictions and beliefs and the perusal and enactment of appropriate alternatives for improvement or change (p. 10).

Marx, Blumenfeld, Krajcik, and Soloway (1998) define teacher PD as enhancing teacher competence and knowledge; Borko (2004) proclaims that quality PD "can lead to improvements in instructional practices and student learning" (p. 3)**.** Jovanova-Mitkovska (2010) states that teacher PD is a continual quest for "daily professional and personal growth" starting in preservice education and continuing throughout their career by developing "new knowledge, skills, abilities [and] strategies in the respective areas of competence and application of modern technology" (p. 2922).

The review of the literature showed that traditional teacher PD falls under two categories: formal and informal. Formal PD includes in-services, workshops, and expert or specialist lecture-demonstrations. These events are based on the training model in which teachers' skills are updated through national-, state-, district-mandated workshops and courses. School administrators generally dictate the goals for these interventions with the goal of improving test scores (Penuel, 2006). Informal PD includes classroom visits, collegial interactions and conversations, and ad-hoc training and assistance, but should do more than simply give teachers a forum for conversations (Darling-Hammond & Richardson, 2009). These events are based on situated classroom contexts where learning

is a cooperative process. The goals for informal interventions are generally personal and relate to sharing teachers' experiences and gaining new insights into their teaching and learning (Hew & Hara, 2007). It is this "uptake of formal and informal learning opportunities that deepen and extend teachers' professional competence including knowledge, beliefs, motivation, and self-regulation skills" (Richter, Kunter, Klusmann, Lüdtke, & Baumert, 2011, p. 116).

Why Teachers Need Professional Development

Apart from the argument that teachers should take part in lifelong learning opportunities to hone their professional skills and content knowledge, there is a new focus on teacher PD due to federal and state legislation. U.S. legislators, over the last decade, enacted high-profile legislation that has significantly impacted the careers and lives of every public school teacher (Ravitch, 2011; Solley, 2007). Federal and state laws such as No Child Left Behind, Race to the Top, ESEA, and most recently Common Core Curriculum mandates have placed teacher PD at the forefront of educational reforms. The aims of these reforms are multifaceted and are intended to improve schools and teacher quality, and increase student learning. These efforts have led to "a concentrated concern with professional development of teachers as one important way of achieving these goals" (Opfer & Pedder, 2011).

Legislatively mandated reforms affect every level of teacher practice, including training and teacher preparation programs. It is a commonly held belief by legislators and policy writers who draft and pass education legislation that the most effective way to improve student achievement is to start early—by strengthening the preparation of

preservice teachers through building their content knowledge and pedagogical beliefs (Magidin de Kramer, Masters, O'Dwyer, Dash, & Russel, 2012). This pursuit of PD over the course of a teacher's career requires ongoing support for teachers and education to help them meet the "evolving challenges and changing needs of everyday classroom life encountered after receiving initial certification" (Crawford, Roberts, & Hickmann, 2008, p. 91).

As part of teachers' career-long pursuit of continual development, administrators look to formal PD to provide differentiated opportunities for experienced teachers to build "leadership capacity that utilizes and enhances teacher strengths and classroom expertise" (Taylor, Yates, Meyer, & Kinsella, 2011, p. 93). These opportunities have an additional advantage as they help identify and prepare classroom teachers for new roles as administrators. Another reason administrators push for formal PD is the identification of teachers who are professionally stagnant or who may be experiencing a decline in commitment to their profession—administrators may fear that students in these teachers' classrooms may inadvertently suffer due to the teachers' actions, or lack thereof (Taylor et al., 2011).

A goal of teacher PD is to keep them engaged and at the forefront of teacher preparation for the duration of their career. Teachers should continually seek personal and professional improvement and should be regarded as working scholars who transform the scholarship of teaching (Greenhow, Robelia, & Hughes, 2009). Teachers should be responsible for maintaining a standard of excellence that can be measured by completing PD requirements (Marrero, Riccio, Woodruff, & Schuster, 2010).

Realistically, however, the driving force behind these changes in focus on teacher PD is legislation and curriculum reform, both of which focus heavily on high-stakes testing of students. The responsibility of student achievement is being placed firmly on the shoulders of classroom teachers. Armour and Makopoulou (2012) state that "if schools are to deliver what seems to be required [by state and federal statute], effective and appropriate career-long PD for the teaching workforce would seem to be an essential ingredient" (p. 337).

What Good Professional Development Should Include

The search through published literature yielded a consensus of qualities of meaningful teacher PD—it should be relevant, dynamic, long-term, and offer teachers the ability to reflect on their practice. These characteristics are explored in detail in this section.

Relevant. Teachers need PD that is research-based and timely. Recent research has shown that PD content should be relevant to individual teacher needs—differentiated to the contexts of their local classroom and school districts (Marrero et al., 2010; Starkey et al., 2009). The relevance of PD to teachers will evolve over time, due to current research. Whitcomb, Borko, and Liston (2009) found that successful PD programs were situated in individual teachers' classrooms, schools, and school districts.

Dynamic. Teachers need PD that adapts to meet changing classroom and contextual situations, including a balance of: formal or informal, personal- or group-based, and choice between the focus of the intervention (e.g. content, tool, process, or pedagogy) they attend. Meaningful PD can be either individual- or group-based and

should be situated, embedded, and constructed in the practical experience of being a professional, with consideration given to teachers' changing PD needs (Desimone, 2009; Webster-Wright, 2009). A primary goal of teacher PD should be the consideration of individuals' and overall school orientation to learning systems to mediate teacher learning and teacher change (Opfer & Pedder, 2011; Taylor et al., 2011).

Long-term. Research has shown that if PD efforts are isolated events and not sustained, they will not significantly impact teacher quality (Avalos, 2011; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Goldschmidt & Phelps, 2010). Meaningful change takes time to happen, good habits take time to develop, and substantial shifts in processes and expectations require proper tools and time to measure. Prolonged teacher PD interventions give teachers adequate time to effectively make changes.

Reflection. After teachers learn about, implement, and use a strategy they received in a PD intervention, it is imperative for administrators to give them appropriate time to reflect on the practice to determine what worked, what they could do differently. Desimone (2009) states that reflection occurs at the "intersection of personal and social construction of knowledge…[and] has the potential to contribute to the development of professional communities of practice" (p. 3301). Taylor et al. (2011) reported that teachers desire time for reflection on what they learned in PD sessions. Giving teachers time to engage personally and with others can enhance retention and application of PD efforts.

What Teachers Want from their Professional Development Opportunities

Empirical studies show that teachers prefer PD that offers individualized learning, relevancy to the context of their classrooms, and the ability to collaborate with other teachers and professionals. These aspects are discussed in this section.

Individualized learning. When teachers have a choice of PD, research showed teachers considered individualized and personalized interventions based on empirical research and modern learning theories more desirable than traditional in-service models (Opfer & Pedder, 2011; Polly & Hannafin, 2010; Thomas & Thomas, 2012). Allowing teachers to seek out learning activities that are consistent with their individual practices, contexts, and beliefs can encourage teachers to seek different types of learning activities. Starkey, et al. (2009) advises that effective PD "should take into account the participants' own aspirations, skills, knowledge and understanding, provide theoretical and content knowledge; the design of the learning environment should enable learners to be involved in the learning process…and ensure that educational practices are changed" (p. 182)."

Teachers' perceptions of their PD experiences may be affected by their ability to choose the kinds of PD opportunities they can pursue. Research has shown that a large determining factor in access to and support of PD opportunities is school administrators; their decisions about PD opportunities are rarely based on analysis of specific teachers' needs (Hill, 2009; Opfer & Pedder, 2011). Additionally, an individual teacher's orientation may partially govern their choice in professional learning opportunities. Researchers suggest that the field has never fully "acknowledged that teachers are not a homogenous population but represent diverse ideas, perspectives, experiences, expertise, receptiveness to new ideas, and potential" (Taylor et al., 2011, p. 85).

Nasser & Shabti (2010) reported that three factors affected teachers' satisfaction with PD: their personal background (education, experiences, school role), motivation (intrinsic—mental & physical desire, and extrinsic—salary, pursuit of academic degree), and the program characteristics (objectives, target group). However, Richter et al. (2001) note teachers who feel burned out are more likely to hold negative attitudes toward required PD. It is the job of administrators, then, to create engaging, meaningful PD opportunities. Teachers' attitudes toward PD are positively related with personal accomplishment if they can see a relationship between their accomplishment and PD initiatives (Özer & Beycioglu, 2010).

Teachers' roles and PD needs change over time. Richter et al. (2011) report many teachers experience these changes and shifts in career—that many teachers who choose to enter administration as they progress through their careers often exhibit high work engagement. These teachers, in their management duties, pursued more PD than they did as a classroom teacher. Richter et al. (2011) found that aging teachers do not spend *less* time doing PD but their preferred *forums* of PD changed over time. Teachers choose different PD courses/categories over time—for example, experienced teachers may tend to rely increasingly on professional literature, while novice teachers opt to collaborate through informal PD opportunities. These veteran teachers' needs were, typically, the content not covered in their pre-service teacher training—e.g. educational technology. By offering PD activities that respond to individual needs, school administrators can provide opportunities for experienced teachers to share/learn from each other. Research has shown this can motivate teachers who are less engaged in their profession "to respond more effectively to school and students' need" (Richter et al., 2011, p. 124).

Classroom context. Teacher PD opportunities should be relevant to what is happening in their individual classrooms and to their student populations. According to Richter et al. (2011), there is a movement from a general (classroom management, theory-based focus) to specific (content-/subject area- targeted) PD for teachers. Marx et al. (1998) report teachers' preference of knowledge is "situated in the context of classrooms and the events and activities of teaching…knowledge about teaching and practices related to this knowledge cannot be learned independently of the situation in which it will be used" (p. 34). If administrators expect meaningful changes as outcomes of teacher PD, the reform should be embedded in specific classroom contexts and situations, focusing on teachers' needs (Opfer & Pedder, 2011; Starkey, et al., 2009).

Teacher access to PD may not be enough. Teachers may require additional help to adapt PD to the specific contexts of their classrooms and schools. Pianta, Mashburn, Downer, Hamre, & Justice (2008) reported an apparent lack of training to help teachers implement it into their classroom activities, lesson plans, and student interactions.

Lastly, teachers have a lot to do! Teachers are under pressure to perform many jobs and fulfill multiple roles. In order to balance all of the demands, they want PD that fits within their busy schedules, that doesn't require large investment of their time (unless given time to implement/etc. by administrators), and want to have access to anytime/anywhere support, powerful resources, and real-time results (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009).

Collaboration. Penuel (2006) found that teachers are more likely to trust fellow classroom teachers for guidance on improving practice; they want in-depth & engaging PD that includes mentoring and coaching, involvement in and with communities of

practice, and internships to grow in their profession. In addition, teachers want relevant PD that balance building individual competence and socially collaborative activities that include mentoring and coaching, ongoing feedback on instructional and classroom practices, and opportunities to reduce classroom isolation (Marx et al., 1998; Pianta, Mashburn, Downer, Hamre, & Justice, 2008). Individualized learning opportunities can help teachers develop a "school-level orientation to learning system" (Opfer & Pedder, 2011, p. 293) that helps them transform their thinking from the individual teacher classroom to the school and community level.

Professional Development Trends and Issues

Issues with traditional PD, new opportunities for teacher choice of PD, and issues in PD literature are discussed in this section.

Issues with traditional professional development. There are many criticisms about traditional PD. Borko (2004) famously dismissed the majority of teacher PD available to teachers as "woefully inadequate" and wrote that "millions, if not billions of dollars" were being spent on traditional, didactic PD (p. 3). Technological advancements have revolutionized global communications and new federal, state, and district policies have begun impacting classroom instruction, yet many in the educational community continue to push traditional PD methods and messages to their teachers. Webster-Wright (2009) questions why the majority of PD events are still done in the 'sit-and-get' style. The historical nexus of teaching and learning reinforces traditional notions that significant learning experiences require external direction and significant resources (time, effort, and money) to be invested in established structures for PD—this is difficult to

challenge.

Pianta et al. (2008) found that traditional workshop-based PD "falls short in a multitude of ways: teachers are in a passive learner role; the content is vague, irrelevant or disconnected from classroom context, and there is limited follow-up" (p. 433). Research has shown that the majority of PD interventions that teachers receive are one-shot, 'sit-and-get' workshops that are often not taken seriously by teachers nor likely to facilitate any change in teacher learning and/or practice on their own (Lieberman, 1995; Parise & Spillane, 2010; Webster-Wright, 2009). The external pressure of high-stakes testing has caused many districts to increase the number of required hours their teachers must attend. Hill (2009) denounces this practice and states the education community "should abandon professional development that exists only to fulfill state licensure requirements" (p. 475).

These issues can cause teachers to roundly dismiss traditional PD as "irrelevant, ineffective, and fractured," activities that are "not giving teachers what they actually need to teach students" (Marrerro, et al., 2010, p. 81). These issues are leading teachers to seek out PD that has meaning for them and their individual classroom contexts.

Choice of professional development. Although teachers are rarely given the opportunity to choose from a variety of PD avenues (Marczely, 1996), there are growing calls for states, districts, and schools to allow teachers flexibility in pursuing PD they feel would be advantageous to their classroom contexts and their students. Research shows a strong focus in current professional literature on the importance of choice and flexibility of effective teacher PD (Garet, Porter, Desimone, Birman, & Yoon, 2001) but some researchers are still only prescribing prescriptive, sequentially based strategies that are

easily implemented (Gersten, Dimino, Jayanthi, Kim, & Santoro, 2010). Armour & Makapolou (2012) reported a trend in Europe away from prescriptive PD policies toward strategies allowing local districts and schools to "take greater responsibility for teachers and their professional development…top-down, mandated and standardized professional development is inadequate for many teachers" (p. 337).

Hill (2009) reported on teacher choice of PD and questioned administrators' decision processes that determine which teachers attend which PD. The research focused on decisions about identifying teachers who need extra PD and determining those teachers who voluntarily seek it out, are required to go, or actually go—regardless of administrative requirement. Hill (2009) crafted an analogy between teacher PD and shopping stating that

> research-based & proven professional development seldom reaches mass teacher audiences. These are boutiques serving only a handful of fortunate teachers while leaving many more to shop at the Wal-Marts of the professional development world who receive only uninspired and often poor-quality professional development and related learning opportunities (p. 470).

Current scholarly research on teacher professional development. The majority of research and scholarly publications have focused on specific activities, programs, and processes which often occur "in isolation from the complex teaching and learning environments in which teachers live" (Opfer & Pedder, 2011, p. 377). Researchers have called for empirical research on enhancing teacher learning and effectiveness (Gersten et al., 2010; Polly & Hannafin, 2010), citing that the majority of studies are based on self-reports and case-study analyses that focus on relationships between tasks, teacher

collaboration, and situated practice. Penuel (2006) suggests that current research studies on PD activities are too big and too shallow to determine how teachers' change practices because of PD and simply do not include objective measures of program implementation.

Opfer and Pedder (2011) report that a focus on correlational research on teacher PD (e.g. Dede et al., 2009) is flawed because the correlations are based on the assumption that teacher PD is a repertoire of learning activities and methods that lead to teacher learning is correlated to the frequency to which teachers use that repertoire of activities and methods in their classroom. Opfer & Pedder (2011) argue that researchers find correlations between PD activities and teacher implementation as change because they are explaining the whole picture by only describing one piece of the puzzle. The authors contend that truly effective PD is a result of a combination of social and personal dynamics and collaboration between teachers; the "interplay of individual teachers, communities of practice, and specific contexts that leads to teacher change and learning" (Opfer & Pedder, p. 379).

Researchers have suggested a change in terminology as a means of refocusing on teacher PD. They suggest that by renaming the practice 'teacher professional learning,' researchers would encompass the complex relationship between personal growth, professional growth, and school community of practice growth inherent in the idea behind modern teacher PD (Clarke & Hollingsworth, 2002; Opfer & Pedder, 2011; Timperley & Alton-Lee, 2008).

Collaboration. Teachers believe it very beneficial "to interact with and learn from other educators who are located across the country" (Marrero et al., 2010, p. 93). Polly & Hanafin (2010) suggest several collaborative events that would benefit teachers through

> documenting which processes, practices, pedagogies are implemented & adopted by teachers over time, getting teachers to recognize the importance of improving their own performance, making teachers aware of misaligned practices/beliefs, and scaffolding teachers' implementation, especially new teachers, of learner-centered pedagogies through workshops, co-planning, co-teaching practices, and technology-based professional learning communities (p. 565).

Technology. As technology has become ubiquitous in every facet of our daily lives, issues and trends for their application in education emerge. Teachers must "consider how interactions with those digital tools might also shape our students' minds and bodies" (Jensen, 2012, p. 554). Research has shown that technology can enhance situated PD, such as mentoring and communities of practice, by giving teachers access to information and experts to help negotiate barriers to enhancing instruction with technology and support for designing rich, interactive learning environments (Kopcha, 2012; Vrasidas & Zembylas, 2004; Wang, Hung, Hsieh, Tsai, & Lin, 2012). Conversely, teachers face a number of barriers to integrating technology into their teaching including access, teachers' personal beliefs about using technology, support from school and district, and time to implement technology into their instruction (Kopcha, 2012; Thomas & Thomas, 2012; Wang et al., 2012).

Technological advances have greatly enhanced teachers' collaborative learning efforts. However, there are issues that come with using these new tools to connect teachers and students *ex situ.* Teachers and students have no guarantee of response through social media, and they run the risk of overburdening their cognitive capacity

while using social media (Rodesiler, 2011, p. 56). It is plausible to posit that many teachers teach in the ways they were taught. Researchers found that most university and college faculty only used technology to support traditional face-to-face communication and learning because through perceptions of technology use being of higher quality than traditional learning approaches (Thomas & Thomas, 2012; Vrasidas & Zembylas, 2004). These pre-packaged programs do not encourage interaction among the participants.

Online Professional Learning Communities

School reform literature has begun reflecting the view that schools are communities of learners, and that learning is social (Lave & Wenger, 1991; Marrero et al., 2010; Putnam & Borko, 2000). In the *Fifth Discipline,* Senge and Suzuki (1994) introduced a corporate Learning Organization model that employs five learning disciplines to build effective learning organizations: personal mastery, mental models, team learning, building a shared vision, and systems thinking. These five disciplines can be applied to school contexts but require time for collaboration, ongoing administrative support, and access to colleagues and PD. Integration of the Learning Organization model can lead to a collective pursuit of learning by administrators, teachers, students, parents, and other educational stakeholders (Roberts & Pruitt, 2003)

Professional learning communities are action-oriented groups in which members work together, share equal responsibility for leadership, work and learning, and assume participation from all members (Blankenship & Ruona, 2007; Brown & Duguid, 1991; DuFour, 2004). These working relationships can especially be beneficial for teachers' professional growth (Vrasidas & Zembylas, 2004) because they are "opportunities for

teachers to gain access to new information, clarify their ideas and beliefs and examine different ways of thinking about teaching, and reflect on their own practices" (Marx, Blumenfel, Krajcik, & Soloway, 1998, p. 34).

Borko's (2004) landmark work on PD found that teachers' involvement in professional learning communities "can foster teacher learning and instructional improvement" (p. 6). She stated that PD is situative in that learning takes place while participating in socially organized activities; an individual's creation of knowledge is an aspect of participation in social practices. Furthermore, she proclaimed that when teachers take part in a professional learning community, they may be able to help students create their own personal learning communities (Borko, 2004; Dabbagh & Kitsantas, 2012; Putnam & Borko, 2000). These communities of discourse being envisioned are significantly different from those traditionally found in public school classrooms in that they provide "cognitive tools—ideas, theories, and concepts—that individuals appropriated as their own through their personal efforts to make sense of experiences" (Putnam & Borko, 2000, p. 5).

Respect and trust are essential features of PD and critical for online communities of practice. Marx et al. (1998) suggested "if networking is to help develop communities of practice, teachers need guidance and support to engage…although teachers may be energized by a desire to improve student learning and motivation, they initially can be hesitant about change in practice" (p. 48). Involvement in peer-supported groups gives teachers a safety net of collaboration in which they are encouraged to take risks and report failures, engage in challenging discussions that push them to deepen understanding and attempt new practices, and promote school change beyond individual classrooms

(Darling-Hammond et al., 2009; Starkey et al., 2009; Whitby, 2013; Whitcomb et al., 2009).

Communities of practice demonstrate Coleman's theory of social capital. Social capital refers to a broad range of resources accumulated through personal and professional relationships that facilitate action (Coleman, 1988) and research has shown positive relationships between the building and maintenance of social capital and the use of online social media networks (Bosch, 2009; Ellison, Steinfield, & Lampe, 2007). The resources, knowledge, and expertise that exist within the social network at a school can be exchanged through formal and informal interactions to facilitate personal, professional, and school change (Greenhow et al., 2009; Penuel, Riel, Krause, & Frank, 2009). Students and instructors can leverage "social capital to cultivate a healthy learning culture in society, which, in turn contributes to the formation of a more harmonious society that embraces critical thinking and diversity" (Ho, 2013, p. 93).

Social Media-Based Communities of Practice

Teachers' intent to share and build knowledge in online-based communities of practice demonstrates Piaget's theory of constructivism because knowledge does not exist independent of a learner. Individuals construct personal knowledge internally, while groups of individuals create social knowledge through social interactions, such as online communities of practice (Webster-Wright, 2009).

Increasing numbers of teachers in economically-disadvantaged or geographically-isolated schools are seeking out online PD opportunities technology because expert training and professional resources may not be otherwise accessible or feasible (Magidin

de Kramer, Masters, O'Dwyer, Dash, & Russell, 2012; Marrero et al., 2010). Research has shown that traditional barriers such as distance, meeting space, and expense "may be overcome by online professional development; with stable internet access, online professional development truly offers anytime-anywhere learning opportunities" (Magidin de Kramer et al., 2012, p. 238). A recent trend shows that teachers are using online social technologies to participate in learning communities to share their learning and teaching experiences with a global network of educators (S. Anderson, 2011; Marrero et al., 2010; Trust, 2012).

Social Media: Modern social technologies allow for ad-hoc creation of learning groups anywhere/anytime; teachers and students need no longer be tied to a place to communicate, share, and learn. DuBrin (2008) reported that a social network is a "specific set of linkages among a defined set of individuals…the major purpose is to develop social capital in the form of smooth-working relationships with a variety of people" (p. 199). The appeal of social and digital technologies is their immediacy, reach, and flexibility. Thomas & Thomas (2012) found

> the growth in prominence of social media and Web 2.0 technologies has had a dramatic impact globally on how people communicate. Social media platforms such as Facebook [and] Twitter…have the potential to become important disruptive technologies for building cutting-edge models" of education (p. 358).

Whitby (2013) wrote that "education has always been an isolated profession that called out for collaboration, but it did not have an effective way to collaborate. There is a new level of relevance that is added with technological advances being shared" (n.p.). However, Jensen (2012) reported that social media tools could be used to help teachers

"feel less isolated in their classrooms and more connected to other teachers who were addressing similar content and student-related issues" (p. 562).

Research showed that teachers' participation in informal social network typically occurred in the context of a teacher's immediate needs or desires on a need-to-know, 'just in time' basis (Duncan‐Howell, 2010; Hew & Hara, 2007). Teachers are able to use social media to gather data for research (Thomas & Thomas, 2012). Social media networks have the potential to create closer and stronger relationships between teachers and teachers (Ho, 2013) and teachers and students as a forum for engaging and communicating with students, as a forum for sharing student work, or responding to requests for assignment help (Hiltz & Turoff, 2002; Marrero et al., 2010; Matteson, 2010; Thomas & Thomas, 2012).

The phenomenon of widespread cultural adoption of social media communication has immediate implications for education and teacher PD. Research stated that new communication technologies are "essential for future innovation…the resistance to the use of social media and how to incorporate technology into teaching must be overcome. The need to provide [teachers with] training in social media and Web 2.0 technologies and their importance and value for knowledge development is becoming evident" (Vrasida & Zembylas, 2004, p. 361). Whitby (2013) addressed social media adoption and use on his popular blog:

> Technology and social media specifically have provided tools that enable educators to connect, communicate collaborate and create. That ability makes a difference in individuals…[and] creates two groups of educators, the connected and the unconnected. The discussions of the connected seem to be focused on the

future and moving toward it. The discussions of the unconnected seem to be steeped in the past with little or very slow-moving forward movement" (n.p.).

Teachers and administrators are increasingly turning to social media for connections, learning, and developing presence in their communities, outside of their school buildings. Social media networks give teachers the ability to enhance their professional careers, change the ways in which teaching, learning, and communication happen in school communities (Greenhow et al., 2009; Sheninger & Larkin, 2012), and make meaningful professional relationships with colleagues around the world (Rodesiler, 2011; Whitby, 2013)

At present, one of the more popular social media networks used by teachers (Mills, 2014) is Twitter, an online service in which users communicate via short, 140-character messages. Tweets have meaning for those who post them (Carpenter & Krutka, 2014a) and although Twitter messages are short and sometimes trivial, their content may be more memorable than normal printed text, such as news headlines (Mickes et al., 2013). Twitter has been used to facilitate student learning about classroom resources, strategies, and technologies (Bista, 2013; Mills, 2014). Recent publications suggest that Twitter has become a viable forum for real-time learning for teachers a tool by which educators can take part in meaningful PD (S. Anderson, 2011; Carpenter & Krutka, 2014b; Mills, 2014; Rodesiler, 2011). It was through Twitter that teachers began spreading the word about a new form of face-to-face PD, Edcamp.

Edcamp

A review of relevant literature on the relatively new phenomenon of Edcamp turns up a dearth of empirical research—one practitioner book, one white paper, one

dissertation, several practitioner journal articles, and a several conference proceedings papers.

Traditional PD opportunities rarely lead to significant change (Freidus et al., 2009) and are reported to be largely ineffective and costly (Borko, 2004). Professional learning should be practical, authentic events in which teachers have control to focus on practical classroom strategies relevant to them and their school (Duncan‐Howell, 2010). Teachers are eager for PD opportunities that they themselves create (Demski, 2012) and when given that opportunity, Heron & Hammond (2001) found they may experience powerful and positive changes in knowledge, skills, attitudes, and behavior (in Hew & Hara, 2007). In 2010, when teachers held the first Edcamp in Philadelphia, they finally had the opportunity to completely break with past practice and past values regarding professional development" (Swanson & Leanness, 2012, p. 8).

An Edcamp is a gathering of teachers based on the unconference model, "a revolutionary idea that allows teachers to come together to collaborate on ways to inspire each other with new, refreshing ideas they can implement in their individual classrooms" (Kalesse, 2014, p. 20). Edcamp is based on Boule's concept of open space technology—a "belief that people can self organize, self govern, and produce results…the people who attend are the right people, the things that are learned are the right things, and the things that happen are the right things" (Swanson & Leanness, 2012, p. 7).

The following tenets define the Edcamp model: free, noncommercial and vendor-free, hosted by any organization or person, composed of sessions determined on the day of the event, event where anyone can be a presenter, and reliant on the law of two feet that encourages participants to find a session that meets their needs (The Edcamp

Foundation, 2014). At Edcamp, the focus is on teachers and their needs, voices, and relationships (Demski, 2012). Creating personal and professional relationships is a significant aspect of the Edcamp event. Ferriter and Provenzano (2013) reported that Edcamps are "physical representations of the self-directed, evolutionary learning that takes place in social spaces like Twitter" in which relationships that start online are cemented in person, and relationships cemented in person continue in digital networks long after unconferences end" (p. 19).

Organizing the event: Months before the actual day of the event, Edcamp organizers choose a day and venue, often a school, and often solicit local companies, businesses, and individuals for donations for breakfast, coffee, and snacks. Organizers then promote the event through emails to local schools, traditional media outlets, but most visibly via Twitter.

On the day of the event, attendees register, get name tags and discuss topics they'd like to learn about that day while organizers help facilitate the building of the schedule. Traditional conferences can 'inadvertently stifle innovation by lining up predetermined slates of sessions months in advance" (Davis, 2013, p. 20). At Edcamp, innovation happens when minds come together to share ideas and propose sessions. Attendees propose sessions directly or through sticky notes organized into common themes by the organizers. Edcamp organizers discourage presentations, sessions are designed to be facilitated conversations between like-minded peers who recognize the expertise of everyone in the room (Demski, 2012). Teachers then choose from the agenda that they constructed with their peers. Organizers kick off the event with announcements and a how-to for new attendees, and then float between sessions to ensure participants

facilitate them. At the end of the day, organizers close the event with a brief time of reflection from participants, called a 'smackdown' where they share their takeaways from the event, and with calls for participants to share what they learned via blogs and Twitter to keep the conversation going (The Edcamp Foundation, 2014).

A key to any successful Edcamp is free wireless Internet access and sharing your experience with others. Edcamp organizers encourage participants to join the Wi-Fi network to use the Twitter for backchannel conversations (participants' feedback) during the event. The Twitter backchannel allows participants to share their thoughts, ideas, and reactions from their sessions with others, even those who are not attending that Edcamp (Davis, 2013; Demski, 2012). Both *in* situ and *ex situ* participants can use the Twitter backchannel to virtually attend other sessions and follow those conversations—synchronously, as they are occurring, or asynchronously, after the session has finished. Miles (2014) commented:

> The backchannel is an integral piece of Edcamp, with participants fervently tweeting before, during, and after each event. Participants share resources, react to the ideas of the day, and share their reflections with their professional network. Many times, the backchannel may influence participation in a given session, attracting more and more attendees as those within the session post intriguing ideas from the sessions (p. 6).

Edcamp is a "grassroots movement of do-it-yourself professional development" (Demski, 2012, p. 43) that brings educators together to share face-to-face lessons that can "be instantaneous and promote connections that lead to deeper conversations about new methods to inspire and educate students" (Davis, 2011, p. 513).

Summary of Literature Review

Through this review of the related literature on PD, it is evident that teachers are unsatisfied with traditional PD and are pursuing new opportunities for learning. Traditional, didactic PD opportunities are disconnected from individual classroom practice, do not allow for teacher choice of content, offer little chance to interact with peers and experts, and are unsustainable over time. New forms of PD are teacher-centered, and allow teachers voice and choice—the ability to communicate with colleagues and experts, to drive their own professional learning, and make decisions about what they want to learn and when they need to learn it. These new PD forums give teachers the opportunity to personally reflect on practice, to share experiences with colleagues, and build communities of support and learning.

The rapid adoption of the Edcamp model of PD shows grassroots support and preference for teacher-centered learning opportunities. A study of teachers' perceived utility of Edcamp and the relationship between Edcamp attendance and changes in professional practice will help determine the effectiveness of the model as meaningful, quality PD.

CHAPTER III

METHODOLOGY

The purpose of this study was to describe the phenomenon of Edcamps and examine teachers' perceptions of its utility as PD, related to their experiences. This chapter describes the design of the study, setting and participants, and data collection procedures used to complete this study. The selection of methodology and procedures was made to answer the research question: What are participants' perceptions of the utility of professional development via Edcamp?

Study Design

This study of teacher PD followed a constructionist epistemology in which an understanding that all meaningful reality is socially constructed and transmitted (Crotty, 1998). This interpretivist theoretical perspective focuses on understanding the research process and assumptions (Crotty, 1998; Elliott & Timulak, 2005) through a social constructivist paradigm in which learning occurs through personal and social processes of interaction, connections, support, and meaning making (Ertmer & Newby, 1993; Prawat, 1992; Veletsianos & Navarrete, 2012). Based on this epistemological stance, the design for this

study was a multiple phase Q methodological study to answer the research question about teachers' perceptions of their Edcamp experiences. Multiple phases were used to construct a full interpretation of the phenomenon under study. The next section describes the elements of Q methodology as the study design, including Q sort development, data collection and analysis, and depth interpretation including triangulation of multiple data sources.

Q Methodology

The purpose of this study is to describe the phenomenon of Edcamps and examine teachers' perceptions of its utility as PD, related to their experiences. As teachers are considered experts in their field, their viewpoints are considered important relative to the phenomenon. Q methodology is ideal for capturing these viewpoints as it allows participants to determine what they think is meaningful and what has value and significance from their personal perspectives and experiences (Hutson & Montgomery, 2011; Stephenson, 1980; Watts & Stenner, 2005, 2012). McKeown and Thomas (1988) state that Q methodology is ideal for a "systematic study of human subjectivity" (p. 9) as it is a "complete and distinctive approach with its own principles for analyzing human behavior" (p. 11). Q methodology makes use of abduction, an uncommon approach to research that allows researchers to look for surprises in the data and new findings unanticipated a priori (Watts & Stenner, 2012).

Some authors have claimed that Q methodology can be considered a mixed method due to the use of both quantitative and qualitative techniques (Ramlo & Newman, 2011). Others classify it as a research tool that researchers use to apply qualitative analytic techniques to identify patterns and themes (Shemmings, 2006) or as an

alternative method that uses quantitative techniques to focus on humanistic approaches (Eden, Donaldson, & Walker, 2005). Although Q has both quantitative and qualitative philosophical underpinnings (P. Stenner & Rogers, 2004) and can be used within larger mixed method studies (Danielson, 2009), researchers state that Q is not a fully mixed method because the methods do not lead to separate findings and conclusions in a Q study. Rather, the qualitative and quantitative procedures and strategies are mechanisms to use multiple data sources to understand a phenomenon (Hutson & Montgomery, 2011). For the current study, I followed this last perspective by using a survey to develop the Q instrumentation and following the sorting activity with the use of Tweets, interviews, and observations to fully interpret the Q quantitative results..

The goal of a Q methodology study is not the identification of the statistical prevalence of dominant viewpoints but the identification of participants' different patterns of understanding of a phenomenon (Donner, 2001; Owusu-Bempah, 2014). Q methodology can be employed to help researchers answer sophisticated research questions, measure the resulting perspectives, and provide a greater understanding of the findings (Danielson, 2009) by allowing researchers to "identify groups of participants who make sense of a pool of items in comparable ways" (Watts & Stenner, 2005, p. 68).

In Q methodology, less attention is paid to validity, as study participants sort from their own perspective, they therefore establish a legitimate claim that those sorts are valid representations of their views (Watts & Stenner, 2012). The general aim of Q is to "establish the existence of particular viewpoints and thereafter to understand, explicate and compare them" (Watts & Stenner, 2012, p. 72). Likewise, generalization to a larger

population is not the aim of Q methodology; the results of a Q study often focus on consensus, concepts or categories, or groups of people (Watts & Stenner, 2012).

Although Q methodologists rarely discuss validity, they do address reliability and state that the reliability of Q data is a result of recruiting enough participants who sort in a similar manner for data interpretation (Yang & Montgomery, 2013). For the qualitative interviews, I addressed reliability through consistent data collection methods in and across observations and interviews. Maxwell's (in Gay et al., 2009) criteria for validity of qualitative research were used to gauge the validity of this study. Maxwell's criteria include

- descriptive validity—factual accuracy,
- interpretive validity—concern for participants' perspective,
- theoretical validity—ability to explain the phenomenon under study,
- generalizability—results generalizable within the community under study (internal) and outside of the community under study (external), and
- evaluative validity—presentation of data free of evaluation and judgment (Gay et al., 2009).

For this study, I addressed descriptive and theoretical validity concerns in the follow-up interviews through prolonged participation at Edcamps, persistent observation and collection of detailed descriptive data, generalizability validity is considered unimportant in Q methodology and thus was disregarded, and interpretive validity through reflexivity (reporting researcher's assumptions and biases) (Patton, 2002).

Concourse Development

In Q methodology, a concourse of self-referent statements that represent opinions is generated that includes all the possible opinions that exist about the topic of interest—these statements should represent a wide range of opinions (S. R. Brown, 1980; Stephenson, 1980, 1993). The first phase of this study consisted of a web-based demographic survey used to gain an initial understanding of who was participating in the Edcamp phenomenon. This survey was an informal instrument that sought to construct various descriptors of Edcamp attendees and their experiences. I developed 26 descriptive questions for a trial of the survey and then finalized the survey based on personal conversations with teachers and administrators at Edcamps. After gaining approval from University IRB (Appendix A), I emailed the survey to respective Edcamp organizers who then disseminated it to Edcamp attendees via email. After receiving and analyzing a number of responses, I gained approval from University IRB to amend the survey by adding four open-ended questions to better capture teachers' qualitative and subjective opinions about their Edcamp experiences. Demographic analysis of the survey data shows responders (N = 205) were 64% female, were mostly between 30-50 years old, were well educated (58% hold a Master's degree), and identified classroom teacher as their role in education. There was an even distribution of years of experience in education. The educators overwhelmingly (84%) considered their use of social media as a form of PD and accessed social media sites for PD at least once per day. This intensive use of social media helps explain how word spreads about Edcamp—as many educators learned about Edcamp from Twitter (41.95%) as those who learned of it via a friend or colleague (20.48%) and other forms of communication (22.92%), combined. Lastly, many

responders were first-time Edcamp attendees but indicated they would attend another Edcamp in future. The survey yielded hundreds of descriptions of the Edcamp experience to be used for the Q instrument.

Instrument Development

From the concourse, I selected a smaller number of Q statements—the Q set—to form the sample, the statistical data in a Q study (Stephenson, 1980). This method differs from other popular methods of statistical analysis in which participants form the sample (Watts & Stenner, 2012).

For this study, I chose a hybrid method of concourse development using statements derived from several sources with the intent of developing a balanced sample of statements and reduce bias (McKeown & Thomas, 1988). The concourse of statements for this study, based on the theoretical framework explained in the Literature Review, represented the possible opinions of teachers regarding their PD experiences at Edcamp and was developed through a review of literature (Borko, 2004; J. S. Brown & Duguid, 1991; Desimone, 2009; Lave & Wenger, 1998; Marrero, Riccio, Woodruff, & Schuster, 2010; Parise & Spillane, 2010; Wenger, McDermott, & Snyder, 2002) as well as the many qualitative responses derived from the analysis of the survey data, including verbatim statements from participants (Webler, Danielson, & Tuler, 2009). The result was a Q set of 36 statements in four categories of sources: theoretical framework, Twitter, Edcamp, and PD (Appendix B).

Procedures and Analysis

After receiving approval to conduct the study, I conducted fieldwork through observations and Q sorts at three Edcamps in February and March of 2015 and several Q sorts with Edcamp participants in April and May. Interviews for member checking and interpretation clarification were conducted in May 2015. I acted as an overt participant observer in several sessions at these Edcamps, which helped develop an insider's view of what is happening, an *emic* perspective (Patton, 2002). The IRB application included requesting Edcamp organizers' permission to take notes and observe the sessions for this study. Edcamp organizers at all three Edcamps agreed to allow this level of investigation. The observations consisted of recording details about the setting, environment, and participants who attended the Edcamp sessions. I particularly concentrated on teachers' conversations and their use of Twitter to share ideas, thoughts, and reactions to the conversations. Twitter is a public domain and these data were used to develop the concourse.

For this study, participants performed one Q sort in which they rank ordered the set of statements using the condition of instruction: "What describes my professional development experience at Edcamp?" I used a script to instruct participants how to follow the sorting procedure (McKeown & Thomas, 1988).

First, participants read the statements and sorted them into three piles (Most Like Me, Most Unlike Me, and those which they have no strong feeling). Participants then placed the statements on a Q Sorting Grid (Appendix C). Traditional sorting directions were provided.

First, I asked participants to begin with sorting the two "Most Like Me" statements into the right-most column, +4, followed by the two "Most Unlike Me" statements into the left-most column, -4, and then continue to sort statements by filling in the grid from the outer columns-inward. After participants had completed the placements of the statements, I asked them to review the positions of the statements and to adjust them according to the condition of instruction. When participants communicated satisfaction with the order of their sorted statements, they recorded their sort positions on a record sheet. This process of sorting and recording allowed participants to align themselves with others who most closely shared their perspectives (McKeown & Thomas, 1988).

I included a 16-question demographic survey on the back of the record sheet for convenience and simplicity of record keeping (Appendix D). I asked participants to fill out this survey after completing the recording of their sorts and advised participants that any/all responses on the questionnaire were optional and confidential. The questions included gender, age, educational degree(s) attained, their use of social media, and short-answer questions about their experiences at Edcamp. The demographic data were collected for interpreting factors following analysis. I informed the participants of the reason for requesting contact information for the follow-up qualitative interview. During the Q sorts, I took qualitative field notes about the setting, participants, and conversations.

Data Analysis

Participants used a traditional Q sorting board that forced their sorts into a symmetrical, normal distribution curve (Watts & Stenner, 2012) that could then be subjected to factor analysis to determine a mathematical correlation of the values attached to each participants' responses (Wong, Eiser, Mrtek, & Heckerling, 2004) I entered the participants' sorting placements into computer software specifically created to analyze Q sorts. PQMethod software (Schmolck, 2014) was used to analyze all 19 Q sorts together to construct a correlation matrix that identified correlations between individual teacher's attitudes about their Edcamp experience. I did this in order to identify and extract factors that account for as much of the variability in the correlations as possible (S. R. Brown, 1980).

The groups of attitudes, or arrays, illustrated similarities in teachers' opinions about Edcamp based on their correlation (S. R. Brown, 1980). The factor structure created by the PQMethod software was simplified using varimax rotation after an initial principal component factor analysis. Varimax rotation is seen as appropriate for exploratory studies because it simplifies factor structure and is ideal for determining separate, independent factors (Denison & Montgomery, 2012; McKeown & Thomas, 1988; P. H. Stenner, Cooper, & Skevington, 2003; Wong et al., 2004). Rotation allows researchers to use abduction to identify unanticipated relationships and new discoveries (S. R. Brown, 1980; Watts & Stenner, 2012). Analysis of the rotated composite Q sorts enabled me to interpret a limited number of factors, based on the viewpoints of each particular factor (van Exel, de Graaf, & Brouwer, 2007; Watts & Stenner, 2012).

The first step of data interpretation used characteristic statements of each factor based on their composite location using those ranked at the extreme "Like Me" and "Unlike Me" positions on the sort board. After identifying general factor characteristics, I looked at differences and similarities between factors based on distinguishing statements—those statements that were placed in significantly different positions from other factors that can help identify subtle differences between factors (Herrington & Coogan, 2011)—and consensus statements—statements that did not distinguish between factors (van Exel et al., 2007).

In Q methodology, statements with negative *z*-scores are just as meaningful as positive *z*-scores and enable cross-factor comparisons (Watts & Stenner, 2012). PQMethod reports distinguishing statements to help researchers determine differences between factors based on meaning of the placement of statements across factors, because the participants placed and ranked every item for a reason (Watts & Stenner, 2012). Statements may be distinguishing on a given factor because sorters on that factor did not have strong feelings about it. The Q sorts that loaded significantly on a factor did so because they exhibited similar sorting patterns which, in turn, suggests the participants held very similar distinct viewpoints relative to the phenomenon (Herrington & Coogan, 2011; Watts & Stenner, 2012).

Limitations

The results of this Q study are not generalizable to all teachers or all attendees of Edcamps. As discussed previously, Q methodology only seeks to identify viewpoints, not

to generalize to larger populations. This study was an exploration of viewpoints and perceptions of only these teachers and their experiences.

Participants

In Q methodology, the researcher's goal is to strategically select participants whose characteristics are theoretically relevant to the phenomenon and who may hold heterogeneous viewpoints of the phenomenon under study who may therefore contribute different perspectives for analysis (S. R. Brown, 1980; Watts & Stenner, 2012; Yang & Montgomery, 2013). Less importance is placed on identifying and selecting participants who are representative of the population of interest. Even less importance is placed on the number of participants in the study (S. R. Brown, 2014). Watts and Stenner (2012) suggest a minimum ratio of two Q-set items to every participant or a maximum of less than the number of items in the Q-set.

For the second phase of this study, I used purposive and opportunistic sampling (Watts & Stenner, 2005)to recruit I selected 19 teachers, administrators, and education specialists who self-identified as teachers who had attended Edcamps and whom I believed would give a wide range of views of their Edcamp experiences. During the Q sort, demographic information (Table 8) was solicited from all sorters in the study to be used to confirm factor interpretations and meaning (Watts & Stenner, 2012).

I included demographic data on age and gender because they were identified as important in previous literature. In this study, gender distribution favored females, which is typical in education studies (DiPrete & Buchmann, 2013). There was an even distribution among age and position in education. There were more veteran teachers (15

years or more) than new teachers. Most participants were first time Edcamp attendees and reported that Edcamp-style PD was better than that which they attend in their own school or district. A surprising finding was the high level of education reported—all but one of the participants had attained, or was pursuing, a master's degree, with five participants holding a doctoral degree.

Table 10. Participant Demographics Distribution by Factor

Characteristic		Tweeting Edcampers	One-Time Edcampers	Edcamp Converts	Confounded
Gender	Female	6	2	2	3
	Male	4		1	1
Age	< 30		1	3	2
	30-40	3	1	1	1
	40-50	6			
	50-60	1		1	1
Education	Bachelor's				1
	Master's*	5	2	3	3
	Doctorate*	5			
Years in Education	0-1			1	
	2-4			1	1
	5-9	2	2		1
	10-14	1			1
	15-19	4			1
	20 or more	3		1	
Role in Education	Teacher	5	2	3	3
	Administrator	3			
	Instructional/ Tech Coach	2			1
No. of Edcamps Attended	1	6	2	3	3
	2-3	1			
	4-5	3			1
Comparing Edcamp PD to Traditional PD	Much Better	6			2
	Somewhat Better	3		1	2
	About the Same		1	1	
	Not as Good		1		
	Other	1		1	

Note. * indicated 'included degree in progress

CHAPTER IV

FINDINGS

The purpose of this study was to describe the phenomenon of Edcamps and examine teachers' perceptions of its utility as PD, related to their experiences. Q methodology was used with multiple phases. A survey was developed for the first phase to inform the contents of the concourse. The sorts were analyzed using correlation, factor analysis with rotation, and *z*-score calculation. Finally, the interpretation phase included interview and twitter data in addition to the factor scores. Here, the findings for the phases are presented.

Survey to Develop Concourse

The first phase of the study consisted of a web-based demographic survey used to gain an initial understanding of who was participating in the Edcamp phenomenon. This survey was an informal instrument that sought to construct various descriptors of Edcamp attendees and their experiences. I developed 26 descriptive questions for a trial of the survey and then finalized the survey based on personal conversations with teachers and administrators at Edcamps. After gaining approval from University IRB (Appendix A), I emailed the survey to respective Edcamp organizers who then disseminated it to Edcamp attendees via email. After receiving and analyzing a number of responses, I gained

approval from University IRB (Appendix B) to amend the survey by adding four open-ended questions to capture teachers' subjective opinions about their Edcamp experiences.

The survey was open for 18 months. In that time, 205 Edcamp attendees responded to the survey. Descriptive analysis of the survey demographic data shows that responders were 64% female, were mostly between 30-50 years old, were well educated (58% held a Master's degree), and identified classroom teacher as their role in education. Furthermore, there was an even distribution of years of experience in education: 0 – 9 (32%), 10 – 14 (25%), 15 – 19 (17%), and 20 + (26%).

The educators overwhelmingly (84%) considered their use of social media as a form of professional development (PD) and access social media sites for PD at least once per day. This intensive use of social media helps explain how the word spread about Edcamp. The number of educators who learned about Edcamp via Twitter (41.95%) was approximately the same as those who learned of it via a friend or colleague (20.48%), and other forms of communication (22.92%) combined. Many respondents were first-time Edcamp attendees (61.95%). Lastly, the majority of respondents (92.19%) indicated they would attend another Edcamp in future, indicating positive experiences at Edcamp.

The responses from this survey were used to assist in the construction of the concourse for the larger study. Using quotations from survey participants in the concourse helped reduce the likelihood of respondents misinterpreting the meaning of those statements (McKeown & Thomas, 1988). In Q methodology, the concourse is a collection of statements representing all opinions respondents can make about the phenomenon under study (Brown, 1980; Van Exel & de Graaf, 2005). From the

concourse researchers select a final set of statements, known as a Q set, to present to participants. The Q set I developed for this study included statements from the survey responses, a review of the literature, and my participant/observer experiences at Edcamp

Analysis of Q Sorts

After receiving IRB approval to conduct the larger Q study (Appendix C), I recruited a total of 19 participants to sort the 36-statement Q set. PQMethod 2.35 software (Schmolck, 2014) was used for a by-Q sort factor analysis to determine how participants classified and naturally grouped themselves based on their similar sorts (Brown, 1980). In Q methodology, factors are groups of Q sorts that are similar to each other, meaning that people with similar views or dimensions of shared meaning about the phenomenon under study will share the same factor (Van Exel & de Graaf, 2005). Factors are extracted through a statistical process that identifies patterns of similarity in the sorts (Watts & Stenner, 2012). The stages for Q methodological statistical analysis are: 1) correlation of sorts, 2) factor analysis and rotation, and 3) factor scores calculation for factor arrays. This process leads to the final phase of factor interpretation.

The first step in Q sort analysis is to correlate all sorts with all other sorts resulting in a correlation matrix. This matrix provides the first indicator of the relationships among the sorters. In this study, the results of analysis showed high correlations among the sorts indicating considerable similarities between viewpoints. Next, the correlation matrix was factor analyzed which provided another indicator of similarities among sorts with substantial explained variance between factors. However, the matrix indicated that other viewpoints were likely. Therefore, I used principal

components analysis and varimax rotation of three factors to create a final solution to determine natural groups of participants' perceptions of Edcamp.

The objective of the analysis was to identify a factor solution that accounted for as many sorts as possible that are different from one another. After examining the loadings of all sorts on all factors, a significant factor loading was used to identify factors for this study. Significant factor loading at the .01 level was calculated using the following equation for factor coefficients (Brown, 1980; Watts & Stenner, 2012): 2.58 *SE* x (1 ÷√no. of items in Q set--36 for this study). Therefore, 2.58 (SE_r) = 2.58 x = 2.58 x .167 = 0.43 ($p < .01$). The factor solution for this study is presented in Table 1. In order to be used for the final statistical calculation of factor scores a sort achieved significance on only one factor. In the table, defining sorts are indicated with an X. This table was used to determine the participants whose sorts are best indicators of the factor to be called for an interview to assist in the interpretation phase of the study.

Table 1. Factor Loadings by Sorter

Q sorter	Factor 1	Factor 2	Factor 3
2	**0.7129X**	-0.2113	0.3722
3	**0.7645X**	-0.1224	0.3436
4*	**0.8238X**	-0.3254	0.1624
5	**0.7745X**	-0.2024	0.2714
6	**0.7899X**	-0.0128	0.2558
11	**0.7988X**	0.0326	0.2284
13	**0.8510X**	0.0181	0.1036
14*	**0.8563X**	-0.0984	0.1262
16	**0.8135X**	0.0770	0.2669
17	**0.7167X**	-0.2863	0.4122
18	-0.2555	**0.6261X**	0.2110
19*	0.0775	**0.8660X**	-0.1233
1*	0.2926	-0.2501	**0.7803X**
10	0.0981	0.2098	**0.6694X**
12	0.3024	0.0120	**0.7595X**
7	***0.6079***	0.1208	***0.5956***
8	***0.6943***	-0.2244	***0.4678***
9	***0.5350***	-0.2855	***0.5420***
15	***0.6868***	0.1229	***0.5228***
No. of Defining Sorts	10	2	3

Note. Factor loading > .43 are in bold, X indicates defining sorts, * indicates exemplar sorters, and italics indicate confounds.

Factor scores for each statement within each factor were calculated using PQMethod (Schmolck, 2014); these scores are presented as *z*-scores—normalized weighted average statement score—which show the ranking of each item compared across factors (Watts & Stenner, 2012). Using *z*-scores, statements are attributed to the forced distribution of a Q sort table (Table 2), which results in a composite Q sort for each factor.

Table 2. Frequency Distribution of Statements

Forced-choice frequency distribution									
Ranking Value	-4	-3	-2	-1	0	+1	+2	+3	+4
Number of Items	2	4	4	5	6	5	4	4	2

The composite sort is called a factor array here and represents a theoretically idealized response for the participants who defined that factor, thereby capturing the holistic viewpoints about the phenomenon of participants in that group (Van Exel & de Graaf, 2005; Watts & Stenner, 2012). Again, these arrays are developed based on the rank order of *z*-scores and provide the basis for interpretation through deliberate inspection of the patterns of items in the arrays in order to uncover the viewpoints of the exemplar sorters on each factor (Stenner, Cooper, & Skevington, 2003). The arrays for the three factors in this study, with *z*-scores included for each statement, can be found in Appendix E.

Factor Interpretation

The aim of factor interpretation in Q methodology is to "uncover, understand, and fully explain the viewpoint captured by the factor, which was shared by significantly loading participants" using a process of "careful and holistic inspection…of the factor patterns in the array" (Watts & Stenner, 2012, p. 181). Factor interpretation is performed to produce summaries of the viewpoints expressed by each factor (Watts & Stenner,

2005) and should give a full explanation of the viewpoint expressed in the array (Watts & Stenner, 2012).

Factor interpretation in this study began with an examination of the placement of statements in each factor according to the factor scores, with particular interest with those at the extreme ends of the sort board—the "Most Like Me" and "Most Unlike Me" statements (Gallagher & Porock, 2010; Watts & Stenner, 2005).

This analysis gave an initial understanding of the likely themes for each factor. Theme development focused on identifying and analyzing differences between factors, including consensus and distinguishing statements, and demographic, Twitter, and interview data. The goal was to identify extreme differences between sorters to find the unique perspectives of each factor. This process enabled the construction of a holistic data profile for each factor, redefinition of themes, and a factor summary in the form of the naming of the factor. The interpretation is presented here by the consensus of opinions across all three viewpoints, then a detailed interpretation of each viewpoint highlighting the differences in perspectives.

Interpreting factors in Q methodology includes using holistic views of as many sources of data as possible is a multistage process. After consideration of statistical data, researchers generally begin to undergo qualitative or holistic analysis, including the naming of factors, comparison of statement placements, and demographic and interview analysis. These steps are undertaken in order to give a full and holistic process of factor interpretation (Watts & Stenner, 2012). I analyzed the data supplied by the PQMethod software to identify themes between factors and used data from Twitter, demographic surveys, and follow-up interviews to triangulate and support these themes. I examined

statement values across arrays and, when comparing statement discrepancies between arrays, was able to identify overarching themes.

Factor naming, stage 1—I named the factors in two stages—early, to develop an understanding of results by comparing across factors, and later, to represent results of data analysis. At this point in the interpretation of the data, I assigned an initial name to each factor that represented the concepts and generalizations in each array, in order to begin understanding the meaning of how those participants sorted, compared to other arrays. In Stage 1, I called Factor 1 *Energized Edcamp Twitterers* from demographic survey responses that indicated a strong propensity to use Twitter, Factor 2 *Edcamp Wasn't My Cup of Tea* from their sorts that indicated a less-than-satisfactory experience at Edcamp, and Factor 3 *Transformed Edcamp Adopters* from their demographic responses and overall positive placements of Edcamp statements in their array. In this early stage of examining and naming generalized data, it became apparent that there was a great deal of agreement among the three viewpoints. The consensus statements—those statements that did not show a significant difference when comparing z-scores across factors—were interpreted as commonalities among the sorters.

Consensus Perspectives

Analysis of sort data supports three distinct views on Edcamp professional development and showed common themes in array positions and *z*-scores, across factors (Table 3). Consensus statements, statements sorted and placed in similar positions by all sorters, expressed the similarities across factors. Consensus statements are non-significant because they do not distinguish between any pair of factors, but rather define

all factors (Gallagher & Porock, 2010). There were four strong positive and negative consensus statements (three positive, one negative), demonstrated by *z*-scores of 1 or -1 or greater, and placement in the extreme positive or negative ends of the sort board, and six neutral statements, demonstrated by placement in the middle of the sort board.

Table 3. Consensus Statements

No.	Statement	Factor 1 array	Factor 1 Z-score	Factor 2 array	Factor 2 Z-score	Factor 3 array	Factor 3 Z-score
1	I seek out professional development opportunities that can help me be a better teacher	3	*1.17*	4	*1.93*	3	*1.51*
2*	The cost of professional development determines my attendance	-1	-0.20	0	-0.12	1	0.41
3	Edcamps gave me choice over my own professional development	2	0.88	0	0.12	2	0.95
8*	Twitter helps teachers "make each other better by learning from one another"	1	0.73	2	0.91	1	0.61
9*	My school/district supports my use of Twitter for professional development & learning	0	0.20	1	0.67	0	0.18
23*	"I felt free to share my ideas" at Edcamp	2	*1.02*	3	*1.03*	1	0.52
25*	Edcamp sessions allowed me to have a voice and share my **e**xperiences	2	0.89	1	0.63	1	0.52
26*	"Many people were at Edcamp to 'show off' or impress others instead of being there to learn"	-1	-0.74	-2	*-1.07*	-3	*-1.16*
31*	Networking is missing from most of the professional development I do at my school/district	0	0.34	0	0.00	0	0.06
32*	Sharing ideas and experiences is valuable professional development for me	3	*1.09*	4	*1.70*	4	*1.70*

Note. All listed statements are Non-Significant at $p>.01$, and those flagged with an * are Non-Significant at $p>.05$. Italics indicate Strong consensus statements.

Statements that achieved similar array positions and *z*-scores across all three viewpoints are presented in Table 3. All sorters held strong beliefs about the importance of seeking out PD opportunities to improve their professional practice (statement 1). This sentiment is unsurprising given that all sorters had voluntarily chosen to take part in a free PD event, Edcamp, on a Saturday. Although the event was free, sorters were ambivalent about the cost of PD, and did not consider it when seeking out opportunities for learning (statement 2). Sorters' feelings about voice and choice in PD (statements 3, 25) were neutral, although several mentioned choice as important in follow-up interviews.

Sorters demonstrated a strong belief in the value of sharing ideas and experiences in professional development events (statement 32). They felt free to share their ideas at Edcamp (statements 23, 25). Sorters indicated they have opportunities to network with other educators during PD at their school or district (statement 31). These combine to give a clear viewpoint that teachers value the social construction of knowledge with peers and colleagues. They agreed that Twitter could facilitate learning (statement 8) and that their school district supported their use of Twitter for connecting and learning (statement 9).

Sorters across groups strongly rejected the statement that individuals at Edcamp were there to show off (statement 26). This statement came directly from a quote in the survey to develop the concourse and was included in the sort to gauge sorters' perceptions of acceptance and social relationships. The consensus across groups suggests most sorters experienced an engaging, respectful social atmosphere for learning at Edcamp.

The strong consensus items showed that all sorters actively seek out PD (which seems apparent, giving that all of them gave up a day to attend Edcamp), and did not consider the cost of PD to be an impediment to their attendance—if it would help them, they would find a way to attend. Sorters disagreed that ego played a part at Edcamp—my field notes mention teachers who had never used Twitter were slightly in awe of the Twitter 'superstars' with 'thousands of followers' who, after they met them at Edcamp, turned out to be 'just another person.' The sorters disagreed that they were able to network at their local PD, that classroom or building isolation was less of an issue for them. The other consensus items fell near the middle of the sorting board and generated little interest among sorters.

In addition to interpreting participants' Q sorts, I analyzed demographic data, participants' tweets during the day of the Edcamp they attended, and conducted follow-up interviews with sorters who defined factors.

Demographic data—I included a demographic survey **(**Appendix E**)** on the back of the Q sort record sheet and asked sorters to fill it out after they completed the Q sort process.

Twitter Analysis—Tweets from all sorters were compiled via Twitter search into a word processing document and analyzed for themes identified in the Q results (Table 3). Twitter data of interest included original tweets, retweets, favorites, and mentions.

Interviews—To prepare for follow-up interviews, I identified exemplar sorts of each factor (indicated by asterisks in Table 3) from all of the defining sorters. Exemplar sorts are those that achieve significant loading on that factor (Watts & Stenner, 2005). That is, a significant loading that is high on only one factor that the sort defines and

relatively low on the other factors. I contacted the exemplar sorters from each factor via text message and arranged times for follow-up interviews.

Themes—I determined there were several themes of interest, different for each factor. Factor 1 was in love with Twitter and considered their use of it—sharing, connecting, and learning—the most valuable aspect of their Edcamp PD experience. Factor 2 were clearly life-long learners but did not have an overall positive experience with the style or content of PD at the Edcamp they attended; they preferred instead the PD at their home school and district. Factor 3 saw themselves as changed because of their Edcamp experience—ready to return home to implement new ideas and strategies. I will use these themes to structure the analysis and interpretation of factors.

For this study, I conducted four participant interviews—two from *Energized Edcamp Adopters* and one each from *Edcamp Wasn't My Cup of Tea* and *Transformed Edcamp Adopters*. I followed an interview guide which allows interviewers to explore, probe, and ask questions that will illuminate the phenomenon under study (Patton, 2002) and give clarification and support for themes identified in the Q results (Hutson & Montgomery, 2011). Interviews were conducted by telephone and recorded via iMovie software. All interviews were transcribed verbatim and analyzed for the three themes to support or contrast results of the Q analysis.

Following interpretation, I finally renamed the groups to *Tweeting Edcampers*, *One-Time Edcampers*, and *Edcamp Converts.* These names were chosen to give a closer representation of the results of analysis and interpretation that supported the identified themes for each group.

Factor 1: Tweeting Edcampers

Tweeting Edcampers. Six female sorters and four males defined this group. All sorters were over 30 years old, seven were over 40, and one was over 50. Two had 5 to 9 years of experience in education, four had 15 to 19 years, and three had over 20 years of experience. All sorters had at least a Master's degree, five held doctorates (these included degrees-in-progress). Five sorters self-identified as teachers, three as administrators, and two as instructional or technology coaches. This was the first Edcamp for six sorters, four had previously attended two to five Edcamps. Table 4 shows the array positions and *z*-scores of the top 10 statements this group sorted as "Most Like" and the top 10 statements sorted "Most Unlike Me." A complete factor array can be found in Appendix E.

These teachers strongly agreed that Twitter was an important tool for learning and sharing. They sorted statements about Twitter as the three highest-ranking positive statements (statements 11, 7, and 14) and disagreed strongly that Twitter was a waste of time for teachers (statement 10).

Table 4. Highest Positive and Negative Ranking Statements for Tweeting Edcampers

No.	"Most Like" Statements	Array Pos.	*z*-Score
11*	"Twitter helps me keep on top of what is 'new' in education and tech"	4	1.338
7*	Twitter helps me find other people and resources that help me become a better teacher	4	1.309
14*	I use Twitter for building/maintaining professional relationships	3	1.188
1	I seek out professional development opportunities that can help me be a better teacher	3	1.166
32	Sharing ideas and experiences is valuable professional development for me	3	1.093
6*	"I'll use Twitter to continue conversations from Edcamp"	3	1.041
23	"I felt free to share my ideas" at Edcamp	2	1.016
13	"The face-to-face meetings [at Edcamp] make the Twitter interaction so much more meaningful"	2	0.928
25	Edcamp sessions allowed me to have a voice and share my experiences	2	0.888
3	Edcamps gave me choice over my own professional development	2	0.879
No.	"Most Unlike" Statements	Array Pos.	*z*-score
12*	The people at Edcamp put too much emphasis on Twitter	-2	-1.124
15	I prefer traditional professional development and conferences over Edcamp	-2	-1.135
27	"Edcamp was too unorganized…& did not address my needs"	-2	-1.147
17	Nothing I learned at Edcamp would be helpful for me in my classroom	-2	-1.163
28	"I was told Edcamp would be great, and it wasn't"	-3	-1.250
34	There was too much emphasis on technology at Edcamp	-3	-1.274
20	"I didn't personally connect with anyone" [at Edcamp]	-3	-1.324
24	Edcamps really aren't professional development, in my opinion	-3	-1.466
10	Twitter is a waste of time for teachers	-4	-1.565
22	Edcamp was a waste of my time	-4	-1.758

Note. * indicates a distinguishing statement, $p < .05$.

Distinguishing statements are statistically significant as they exceed the difference score between factors (Van Exel & de Graaf, 2005) and reflect where participants sorted a statement in a statistically significant position different from participants in another factor (Gallagher & Porock, 2010). Hence, distinguishing statements can be used to define the profile of those who load on a factor, regardless of the position of the statement in the sorting configuration. The importance of distinguishing statements is the insight they give for within factor interpretation. For this study, *z*-scores were important for between-factor interpretation.

I named this group *Tweeting Edcampers* to capture the paramount importance they attributed to their use of Twitter at Edcamp and for PD and to reflect their positive outlook on their Edcamp experience. Unique to this group was this zealous application of Twitter. These sorters were very active Twitter users (see Table 5) and considered it an invaluable forum for connecting to other Edcamp attendees, sharing resources and ideas from sessions, and for building a network of colleagues for support and learning. They consider their use of Twitter to be legitimate PD and believe it transformed them, professionally. These perspectives about Twitter were significantly different than other groups.

Table 5. Twitter Activity of Tweeting Edcampers

Sorter	Original tweets	Retweets	Favorites	Mentions
2	3			
3	15	4	2	5
4	17	7	5	
5	*No name given, no access to Twitter data*			
6	16	21	1	8
11	1	1		
13	19	6		
14	12	5	5	
16	8	8		
17	3	3	35	5

Sorters in this group were strong proponents of Edcamp-style PD, which they found invigorating and a good fit for their PD preferences. They found Edcamp to be a meaningful and powerful experience. These sorters considered the opportunity to make social connections and relationships with colleagues the greatest advantage of attending Edcamp.

There were three predominant themes based on the statement positions and supported by the Twitter data and interview statements. The themes were called *Twitter*, *Social learning and PLNs*, and *Social learning and Edcamp* to support the general summary of Enthusiastic Twitterers. Data to support each theme is provided here.

Twitter

This group sorted statements about Twitter more strongly than did other groups (Table 4). *Tweeting Edcampers* strongly agreed that their use of Twitter gave them access to resources, people, and current issues in education (statement 11, *z*-score 1.338 and statement 7, *z*-score 1.309—both in array position 4). They agreed that their use of Twitter allowed them to build relationships and extend the learning of Edcamp beyond

the day (statement 14, *z*-score1.118 and statement 6, *z*-score 1.041, both in array position 3).

Twitter use for these teachers was more than sending short, 140-character updates to the world at large—it was their vigorous adoption of the social media service for PD that set these sorters apart. *Tweeting Edcampers* used Twitter to share ideas and resources from the Edcamp sessions they attended. Twitter users can retweet—share others' tweets with their group of followers—and Favorite tweets—mark others' tweets as appealing or to quickly access and peruse later. At Edcamp attendees often leave the session they chose in order to join another, based on comments tweeted by attendees in other sessions. *Tweeting Edcampers* used retweets and Favorites to share and save many tweets posted from other sessions during their Edcamp experiences.

Tweeting Edcampers is apropos as a title because of the amount of tweets generated by this group of teachers, as compared to those in other groups in the study. Regardless of the number of sorters in the group when compared to the size of exemplar sorters in the other groups, they used Twitter more actively than did any other group. The majority of *Tweeting Edcampers* tweeted more as individuals than other groups combined. The number and contents of these tweets provided insight into interpreting the meaning they attributed to their use of Twitter at Edcamp.

Responses to the demographic survey indicated that all teachers who are *Tweeting Edcampers* consider their use of Twitter as bona fide PD, with the majority (seven of the 10) checking Twitter multiple times per day and the others checking every few days. This was a strong differentiating viewpoint for this group, compared with the other two in this study. *One-Time Edcampers* saw the benefit of using Twitter for making professional

connections and access to resources, but were not active users. Sorters in *Tweeting Edcampers* held many similar views with *Edcamp Converts* but the main difference between the two factors was their views on Twitter as a valuable, meaningful conduit to learning and relationships

A defining sorter noted that Twitter "has been a life changer!" (interview no. 4, line 62). Another defining sorter echoed the sentiment:

> We know that the best kind of professional development is not a one day, sit-and-get, the best professional development: a) moves me to change my professional practice, and b) is ongoing—is not a one-day thing, and c) is supported by like-minded colleagues…Twitter gives us all of that (interview no. 4, line 215).

In follow-up interviews, both of the exemplar sorters mentioned the meaningfulness of being able to access Edcamp conversations across time and distance, especially for colleagues who were unable to be at the event. The ability to access tweets after the day of the event was important for them, as an exemplar sorter indicated in a follow-up interview "I could still go back [today] and scroll through the feed of that hashtag and still see things the people were posting…it expands the learning" (interview no. 2, line 194). The other exemplar sorter found value in the ability to revisit asynchronous posts, she noted that Twitter "allows you to continue those conversations well after the day is done" (interview no. 4, line 122). The group's use of Twitter was inextricably tied to the sorters' practice of sharing their learning and experiences with a group of online colleagues, their professional learning networks (PLNs).

Social Learning and PLNs—*Tweeting Edcampers* identified social learning as important. *Tweeting Edcampers* strongly rejected "'I didn't personally connect with anyone' [at Edcamp]" (statement 20, array position -3). Crafting relationships and taking part in social learning came up frequently in tweets and follow-up interviews, thereby supporting the name and theme for this group. Teachers often propose Edcamp sessions for the sole purpose of connecting; one sorter stated that her session "was born out of my interest in knowing what other people were doing, sharing what I was doing…we ended up following each other on Twitter and we have, kind of, communicated and continued those conversations" (interview no. 4, lines 146, 158).

One of the axioms at Edcamp is 'the smartest person in the room is *the room*' meaning that the wisdom, expertise, and experience of many can benefit others. A sorter iterated that, for her, this was "the power of Edcamp…you are sitting there sharing ideas and learning from each other and growing as professionals together…that power and energy that you create" (interview no. 4, line 264).

Another recurring motif in post-sort interviews with *Tweeting Edcampers* was the importance of connections to experts, colleagues, and resources through their Twitter-based PLNs. Although sharing ideas and experiences was identified as a consensus items across all factors, the importance of using Twitter as a forum for those activities was unique among this group of teachers. Twitter represented a medium for building and maintaining personal and professional relationships (statements 14, 22), finding and sharing resources (statement 7), and connecting with face-to-face like-minded colleagues (statement 13).

Tweeting Edcampers used Twitter to take selfies (self-portrait photographs) of themselves with other members of their Twitter-based PLN; they expressed sentiments of joy at finally meeting them face-to-face. In a follow-up interview, an exemplar sorter expressed gratitude for the opportunity to meet members of her Twitter PLN at Edcamp: "to be able to see them face-to-face and thank them, in person, for everything you've learned from them, I think, is huge" (interview no. 4, line 111). Her PLN, she stated, is a group of "like-minded educators, people who really, truly wanted to be the force of change" (interview no. 4, line 94).

This sentiment was confirmed in another follow-up interview: "you go to Edcamp and you meet people that you've never met before but you've retweeted something they said or responded to something they said. I like that part of it! It's a shared learning opportunity" (interview no. 2, line 61). She stated:

> it's nice to know that I can have a bank of professionals. When we started our [technology rollout] program, I knew that there were people I could talk to [for advice], even if we didn't know them very well. We could learn from their mistakes, we didn't have to invent the wheel. That extended the shared Edcamp experience beyond Edcamp as a critical piece of my professional learning network (interview no. 2, line 98).

Social Learning and Edcamp PD—The social aspects of sharing and learning so favored by *Tweeting Edcampers* was present in their views on their Edcamp experiences. The placement of the distinguishing statement "Edcamps helped me connect with other teachers like me" (statement 19, array position 1) indicated a difference from the other

two groups (-3 and -2, respectively). An exemplar sorter noted that teachers at Edcamp were like her, they were "cut from the same cloth" (interview no. 4, line 195).

The name *Tweeting Edcampers* reflects teachers' positive response to the Edcamp style of professional development. They rejected "I prefer traditional professional development and conferences over Edcamp" (statement 15, array position -2). The informal atmosphere at Edcamp is appealing to many teachers. "This is one of my favorite things about Edcamp," one sorter said, "it's just a group of like-minded people coming together to discuss a particular topic" (interview no. 2, line 125).

Edcamp organizers encourage attendees to sign up to lead and facilitate sessions; they tell attendees to follow the 'rule of two feet' and walk out to join another session or conversation if the session they are attending is not meeting their personal or professional needs. In follow-up interviews, an exemplar sorter noted "choice is…one of my favorite things about Edcamp. If I go to a session and it's not turning out like I thought it would be…it's okay to get up and leave…it's all user driven" (interview no. 2, lines 125, 83).

Tweeting Edcampers expressed positive views on the utility of Edcamp as professional development by strongly rejecting "Edcamps really aren't professional development, in my opinion" (statement 24, array position -3) and "Edcamp was a waste of my time" (statement 22, array position -4). In follow-up interviews, an exemplar sorter explained her views on Edcamp in terms of contrast with traditional PD:

> what I *love* [stress indicated] about that whole Edcamp atmosphere, is that you get to come in and you get to say "hey, here's something great I'm doing [and] I want to share because I think other people might benefit." It's that idea of learning and

growing and those are the types of things that you're going to carry back to your classroom. Not like…the sit-and-get kind of stuff where you don't…have a choice, you don't have buy in, and therefore you don't implement it and, it doesn't make you a better educator. Because, quite frankly, it's not something that you feel the need for" (interview no. 4, line 212).

A surprising result for this group was the placement of "The relationships I made at Edcamp will help me become a better teacher" (statement 18, array position 0). This was a distinguishing statement and its placement in the array stands in juxtaposition to the overall importance of social interaction at Edcamp indicated by the rest of the placements and follow-up interview comments.

Factor 2: One-time Edcampers

One-Time Edcampers. Two female sorters defined this factor. One was under 30, the other was under 40. Both had 5 to 9 years of experience in education, and both had a Master's degree (these included degrees-in-progress). Both sorters in this group self-identified as teachers—one as a classroom teacher, the other as a teacher-librarian. This was the first Edcamp for both sorters. I named this group *One-Time Edcampers* to capture the viewpoint that these sorters were largely ambivalent about their Edcamp experiences and that neither expressed appreciable interest in attending another Edcamp. Table 5 shows the array positions and *z*-scores of the top 10 statements this group sorted as "Most Like" and the top 10 statements sorted "Most Unlike Me." A complete factor array for this group can be found in Appendix E.

Table 6. Highest Positive and Negative Ranking Statements for One-Time Edcampers

No.	"Most Like" Statements	Array Pos.	*z*-Score
1	I seek out professional development opportunities that can help me be a better teacher	4	1.933
32	Sharing ideas and experiences is valuable professional development for me	4	1.698
28*	"I was told Edcamp would be great, and it wasn't"	3	1.421
27*	"Edcamp was too unorganized…& did not address my needs"	3	1.260
24*	Edcamps really aren't professional development, in my opinion	3	1.068
23	"I felt free to share my ideas" at Edcamp	3	1.025
20*	"I didn't personally connect with anyone" [at Edcamp]	2	0.951
8	Twitter helps teachers "make each other better by learning from one another"	2	0.908
12*	The people at Edcamp put too much emphasis on Twitter	2	0.865
15*	I prefer traditional professional development and conferences over Edcamp	2	0.833

No.	"Most Unlike" Statements	Array Pos.	*z*-Score
16	I didn't know what to expect from Edcamp at first but liked it as the day went on	-2	-0.790
5*	Edcamp professional development is exactly what I needed right now in my career	-2	-0.790
34	There was too much emphasis on technology at Edcamp	-2	-1.205
26	"Many people were at Edcamp to 'show off' or impress others instead of being there to learn"	-2	-1.068
10	Twitter is a waste of time for teachers	-3	-1.186
35	The technology sessions at Edcamp were better than those offered at my school/district	-3	-1.228
11	"Twitter helps me keep on top of what is 'new' in education and tech"	-3	-1.260
19	Edcamps helped me connect with other teachers like me	-3	-1.303
18*	The relationships I made at Edcamp will help me become a better teacher	-4	-1.538
4*	What I learned at Edcamp will immediately change my teaching practices	-4	-2.051

Note. * indicates a distinguishing statement, $p < .05$.

For *One-Time Edcampers*, Edcamp clearly was not the kind of learning opportunity these sorters valued. They disagreed that they needed Edcamp-style PD (statement 5, array position -2) and didn't warm to it as the day went on (statement 16, array position -2). A clear indication of their sentiment was the placement of "Edcamps really aren't professional development, in my opinion" (statement 24, array position 3) and "'I was told Edcamp would be great, and it wasn't'" (statement 28, array position 3). The sorters strongly disagreed that "What I learned at Edcamp will immediately change my teaching practices (statement 4, array position -4). The placement of these statements was the most differentiating, compared to the other groups.

One-Time Edcampers clearly preferred traditional PD (statement 15, array position 2) to Edcamp PD. One sorter stated she preferred traditional conferences, especially those in which teachers have time to get hands-on experience with new tools, strategies, and concepts. Statement position (statement 35, array position -3) and demographic data both indicated that PD at their school was about the same or better than Edcamp.

There were two predominant themes based on the statement positions and supported by the Twitter data and interview statements. The themes were called *Life-long learning* and *Disconnected learning experience* to support the general summary of the *One-Time Edcamps* views. Data to support each theme is provided here.

Life-long learning—These sorters indicated a strong view that continuous learning was key to their professional careers. The two highest ranked statements by this group, though

consensus statements across factors, indicate the value they attribute to PD. The exemplar sorter for *One-Time Edcampers* explained the importance of PD for these sorters—she stated that she did not want "to stagnate as a professional" (interview no. 3, line 62). For these sorters, PD is:

> the only way that you keep moving forward, is if you take it upon yourself to seek out the new…things that will make you, you know, a better person. I don't want to be doing the same thing I'm doing today in five years or in ten years…there's always more and better ways to do things and if I don't keep learning, then I'm going to keep doing the exact same thing (interview no. 3, line 46).

This sorter indicated that PD at her school was better than that she experienced at Edcamp. She mentioned in a follow-up interview that in her large school district, visits to observe other practitioners, learning and conversation groups, and reflection on practice are the norm. For many teachers, she said, this was not the case. She mentioned that she had already heard of and experienced many of the concepts and ideas being discussed at Edcamp and stated that they already "have some of the same experiences that Edcamp kind of purported [to have]" (interview no. 3, line 84).

One-Time Edcampers' array position of statements about Edcamp shows a strong overall view of Edcamp, and suggests these teachers hold intense, negative views of Edcamp. However, during the sorts, comments from both sorters were moderate regarding their Edcamp experience. They expressed similar sentiments: "Edcamp was okay, but I probably wouldn't go again" (sorter 17, comment while sorting) and "Edcamp was just okay, but I don't want to go to another one" (sorter 19, comment while sorting). The exemplar sorter reported that she "just didn't find Edcamp very helpful. It's not like I

came home with a quiver full of new ideas of things I wanted to try or things I would do that I wasn't aware of before" (interview no. 3, line 101). These comments helped develop a nuanced view of these sorters' Edcamp experiences.

Disconnected Edcamp Experience—Analysis of results showed that these teachers did not have a positive social experience at Edcamp, a strong differentiating view from the other groups. The teachers strongly disagreed with the statement "The relationships I made at Edcamp will help me become a better teacher" (statement 18, array position -4), "Edcamps helped me connect with other teachers like me" (statement 19, array position -3), and agreed with "I didn't personally connect with anyone [at Edcamp]" (statement 20, array position 2). One teacher commented "it felt like people [at Edcamp] were griping a lot" (interview no. 3, line 91). Although the sorters felt free to share their ideas at Edcamp (statement 23, array position 3—a consensus statement but has meaning here), they chose not to. A sorter noted that:

> I had a voice and I could talk [but] didn't really feel like I added that much to the conversation either. I didn't feel like it was structured such that, you know, somebody came up with an idea that I was going to jump in and show people what I do (interview no. 3, line 133).

These sorters reported that they had no meaningful connections with colleagues at Edcamp via Twitter. Although they strongly disagreed with the statement "Twitter is a waste of time for teachers" (statement 10, array position -3) they disagreed with "Twitter helps me keep on top of what is 'new' in education and tech" (statement 11, array position -3), meaning they did not actively use it, themselves. Likewise, the teachers agreed that "Twitter helps teachers 'make each other better by learning from one another'"

(statement 8, array position 2) but agreed that "The people at Edcamp put too much emphasis on Twitter" (statement 12, array position 2). The Twitter activity of sorters in this group is seen in Table 7.

Table 7. Twitter Activity of One-Time Edcampers

Sorter	Original tweets	Retweets	Favorites	Mentions
18	*Did not use Twitter*			
19	2	3	1	

Interview data helped explain the somewhat contradictory idea found in their sorts—Twitter is not a waste of time but I don't use it to keep up with current education trends. The exemplar sorter stated in a follow-up interview that she wanted to start using Twitter because she saw value in participating in online Twitter chats, but there were barriers for using it:

> I could see where it [Twitter] could have the *potential* [emphasis noted] to really open some doors to people and resources, but it's a little like sorting through a haystack…it requires a lot of time. For me, the cost hasn't outweighed the benefit yet (interview no. 3, line 165).

Factor 3. Edcamp Converts

Edcamp Converts. Three sorters—two females, one male—defined this factor. Two were under 30, the other was under 40. One was a new teacher with less than one-year experience in education, one had two to four years' experience, and the last had more than 20 years experience. All three had a Master's degree (these included degrees-in-progress and self-identified as teachers. This was the first Edcamp for all three sorters.

I named this group *Edcamp Converts* to capture the viewpoint that these sorters were first-time attendees who expressed overwhelmingly positive views of their experiences at Edcamp. Table 8 shows the array positions and *z*-scores of the top 10 statements this group sorted as "Most Like" and the top 10 statements sorted "Most Unlike Me." A complete factor array for this group can be found in Appendix E.

Table 8. Highest Positive and Negative Statements for Edcamp Converts

No.	"Most Like" Statements	Array Pos.	*z*-Score
32	Sharing ideas and experiences is valuable professional development for me	1	1.705
16*	I didn't know what to expect from Edcamp at first but liked it as the day went on	2	1.574
1	I seek out professional development opportunities that can help me be a better teacher	3	1.514
18*	The relationships I made at Edcamp will help me become a better teacher	4	1.489
29	The Edcamp format was refreshing	5	1.233
33*	I prefer to hear from experts at professional development, not just other teachers	6	1.121
5	Edcamp professional development is exactly what I needed right now in my career	7	1.034
4*	What I learned at Edcamp will immediately change my teaching practices	8	1.017
3	Edcamps gave me choice over my own professional development	9	0.949
36	I wish professional development at my school/district was more like Edcamp	10	0.625
No.	"Most Unlike" Statements	Array Pos.	*z*-Score
19	Edcamps helped me connect with other teachers like me	27	-0.562
27	"Edcamp was too unorganized…& did not address my needs"	28	-0.587
14	I use Twitter for building/maintaining professional relationships	29	-0.865
20	"I didn't personally connect with anyone" [at Edcamp]	30	-1.034
26	"Many people were at Edcamp to 'show off" or impress others instead of being there to learn"	31	-1.165
24	Edcamps really aren't professional development, in my opinion	32	-1.358
28	"I was told Edcamp would be great, and it wasn't"	33	-1.405
30	Edcamp professional development is just another fad	34	-1.421
17	Nothing I learned at Edcamp would be helpful for me in my classroom	35	-1.705
22	Edcamp was a waste of my time	36	-2.029

Note. * indicates a distinguishing statement, $p < .05$.

Edcamp Converts reported feelings of professional transformation and the impetus to make changes to their professional practice because of their experiences at Edcamp PD. There were two predominant themes based on the statement positions and supported by the Twitter data and interview statements. The themes were called *Transforming Experiences* and *Changes in Practice* to support the general summary of the *Edcamp Converts* views. Data to support each theme is provided here.

Transforming Experiences—Teachers in the *Edcamp Converts group* shared a strong preference for Edcamp-style PD in their array through placement of both positive and negative statements about Edcamp. They strongly agreed with "I didn't know what to expect from Edcamp at first but liked it as the day went on" (statement 16, array position 4) and strongly disagreed with "Edcamp was a waste of my time (statement 22, array position -4), "Nothing I learned at Edcamp would be helpful for me in my classroom" (statement 17, array position -4), "Edcamps really aren't professional development, in my opinion" (statement 24, array position -3), "'I was told Edcamp would be great, and it wasn't'" (statement 28, array position -3), and "'Edcamp was too disorganized…& did not address my needs'" (statement 27, array position -2). Taken as a whole, the views of the group indicate positive experiences at, and positive affinity for, Edcamp. The exemplar sorter succinctly summed up this sentiment: "I really like Edcamp!" (interview no. 1, line 221).

Although sorters in *Edcamp Converts* showed a strong preference for learning from experts for their PD that was different than other groups (statement 33, array position 3), they were in consensus with other groups about sharing ideas and experiences and seeking out professional development (statement 32, array position 4; statement 1,

array position 3). This group, however, held a distinctly different view than the others when it came to the meaning of their Edcamp experiences. *Edcamp Converts* placed more emphasis on Edcamp-style PD and strongly agreed that "The Edcamp format was refreshing" (statement 29, array position 3) and "Edcamp professional development is exactly what I needed right now in my career" (statement 5, array position 2). The exemplar sorter in *Edcamp Converts* exclaimed "Oh my gosh! Edcamp totally turns professional development on its head! I *love* [emphasis noted] the way Edcamp is set up!" (interview no. 1, line 190).

Data from this group showed contrasting views about PD at Edcamp and at their local schools and districts. Teachers in *Edcamp Converts* gave a high ranking to "I wish professional development at my school/district was more like Edcamp" (statement 36, array position 2). In a follow-up interview, the exemplar sorter in this group stated:

> Our professional development here seems, not *ineffective* [emphasis noted], I mean, there's *some* value, but they tell us things and we have no time to talk about it…I want to hear about a time when teachers thought they were successful in, you know, promoting social justice. I want to know how to talk to my students about it. I don't actually love our professional development here (interview no. 1, lines 201, 221).

Changes in Practice—Sorters in the *Edcamp Converts* group believed that their Edcamp experiences would change their professional practices (statement 4, array position 2). The exemplar sorter for the group noted that her experience at Edcamp prompted her to start holding faculty meetings in her building that were reminiscent of the Edcamp experience. She gathered a small working group of teachers, "bugged an administrator until they gave

us a room to meet. We call it the Teacher Collaboration Station—the TCS" (interview 1, line 196). The teachers use common planning periods to discuss lessons and ideas. "Those are some valuable discussions…that was the big change [from Edcamp]," she noted, "that works well for me because I like to reflect verbally. I like to bounce ideas off other people" (interview no. 1, lines 214, 243).

In a follow-up interview with the exemplar sorter, she stated that Edcamp was a change for her—it helped her connect with other teachers who wanted to share their expertise and resources. She reported that it was "refreshing to meet other teachers who value a lot of the same things I value" (interview no. 1, line 155). Demographic data showed that another sorter in *Edcamp Converts* found Edcamp to be "collaborative" (sorter 10, demographic survey response). My field notes contain references to remarks by sorters in this group during the sorting process; they intimated that their experience was a 'new' 'welcome change' in PD for them. The sorters voiced their appreciation for people coming to their sessions and sharing their experiences at Edcamp.

Relationships and making new connections were an important change for this group of sorters—they saw Edcamp as a chance to meet others who could give them new ideas and ways to improve their teaching practices. Their views were very different than sorters in *One-Time Edcampers*, who did not build personal or professional connections at Edcamp. The exemplar sorter in this group stated that she wished more teachers would join in her TCS group. She said "I don't understand teachers who want to be in their rooms by themselves, who don't [want to] change…do you think you know everything there is to know about teaching? Why, I don't think you do. And if you do, please share with us!" (interview no. 1, line 319).

Change in Twitter Usage—Sorters in *Edcamp Converts* largely dismissed Twitter—they did not sort any of the Twitter statements positively and disagreed that they used Twitter for building professional relationships (statement 14, array position -2). This was supported in analysis of the group's Twitter activity (Table 9).

Table 9. Twitter Activity of Edcamp Adopters

Sorter	Original tweets	Retweets	Favorites	Mentions
1		*Did not use Twitter*		
10		*Did not use Twitter*		
12	2			

The sorters in this group were largely ambivalent about the use of Twitter. However, one of the sorters in *Edcamp Converts* reported a major change in her beliefs about Twitter after her Edcamp experience. The exemplar sorter in *Edcamp Converts* noted:

> the biggest change for me was [my] views on Twitter…I got there [Edcamp] and everyone had their Twitter handle [username] on their nametag and…I had *no* [emphasis noted] idea. I mean, I'm not huge on social media in my personal life and I did not think about using it for my professional life at all! That was probably the biggest change (interview no. 1, line 73).

She stated in the interview that she had been trying to use Twitter more for sharing practices and following hashtags. However, she encountered obstacles that limited changes in her practice. In her situation, the limitations were colleagues and time. About colleagues, she said:

> I don't think the other teachers feel the same way I do and would want to try some of the things [I heard about at Edcamp]. And I just feel like I can't really bring it up or try at this point…right after Edcamp, I came back and was really excited and said [to her teacher colleagues] "hey guys, I heard about this thing, 20% time" [a practice of Google, Inc. in which employees are encouraged to spend 20% of their work time on projects other than those to which they are assigned]. Two of the teachers immediately [said], "yeah, right, when are we going to have time for that, like, with all the standards we have to meet?" (interview no. 1, line 134) .

About time, she mentioned that she wanted to use Twitter but "I just don't have that time. Right now, I struggle with day-to-day tasks of grading , emailing parents, especially getting work to students who are in ISS [in-school suspension] or are absent…time is a big issue" (interview no. 1, line 124).

CHAPTER V

CONCLUSIONS, DISCUSSION, AND IMPLICATIONS

The purpose of this study was to describe the phenomenon of Edcamp professional development (PD) according to teachers' perceptions of its utility. This chapter will present a summary of the findings, and conclusions, as well as a discussion of implications for future practice and research.

Summary of Findings

Subjective views teachers had about their PD experiences at Edcamp were captured through Q methodology. Q sorts, consisting of 36 statements about Edcamp, PD, and the social media application Twitter, were completed by 19 teachers and analyzed with PQMethod software (Schmolck, 2014). The result of this analysis was a three-factor solution that was interpreted using additional data gathered for the study—demographic survey data, tweets from all study participants, and follow-up interviews with a representative number of participants from each factor. Three common themes emerged from analysis and interpretation of the factors: Edcamp PD format and outcomes, social learning and connections, and participants' use of Twitter. The three factors that resulted from the analysis represented participants' similar, yet distinct, viewpoints about their PD experiences at Edcamp. The three factors were identified as *Tweeting Edcampers*, *One-Time Edcampers*, and *Edcamp Converts*; each had notable, distinguishing characteristics.

Teachers in the *Tweeting Edcampers* view found their Edcamp experiences to be energizing and meaningful. Interpretation of their Q sorts, tweets, and interviews showed that they enjoyed the format of Edcamp-style PD and found the social aspects of Edcamp to be highly rewarding. Unique among this group of teachers was the importance they attributed to extended, ongoing personal and professional connections they made using Twitter. Teachers in *One-Time Edcampers* were committed life-long learners, but they did not find their experiences at Edcamp to be socially or professionally rewarding. Their Q sorts and interview data presented a shared view about Edcamp PD and Twitter that were not negative but rather apathetic—neither was a good fit for them, professionally. Teachers' Q sorts and interview data in the *Edcamp Converts* view relished the format and atmosphere of Edcamp, finding it new and transformational. Their neutral views about Twitter changed over time. The focus that emerged from their Q sorts and interview data was on the relevance of Edcamp PD vis-à-vis their changed professional practice and relationships.

Conclusions and Discussion

One conclusion is that a majority of the teachers in this study (68%) found Edcamp PD to be legitimate, informal PD that was relevant to their classroom and school contexts. These teachers reported that social learning was an important aspect of their overall positive experience at Edcamp.

Darling-Hammond and Richardson (2009) stated that simply providing a forum for teacher conversations is not legitimate informal PD. However, findings from this

study indicated that many teachers in this study considered Edcamp to be PD, and they valued the opportunity to have informal conversations about their experiences. Many teachers in this study reported making meaningful connections with colleagues at Edcamp. This conclusion is particularly important for future research.

Teachers in the *Tweeting Edcampers* and *Edcamp Converts* groups found Edcamp PD to be relevant to their classroom and school context because they planned, chose, and attended the sessions they needed, another important aspect of informal PD supported in the literature (Demski, 2012; Desimone, 2009; Duncan-Howell, 2010; Starkey et al., 2009; Webster-Wright, 2009; Whitcomb, Borko, & Liston, 2009). These teachers reported that the opportunity to engage in informal social learning was a highlight of their Edcamp experience. They especially favored the opportunity to communicate, collaborate, and make connections—themes that are supported in existing literature (Hew & Hara, 2007; Lave & Wenger, 1991; Magidin de Kramer, Masters, O'Dwyer, Dash, & Russell, 2012; Marrero, Riccio, Woodruff, & Schuster, 2010; Marx, Blumenfeld, Krajcik, & Soloway, 1998; Pianta, Mashburn, Downer, Hamre, & Justice, 2008; Putnam & Borko, 2000; Richter, Kunter, Klusmann, Lüdtke, & Baumert, 2011).

A second conclusion is that participation in Edcamp did correlate to changes in professional practice for a number of teachers in this study. Borko (2004) reported that quality PD leads to improvements in instructional practices. Teachers in the *Tweeting Edcampers* and *Edcamp Converts* groups reported evidence of using the new knowledge, resources, and connections they gained from Edcamp in their classrooms, schools, and districts. Key changes included increased communication and sharing between teachers, social media use, and reflection on practice. Evidence included increased communication

between teachers, reflection on practice, and collaboration among teachers. 89.47% of teachers in this study indicated that they intended to take lessons back to their classrooms from Edcamp.

Several teachers reported barriers to implementing these changes in their building, namely a lack of time to implement new practices and resistance from other teachers. These perceived and experienced barriers are supported in the literature (Avalos, 2011; Darling-Hammond & Richardson, 2009; Goldschmidt & Phelps, 2010; Richter et al., 2011; Taylor, Yates, Meyer, & Kinsella, 2011). Despite these challenges, teachers in this study recognized that commitment to change in practice is important because classroom contexts, pedagogy, and technology often change (Crawford, Roberts, & Hickmann, 2008; Greenhow & Robelia, 2009; Greenhow, Robelia, & Hughes, 2009).

A third conclusion is that a large number of participants in this study were active Twitter users who considered their use of the social media application to be legitimate PD. Twitter was an integral piece that defined their Edcamp experience. Teachers in the *Tweeting Edcampers* group were the most active users from this study; during the day of Edcamp, this group, more than the others combined, used Twitter to actively share ideas, resources, and make connections with other attendees. A key finding was their use of Twitter to extend Edcamp conversations beyond the day of the event.

An interesting finding was the somewhat contrary views of Twitter in the *One-Time Edcampers* array—they disagreed that Twitter was a waste of time for teachers but they didn't use it personally or professionally. The exemplar sorter in the group explained that she appreciated the *idea* of using Twitter but did not feel she had time to use it for PD. One teacher from each of the other groups, *One-Time Edcampers* and *Edcamp*

Converts, respectively, reported changes in their use of Twitter following Edcamp—they intended to use Twitter for building their professional learning network (PLN).

Using Twitter to create meaningful professional relationships is supported by previous literature (Rodesiler, 2011), as is the importance of social learning through online forums (Veletsianos & Navarrete, 2012). The concept of using technology to give access to anytime/anywhere learning is strongly represented in the literature and supports this conclusion (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009; Duncan-Howell, 2010; Hew & Hara, 2007; Jensen, 2012; Magidin de Kramer et al., 2012; Thomas & Thomas, 2012).

A fourth conclusion is that a small number of teachers in this study did not care for Edcamp-style PD. Teachers in the *One-Time Edcampers* group held consistent views about the importance of lifelong learning but expressed dissatisfaction with the format and content of the Edcamp sessions they attended. They did not consider Edcamp, or Twitter, to be legitimate, worthwhile PD, and reported opinions that they would not likely choose to attend another Edcamp. They were ambivalent about their professional and social experiences at Edcamp.

The finding that two teachers in this study did not find their Edcamp experience to be particularly meaningful illustrates a point that not all events are meaningful to all participants. This conclusion has implications for practice. It demonstrates the importance of teacher choice in their PD opportunities, according to their individual needs, a view supported by literature (Garet, Porter, Desimone, Birman, & Yoon, 2001; Richter et al., 2011; Starkey et al., 2009). One vital aspect of Edcamp PD for the majority of participants in this study was social learning and making connections with others. The

two teachers in *One-Time Edcampers* reported no such meaningful connections. This may explain their unsatisfactory experiences at Edcamp.

Both teachers in this group noted that they recognize the importance of life-long learning. They did not want to stagnate in their professional practice and pursue PD because of changes in their content areas and school contexts, concepts supported by literature (Crawford et al., 2008; Taylor et al., 2011). The exemplar sorter from this group reported that her activity as a member of an active professional learning community in her school district met her professional and personal needs of PD and that she did not see anything at Edcamp that she had not experienced previously.

Implications

This exploratory study revealed interesting, though preliminary, findings about teachers' perceptions about Edcamp PD. The goal was to gather information, not confirm hypotheses, and therefore the findings are preliminary and require future study to confirm the validity of the conclusions across contexts and Edcamp events. The findings of this study suggest implications for research, service, and teaching.

Research Implications

This study adds to the existing body of literature on teacher PD by addressing a relatively new phenomenon—Edcamp. To date, a dearth of research exists on the topic and little research exists on teachers' perceptions of their Edcamp experiences. The results of this study add the voices of Edcamp participants to the literature.

The results call into question previous research stating that informal PD must include more structured activities than a venue for teachers' conversations about their profession. A majority of teachers in this study found the opportunity to have informal conversations about their profession was "invigorating" (sorter 16), "affirming" (sorter 6), and "transformational" (sorter1). The value that many teachers in this study placed on their positive Edcamp experiences suggests that teachers, as professionals, should be given opportunities for collaboration, active participation, and networking beyond traditional teacher PD offerings. The study shows that not all teachers benefit from alternative PD; findings indicate that administrators should offer teachers a wide range of PD opportunities and forums.

This study identifies a need for future research into the phenomenon of Edcamp. The field of education would benefit from research on longitudinal changes in teacher practice after their Edcamp experience. Studies that track teacher attendance and participation at multiple Edcamps may help give an idea about changes in teacher practice over time. Longitudinal research into teachers' changes in practice could give a sense of barriers they encounter to implementing those changes in their classrooms, schools, and districts.

The results of this study confirm existing research on the growing trend of teachers' use of social media applications for learning, networking, and finding and sharing resources. This study highlighted the importance of Twitter to many teachers' Edcamp experiences. Many of the teachers in this study used Twitter to participate in Edcamp discussions, and continued to use it well beyond the event, thereby extending the experience and professional learning opportunities.

Future research on teachers' use of Twitter over time, would benefit the field. Especially interesting would be studies on teachers' adoption of Twitter after initial exposure at Edcamp—their quantitative use, style and method of use, and perceptions of their use would be of interest. Studies on the content of tweets at Edcamp would be beneficial for the field as one would think that issues discussed at Edcamp would give a 'finger on the pulse' sense of what is new and interesting to teachers.

Future research on administrators' perspectives of the utility of Edcamp and perceived change in administrative practice is warranted. The administrators who took part in this study were among those who had positive, meaningful experiences. Administrators' perceptions of Edcamp may affect changes in the kinds of teacher PD opportunities they support and encourage. Research on their perspective could add depth and breadth to the literature on the phenomenon.

The study was limited by my *a priori* assumptions about teacher PD and Edcamp in the creation of the Q set as well as my interpretation of factors and results. My inclusion of statements that were a) too theoretical and b) demographic in nature possibly limited the depth of participants' visceral responses. Any future replication of this study should replace or edit statements 1, 6, 9, and 14 on this basis.

A limitation was my selection of participants; although I used purposive sampling, the group of participants I recruited included administrators and non-classroom teachers to gain a wide variety of responses. It is unknown if recruiting only classroom teachers would have revealed different factors and different outcomes. Any future replication of this study may benefit by recruiting only classroom teachers.

Another limitation was the homogeneity of participants in the study, all of whom chose to give up a Saturday to attend Edcamp. This indicates a common goal of commitment to professional learning and PD. This limitation may be inherent in studying any non-required PD forum. Teachers in the *One-Time Edcampers* group reported that they do not

Service Implications

The results of this study suggest that school administrators should consider offering varied opportunities for teacher PD. Many of the teachers in this study favored Edcamp PD over the traditional PD offered in their school and district. However, not all teachers held this view. Therefore, administrators should continue to offer traditional PD opportunities for those who prefer it and encourage all teachers to seek out PD meaningful to them. This could require institutions to offer, and administrators to acknowledge and accept, continuing education credits for Edcamp participation.

Many of the teachers in this study expressed positive viewpoints on the opportunity to simply talk and learn from other teachers. Administrators could supplement traditional PD in their school or district with Edcamp-style PD, led by teachers in the building or district, likely those who had previously attended Edcamp. Administrators who had attended Edcamp could help facilitate sessions and train teachers and colleagues in the method and style of Edcamp. The goal would be to offer this kind of PD consistently, over time, as one-shot PD efforts are likely to fail. It is important to

note that Edcamp PD is not meaningful for all teachers; administrators should therefore not require teacher attendance but rather give teachers choice in PD forums.

Results from this study show that administrators and teachers should work together to identify and remove barriers to the implementation of new ideas teachers bring back from PD such as Edcamp. Several teachers in this study reported barriers of time and lack of support from colleagues to try new ideas. Administrators and teachers can work together to build communities of practice and professional learning communities that are conducive to professional growth and change. Teachers in this study reported positive results when administrators offered them physical space, opportunities to observe other teachers, and time for reflection and networking.

Many teachers in this study reported highly positive perspectives on the use of social media for PD. Administrators and teachers could improve their practice by building and maintaining a Twitter-based PLN for access to colleagues and resources. Twitter could serve as a forum for conversations and learning well after school or district PD sessions. Administrators should, therefore, encourage teachers to use Twitter for professional learning and networking.

Teaching Implications

The results of this study show that teachers who had positive experiences at Edcamp may wish to implement aspects of Edcamp into their teaching. Teachers in this study noted intentions to change their practice through regular meetings with colleagues, increased time for reflection, and using their Twitter-based PLN for new ideas for

teaching. As mentioned previously, these changes may require administrative support; this study could provide research-based support for pursuing those changes.

Teachers could give students choice in their assignments and set up peer learning conversations, much like teachers have choice of sessions at Edcamp. Teachers could facilitate multiple learning sessions in the classroom by setting up informal teaching and learning stations in which students follow their own interests and learning needs. Lastly, teachers could offer opportunities for students to collaborate on projects together, being sure to give them time for reflection.

Teachers could use the results of this study to advocate for the use of Twitter in their classrooms to connect with experts from across town or around the world, regardless of time or distance. Students could use Twitter as a backchannel during class as well as to continue learning conversations after class. Teachers could facilitate student use of Twitter to build their own network of contacts and resources to take control of their own learning.

The findings from this study could have implications for preservice teacher preparation programs. Many teachers in this study identified Edcamp and Twitter as forums for staying current with trends and technologies. Instructors in preservice teacher preparation could model life-long learning and currency in PD opportunities by attending Edcamps with their preservice students and using Twitter to take part in online conversations with in-service teachers.

In summary, Edcamp PD has the potential to change teachers' professional practices and, when coupled with teachers' participation in Twitter-based PLNs, sustain

those changes over time. Edcamp PD can effectively supplement traditional PD offerings at the local school and district level to improve teachers' practices.

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APPENDICES

APPENDIX A

IRB APPROVALS

Oklahoma State University Institutional Review Board

Date	Monday, April 14, 2014	Protocol Expires:	4/13/2017
IRB Application No:	ED1383		
Proposal Title:	Edcamp Participants Demographic Study		

Reviewed and Processed as: Exempt
Continuation

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s)

Toby Brown
003 Willard
Stillwater, OK 74078

Susan Stansberry
207 Willard
Stillwater, OK 74078

Approvals are valid until the expiration date, after which time a request for continuation must be submitted. Any modifications to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office MUST be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

☐ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

New subject enrollment still in progress, addition of 1)200 subjects and 2) four questions regarding previous professional development experiences and teachers/ perceptions about the professional development experience at Edcamp. No increased risks, reportable events, withdrawals, complaints, or new/additional funding.

Signature:
Shelia Kennison, Chair, Institutional Review Board

Monday, April 14, 2014
Date

Oklahoma State University Institutional Review Board

Date:	Wednesday, May 29, 2013
IRB Application No	ED1383
Proposal Title:	Edcamp Participants Demographic Study
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 5/28/2014

Principal Investigator(s):

Toby Brown
003 Willard
Stillwater, OK 74078

Susan Stansberry
207 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☑ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date:	Monday, July 15, 2013	**Protocol Expires:**	**5/28/2014**
IRB Application No:	ED1383		
Proposal Title:	Edcamp Participants Demographic Study		
Reviewed and Processed as:	Exempt **Modification**		

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Toby Brown
003 Willard
Stillwater, OK 74078

Susan Stansberry
207 Willard
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

The following modifications are approved: 1) correct typos in Participant information form, 2) minor wording changes in the survey, and 3) addition of one question to the survey.

Signature :

Shelia M. Kennison

Shelia Kennison, Chair, Institutional Review Board

Monday, July 15, 2013
Date

Oklahoma State University Institutional Review Board

Date:	Tuesday, February 03, 2015
IRB Application No	ED156
Proposal Title:	Edcamp, a New Paradigm: A Case Study of Teachers' Perceptions of Professional Development
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 2/2/2018

Principal Investigator(s):

Toby Brown
003 Willard
Stillwater, OK 74078

Susan Stansberry
207 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

▣ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1.Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms
2.Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3.Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
4.Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,

Hugh Crethar, Chair
Institutional Review Board

APPENDIX B

Q SET STATEMENTS

Theoretical framework

1. Teachers need professional development (Duncan & Martin, 2010; Guskey, 1994; NCLB, 2002)
   i. I seek out professional development opportunities that can help me be a better teacher
2. Traditional professional development is too expensive, ineffective (Borko, 2004)
   i. The cost of professional development determines my attendance
3. Reform-based professional development will result in a bigger change in teacher practice (Parise & Spillane, 2010)
   i. Edcamps gave me choice over my own professional development
4. Learning experiences can change teacher practices (Mezirow, 1991)
   i. What I learned at Edcamp will immediately change my teaching practices
5. Edcamp offers free, just-in-time professional development (Swanson, 2014)
   i. Edcamp professional development is exactly what I needed right now in my career
6. Twitter helps teachers establish connections and find content for their specific teaching/learning interests (Rodesiler, 2011)
   a. **"I'll use Twitter to continue conversations from Edcamp"**
   b. Twitter helps me find other people and resources that help me become a better teacher

Twitter

1. **Twitter helps teachers "make each other better by learning from one another"**
2. My school/district supports my use of Twitter for professional development/learning
3. Twitter is a waste of time for teachers
4. **"Twitter helps me keep on top of what is 'new' in education and tech"**
5. The people at Edcamp put too much emphasis on Twitter
6. **"The face-to-face meetings [at Edcamp] make the Twitter interaction so much more meaningful"**
7. I use Twitter for building/maintaining professional relationships

Edcamp

1. I prefer traditional professional development and conferences over Edcamp
2. I didn't know what to expect from Edcamp at first but liked it as the day went on
3. Nothing I learned at Edcamp would be helpful for me in my classroom
4. The relationships I made at Edcamp will help me become a better teacher
5. Edcamps helped me connect with other teachers like me
6. **"I didn't personally connect with anyone" [at Edcamp]**
7. Edcamp was the best professional development I've ever experienced
8. Edcamp was a waste of my time
9. **"I felt free to share my ideas" at Edcamp**
10. Edcamps really aren't professional development, in my opinion
11. Edcamp sessions allowed me to have a voice and share my experiences
12. **"Many people were at Edcamp to 'show off' or impress others instead of being there to learn"**
13. **"Edcamp was too unorganized…& did not address my needs"**
14. **"I was told Edcamp would be great, and it wasn't"**
15. The Edcamp format was refreshing
16. Edcamp professional development is just another fad

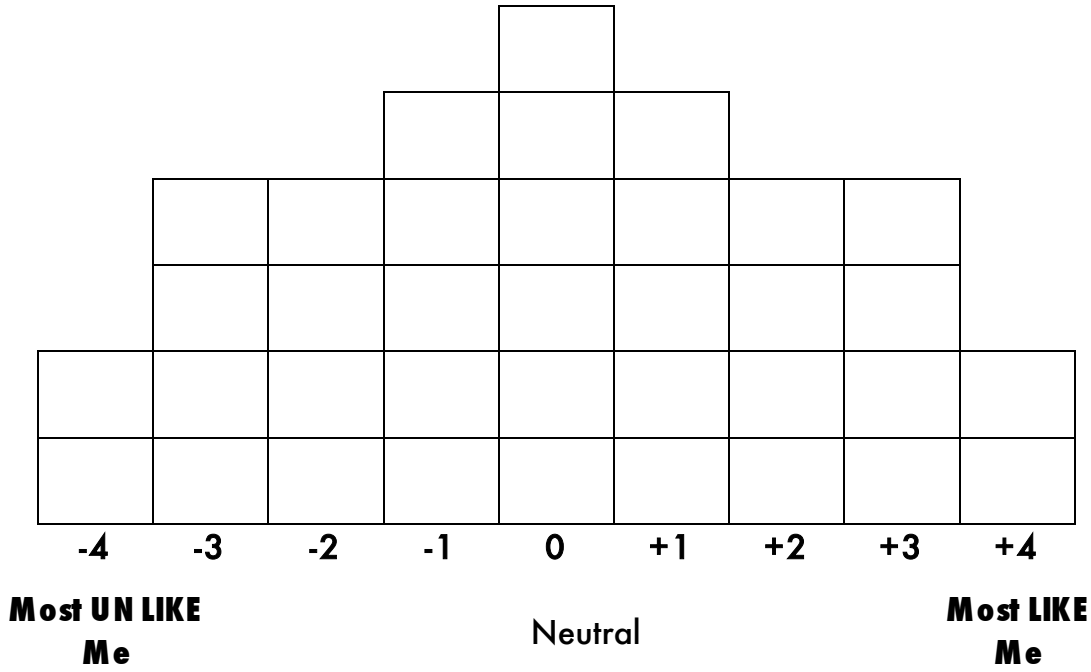
Professional development

1. Networking is missing from most of the professional development I do at my school/district
2. Sharing ideas and experiences is valuable professional development for me
3. I prefer to hear from experts at professional development, not just other teachers
4. There was too much emphasis on technology at Edcamp
5. The technology sessions at Edcamp were better than those offered at my school/district
6. I wish professional development at my school/district was more like Edcamp

Note: Statements in **bold** are verbatim quotes from participants' responses in the first phase survey.

APPENDIX C

Q SORT RECORD SHEET


-4
-3
-2
-1
0
+1
+2
+3
+4
Most UN LIKE Me
Neutral
Most LIKE Me

APPENDIX D

Q SORTER DEMOGRAPHIC SURVEY

Toby Brown--Edcamp Study, Demographic Questionnaire. Please answer each question truthfully and as completely as possible. You may choose "I prefer not to answer" for any question or simply leave it blank.

What is your gender? _____Female ____Male _____I prefer not to answer

How old are you? _____Under 30 ____30-40 ____40-50 _____50-60 _____Over 60

What is the highest degree that you have completed or are in the process of completing?
_____Bachelor's Degree _____Master's Degree _____Doctorate Degree
____In Progress--Bachelor's _____In Progress—Master's _____In Progress--Doctorate

What is your current position in education? If you hold multiple positions, please choose Other and describe them.
_____Teacher _____Administrator _____Instructional Coach _____Technology Director
_____ Library Media Specialist _____Other_____

How many years of experience do you have in education? _____0-1 _____2-4 _____5-9
_____10-14 _____15-19 _____20 or more

Do you consider your use of Twitter (or other social media) as professional development?
_____Yes _____No _____Other _____

If yes to the previous question, how often do you use Twitter for professional development?
_____Multiple times per day _____A few times daily _____Every few days
_____Once a week _____Rarely _____ Other_____

How many Edcamps have you attended? ____1 ____2-3 ____4-5 ____6-7 ____8-9 ____10+

How did you find out about Edcamp? _____Twitter _____Colleague _____Administrator
_____School communication _____Other_____

Would you attend another Edcamp in the future? _____Yes _____Maybe ____Not Sure ____No

How did your experience at Edcamp compare to professional development offered at your school/district? _____Much better _____Somewhat better _____About the same
_____Not as good _____Worse than _____ Other_____

What did you hope to gain by attending Edcamp? _____

What idea(s) from Edcamp have you already implemented (or plan to implement) in your teaching/job?_____

In one word, how would you describe your Edcamp experience to a colleague? _____

At which Edcamp did you complete this study? _____

Share any comments or ideas on the statements you sorted. _____

A follow-up interview may be conducted to clarify results. If you would be willing to participate in an interview please write your FIRST NAME ONLY (or a code name that you will know) and a telephone number or online contact (eg. Skype/Google Hangout) where you can be reached.

(CODE) NAME_____ PHONE/CONTACT_____

APPENDIX E

STATEMENTS WITH SCORES AND ARRAY

RANKS BY FACTOR

		Tweeting Edcampers		One-time Edcampers		Edcamp Converts	
No.	**Statement**	**Rank**	***z* score**	**Rank**	***z* score**	**Rank**	***z* score**
1	I seek out professional development opportunities that can help me be a better teacher	4	1.17	1	1.93	3	1.51
2	The cost of professional development determines my attendance	23	-0.20	21	-0.12	14	0.41
3	Edcamps gave me choice over my own professional development	10	0.88	16	0.12	9	0.95
4	What I learned at Edcamp will immediately change my teaching practices	22*	-0.03	36*	-2.05	8*	1.02
5	Edcamp professional development is exactly what I needed right now in my career	17	0.49	28*	-0.79	7	1.03
6	“I’ll use Twitter to continue conversations from Edcamp”	6*	1.04	26	-0.75	19	-0.18
7	Twitter helps me find other people and resources that help me become a better teacher	2*	1.31	21	-0.12	25	-0.49
8	My school/district supports my use of Twitter for professional development & learning	12	0.73	8	0.91	11	0.61
9	My school/district supports my use of Twitter for professional development & learning	19	0.20	12	0.67	16	0.18
10	Twitter is a waste of time for teachers	35	-1.57	31	-1.19	23	-0.32
11	"Twitter helps me keep on top of what is ‘new’ in education and tech”	1*	1.34	33	-1.26	26	-0.55
12	The people at Edcamp put too much emphasis on Twitter	27*	-1.12	9*	0.87	21*	-0.26
13	“The face-to-face meetings [at Edcamp] make the Twitter interaction so much more meaningful”	8	0.93	15	0.16	20	-0.24
14	I use Twitter for building/maintaining professional relationships	3*	1.19	23	-0.35	29	-0.86
15	I prefer traditional professional development and conferences over Edcamp	28	-1.13	10*	0.83	24	-0.41
16	I didn’t know what to expect from Edcamp at first but liked it as the day went on	21	0.00	28	-0.79	2*	1.57
17	Nothing I learned at Edcamp would be helpful for me in my classroom	30	-1.16	24	-0.40	35	-1.70
18	The relationships I made at Edcamp will help me become a better teacher	16*	0.52	35*	-1.54	4*	1.49
19	Edcamps helped me connect with other teachers like me	11*	0.78	34	-1.30	27	-0.56
20	“I didn’t personally connect with anyone” [at Edcamp]	33	-1.32	7*	0.95	30	-1.03
21	Edcamp was the best professional development I’ve ever experienced	15	0.53	25	-0.63	15	0.26
22	Edcamp was a waste of my time	36	-1.76	11*	0.75	36	-2.03
23	“I felt free to share my ideas” at Edcamp	7	1.02	6	1.03	13	0.52
24	Edcamps really aren’t professional	34	-1.47	5*	1.07	32	-1.36

	development, in my opinion						
25	Edcamp sessions allowed me to have a voice and share my experiences	9	0.89	14	0.63	12	0.52
26	"Many people were at Edcamp to 'show off' or impress others instead of being there to learn"	25	-0.74	30	-1.07	31	-1.16
27	"Edcamp was too unorganized…& did not address my needs"	29	-1.15	4*	1.26	28	-0.59
28	"I was told Edcamp would be great, and it wasn't"	31	-1.25	3*	1.423	3	-1.40
29	The Edcamp format was refreshing	14	0.58	18	0.00	5	1.23
30	Edcamp professional development is just another fad	26	-1.11	14*	0.63	34	-1.42
31	Networking is missing from most of the professional development I do at my school/district	18	0.34	18	0.00	17	0.06
32	Sharing ideas and experiences is valuable professional development for me	5	1.09	2	1.70	1	1.70
33	I prefer to hear from experts at professional development, not just other teachers	24	-0.61	19	-0.04	6*	1.12
34	There was too much emphasis on technology at Edcamp	32	-1.27	29	-1.03	18	0.04
35	The technology sessions at Edcamp were better than those offered at my school/district	20	0.20	32	-1.23	22	-0.29
36	I wish professional development at my school/district was more like Edcamp	13	0.68	22	-0.28	10	0.62

APPENDIX F

DEMOGRAPHIC SURVEY

Toby Brown--Edcamp Study, Demographic Questionnaire. Please answer each question truthfully and as completely as possible. You may choose "I prefer not to answer" for any question or simply leave it blank.

What is your gender? _____Female ____Male _____I prefer not to answer

How old are you? _____Under 30 ____30-40 ____40-50 _____50-60 _____Over 60

What is the highest degree that you have completed or are in the process of completing?
_____Bachelor's Degree _____Master's Degree _____Doctorate Degree
____In Progress--Bachelor's _____In Progress—Master's _____In Progress--Doctorate

What is your current position in education? If you hold multiple positions, please choose Other and describe them.
_____Teacher _____Administrator _____Instructional Coach _____Technology Director
_____ Library Media Specialist _____Other_____

How many years of experience do you have in education? _____0-1 _____2-4 _____5-9
_____10-14 _____15-19 _____20 or more

Do you consider your use of Twitter (or other social media) as professional development?
_____Yes _____No _____Other _____

If yes to the previous question, how often do you use Twitter for professional development?
_____Multiple times per day _____A few times daily _____Every few days
_____Once a week _____Rarely _____ Other_____

How many Edcamps have you attended? ____1 ____2-3 ____4-5 ____6-7 ____8-9 ____10+

How did you find out about Edcamp? _____Twitter _____Colleague _____Administrator
_____School communication _____Other_____

Would you attend another Edcamp in the future? _____Yes _____Maybe ____Not Sure ____No

How did your experience at Edcamp compare to professional development offered at your school/district? _____Much better _____Somewhat better _____About the same
_____Not as good _____Worse than _____ Other_____

What did you hope to gain by attending Edcamp? _____

What idea(s) from Edcamp have you already implemented (or plan to implement) in your teaching/job?_____

In one word, how would you describe your Edcamp experience to a colleague? _____

At which Edcamp did you complete this study? _____

Share any comments or ideas on the statements you sorted. _____

A follow-up interview may be conducted to clarify results. If you would be willing to participate in an interview please write your FIRST NAME ONLY (or a code name that you will know) and a telephone number or online contact (eg. Skype/Google Hangout) where you can be reached.

(CODE) NAME_____ PHONE/CONTACT_____

VITA

Toby Brown

Candidate for the Degree of

Doctor of Philosophy

Thesis: TEACHERS' PERCEPTIONS OF EDCAMP PROFESSIONAL DEVELOPMENT: A Q METHOD STUDY

Major Field: Education

Biographical:

Education: Completed the requirements for the Bachelor of Arts in U.S. History from Oklahoma State University, Stillwater, Oklahoma in 1997. Completed the requirements for Master of Arts in Russian History from Oklahoma State University, Stillwater, Oklahoma in 2000. Completed requirements for the Doctor of Philosophy in Educational Technology from Oklahoma State University, Stillwater, Oklahoma in July, 2015.

Experience: Teaching Associate, Professional Education Unit, and Coordinator, College of Education TECH Playground, 2013-2015. Technology Support Specialist, Oklahoma State University College of Education, 2007-2013. Technology Support Specialist, Inventory Coordinator, and Education Conferences Coordinator, NASA Education Projects at Oklahoma State University, 1997-2007.

Professional Memberships: Association for Educational Communication and Technology, Oklahoma Association of the Gifted, Creative and Talented.