

## Mobile Technology Acceptable Use Policies and Teaching in High School Classrooms: Do Boundaries Exist?

<sup>1</sup>Cheryl L. Burleigh, EdD\*, <sup>2</sup>Andrea M. Wilson, PhD

<sup>1</sup> *Contributing Faculty, Richard W. Riley College of Education and Leadership, Walden University*

<sup>2</sup> *Core Faculty, Richard W. Riley College of Education and Leadership, Walden University*

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**ABSTRACT :** Despite explosive growth in the use of mobile technology in classrooms, especially due to the effects of COVID-19 on the modality of teaching, there is little evidence for educators to guide the application of acceptable use policies (AUPs) as well as maintaining boundaries with students when technology is used for education within and outside of the classroom. Guided by the existing model established by AUPs, this study investigated the nature of establishing and maintaining boundaries for mobile technology use from the perspective of high school educators. From a participant pool of 30 high school educators, six teachers were interviewed about mobile technology use in the classroom, establishing boundaries with students and their families, and their knowledge of the school district's AUPs. Major themes including awareness and participant knowledge as well as the existence of boundaries and policies were identified. Educators are faced with the significant challenge of establishing and maintaining boundaries for their students with respect to mobile technology use. Educators require more direction and support to successfully pick up boundary enforcement where a school districts' standard AUPs leaves off. It is incumbent upon educational institutions to implement technology responsibly whereby policies must keep up with the times.

**KEYWORDS** - *acceptable use policy, boundaries, classroom mobile technology, communication, high school education*

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### I. INTRODUCTION

Mobile technologies are commonplace in American high school classrooms, more so now with the advent of distance learning due to the COVID-19 pandemic which forced schools to conduct learning virtually. Mobile technologies for the purpose of this study include cell phones, tablets, and laptops. Technology in general, and mobile technology specifically, may be the most prolific and swiftest moving source of global social change ever seen. The fact is technology is simultaneously both a cause and an effect of social change. No sector of the global market has been more influenced by technology than education.

Technology proliferation has prompted a revolution in the delivery of education at all levels; a revolution that has proven to be a double-edged sword (Escueta et al., 2020). Over the past decade, school system stakeholders have learned that mobile technologies can enhance learning at all levels of education from K-12 through higher education (Escueta et al., 2020; Liu et al., 2020; Sung et al., 2015) and mobile technologies can also disrupt and distract from the learning process (Becker & Levin, 2020; Gao et al., 2017; Muls et al., 2020). As the field of education moves into a new decade and faces new challenges and opportunities with respect to technology in the classroom, there is still much to discover and establish with regard to educating the future workforce and citizenry on effectively using technologies (Mattison, 2018).

Educators once faced the dilemma of choosing between embracing mobile technologies or limiting their use in schools and classrooms (Becker & Levin, 2020; Mupinga, 2017). Over the years, educators have become increasingly likely to view technology as a necessary, even mandatory, part of providing a high-quality education to all students (Escueta et al., 2020; Liu et al., 2020; O'Bannon & Thomas, 2014). Administrators developed policies to guide the use of mobile technologies in schools but found enforcing such policies to be impractical and confusing, even between staff members within the same building (Becker & Levin, 2020; Gao et al., 2017; Mupinga, 2017). The current mobile technology policies that were incorporated into acceptable use policies (AUPs) were structured solely on student use of personal cell phone devices and when cell phones could be used for learning purposes only during in-person instruction (Becker & Levin, 2020). Policies were

written in a manner that reduced liability of the education agency rather than increase learning opportunities for students (Mupinga, 2017).

Preventing school-based scandals and preempting other concerns took precedence as educators' and students' unrestricted web use became commonplace. School-based concerns about web use included exposure to inappropriate imagery and content, such as sexual, violent, or hateful content, risk to physical safety, cyberbullying, and other unwanted interactions (Becker & Levin, 2020; Erickson et al., 2016).

The COVID-19 pandemic forced a sudden transformation of everyday existence toward a virtual way of life (Iivari et al., 2020). No area of life has been left untouched; not even basic education of children was spared by this digital transformation. With the onset of COVID-19, schools have been forced into a rapid and unexpected growth in the use of technology virtually, in distance learning classrooms without the benefit of consistent AUPs. Districts needed to pivot quickly to a new modality of teaching; yet specific policies in the use of mobile technologies were not updated to meet the needs of teachers and students. AUPs are currently archaic, where the structures of these policies are solely based on school own classroom computers, personal cell phone devices, and use/non-use of said devices in the in-person classroom. Therefore, no guidance was given to educators in how to pivot to the appropriate use of technology and enforcement of AUPs when the technology used is no longer in the home yet is prescribed for educational purposes. Ethical decisions on the most appropriate means to integrate mobile technologies remain teacher based. The result, teachers are burdened with the public accountability to enforce teacher-driven classroom policies to support students in a safe learning environment. When teachers needed the specific directive of districts, the accountability potential of information to support student safety and to improve learning outcomes was not forthcoming (Hutt & Polikoff, 2020). Ultimately, teachers need to be empowered with the institutional support necessary for them to take on a leadership role in this digital transformation of education (Iivari et al., 2020).

While the teacher-student relationship is a central component of learning, there is an inherent fear factor in teacher-student communications using mobile technologies which has resulted in laws and regulations that may or may not be an overreaction (Rockey Fleming, 2014; Walker, 2016). Both students and teachers alike are now considered increasingly vulnerable with regard to communication and social media platforms used in conjunction with mobile technologies (Becker & Levin, 2020; Erickson et al., 2016; Walker, 2016). In a study conducted by Gao et al. (2017), teachers, more than students or parents, were found to be the most interested in improving school policies pertaining to mobile technology use. With the advent of Gao's findings and in light of the global pandemic, change is needed, more so than ever, in how specific boundaries in the use of technology is applied in the classroom. Having public accountability in a robust AUP can support teachers who use technology in the classroom in setting, maintaining, and enforcing applicable boundaries for the use of mobile technologies while delivering meaningful and relevant curriculum for student mastery. The learning of such boundaries may play an informed role for students when the need for future and emerging technologies are integrated in their personal and professional lives.

Teachers, like parents, want to be able to protect and guide students through varying dimensions of learning, including the appropriate use and navigation of teacher-student, student-student, and parent-teacher interactions (Bouffard, 2013; Gao et al., 2017; Rockey Fleming, 2014). Through a collective social change mandate within school districts to improve safety protocols and AUPs in the use of mobile technologies within the classroom, both in-person and virtually, these protections and guidelines would then serve as boundaries that may positively affect student safety and the overall learning environment (Attwood, 2020). Safety in this context would include the social and emotional well-being of all members within the classroom (Attwood, 2020). By doing so, the boundaries that are established by and for education systems would serve as a means for allowing technology use while keeping inappropriate materials and communications at bay (Becker & Levin, 2020). However, due to a lack of understanding about what boundaries may exist, can be expected, or are best to employ when using mobile technologies in classrooms, teachers are often at a loss to effectively integrate innovative instructional methods and logistical support is desperately needed if teachers are to succeed (Becker & Levin, 2020; Henley, 2009; Morgan, 2016; Muls et al., 2020; Sung et al., 2015). Another consideration is how enforceable boundaries may support educators in managing the use of technology and mitigate stressors (Attwood, 2020) due to an increase of mobile technology use brought about by the global pandemic. Researchers have established that there is a need to guide educators in crafting and implementing

classroom policies that publicly account for the benefits and pitfalls of mobile technology, including the definitions of and clarity about appropriate boundaries, understanding implementation, and enforcing such boundaries (Becker & Levin, 2020; Bouffard, 2013; Hutt & Polikoff, 2020; Morgan, 2016; Muls et al., 2020; Mupinga, 2017; Sung et al., 2015).

## II. PROBLEM

Within the field of education, teachers are continuously urged to implement technology, inclusive of social media, into the classroom to support student learning and to improve channels of communication between the school, home, and the school community (Becker & Levin, 2020; Callison, 2015; Escueta et al., 2020). While the premise of technology as a communication and teaching tool is ideal, the practical applications of such technology are not. Prior to COVID-19 teachers were not able to keep up the technology school-based rules or district level policies. Boundaries in the use of mobile technologies have been magnified since the global pandemic with policies, specifically AUPs, that are far behind the times from a disciplinary perspective due to the rapid and unexpected growth in the use of technology in the distance learning environment. The problem, the setting of reasonable and enforceable boundaries in the use of technology in and outside of the classroom by students, teachers, and parents/guardians, is not clearly defined nor understood.

When deliberating what may be considered as a boundary with regard to using school-based or school supported technology, there is a need to establish policies that align with a common and easily recognized definition of a boundary in this context; thus, social change is essential within the organization to support modifications to existing protocols and enactment of policies to pivot in the moment (Becker & Levin, 2020; Erickson et al., 2016; United Educators, 2014). In one description, a boundary, with respect to implementing appropriate use of technology in and out of the classroom, requires a rule-driven process involving interaction and negotiation between the affected parties including educators, students, and parents (Erickson et al., 2016). Currently, there does not exist a clear statement of what constitutes boundaries when using technology in or out of the classroom. Guidance is not offered, in the form of an AUP, at the professional level for educators either at the national or state level or within schools or school districts (Mupinga, 2017; Price-Mitchell, 2009; United Educators, 2014). The use of technology and the boundaries set can vary between teachers within the same school, let alone from district to district. Therefore, a need exists in conceptualizing the required reforms as a means of social change to update archaic technology boundaries and AUPs, thus providing teachers, students, and stakeholders clear expectations. Although teachers embrace technology as an instrument to support student learning and communication, little is known as to how teachers develop boundaries in the use of technology both in and out of the classroom.

## III. PURPOSE AND RESEARCH QUESTION

The purpose of this study was to investigate how high school teachers define, implement, and enforce boundaries when using mobile technologies for their students and stakeholders both in and outside of the classroom. Given the existing gap in the literature, a qualitative study that can explore experiences, themes, and generalizations pertaining to how teachers establish and maintain boundaries with use of mobile technologies for instructional and communicative purposes was needed. This need led to the research question: *How do teachers use technology in high school (grades 9-12) classrooms to support learning while maintaining clear boundaries between teachers, students, and parents/guardians?*

## IV. SIGNIFICANCE

A collection of stories from the trenches of teaching at American high schools provided insights into how best to guide educators in establishing boundaries for appropriate use of mobile technologies in and out of the classroom. In a technical sense, a boundary is commonly defined as something that indicates or fixes a limit or extent (Merriam-Webster, n.d.); but in a holistic sense, boundaries are places where people meet and find ways to grow by communicating, sharing, and building knowledge (Price-Mitchell, 2009). School leaders span the established boundary and are tasked with leading teachers to better class management policies for implementation and reinforcement of instruction that led to effective and safe practices for all involved (Becker & Levin, 2020; Bluestein, 2012, 2013; Price-Mitchell, 2009). A consideration of social change within the realm of current AUPs may prove to be significant when the demand for the use of technology in distance learning has increased due to unforeseen circumstances. Teachers feel the additional pressures of maintaining

decorum in their in-person and virtual classrooms for the dissemination of curriculum; pressures for which teachers may be unprepared (Iivari et al., 2020). Without the backing of district and school administrations on how to properly engage students in the use of technology, teachers are continuing to struggle in maintaining effective and safe learning environments. This study aims to shed light on the challenges teachers are facing at this time in the implementation of mobile technology boundaries when there is a digital divide and antiquated AUPs within schools.

## **V. BACKGROUND**

Mobile devices in the classroom have been found to positively influence student learning, engagement, motivation, and productivity; help students learn anywhere, anytime, with anyone; and substantially enhance social relationships and interactions with peers (Gao et al., 2017; Gao et al., 2014; Muls et al., 2020; Mupinga, 2017). Mobile technologies allow for problem-based, authentic, real-world problems to be solved; instant-feedback functions to efficiently execute and manage formative assessment; and wireless communication which can facilitate group member scaffolding and avoid idling (Sung et al., 2015). Mobile devices are distinct from other learning technologies since there are individualized interfaces, real-time access to information, context sensitivity, instant communication, and feedback which may have greater positive effect on student learning over desktop-based or no technology learning environments (Sung et al., 2015).

Prior to the onset of COVID-19, one Pew Research survey showed the vast majority of teachers, possibly as many as 70%, supported the use of mobile and other forms of technology in the classroom as a vehicle for content instruction, communication, and enhanced learning opportunities (Purcell et al., 2013). At the time, educators over the age of 50 differed in their support and use of mobile devices in the classroom as well as their perceptions of the benefits for school related work (O'Bannon & Thomas, 2014). Previous research studies indicated teachers are using devices to motivate, challenge, reflect, research curriculum and instructional modalities, carry out tasks, and rework writing and other products (Sung et al., 2015). In a study conducted by AdvancEd in the 2010s, nearly two-thirds of classrooms failed to consistently incorporate technology to engage in problem-solving, research, or collaborative work despite pervasive availability of devices in these classrooms (Broekhuizen, n.d.).

Like any pervasive element of social change, technology infiltration in the classroom has proven to be a mixed blessing (Escueta et al., 2020). Devices can move students away from being individualistic and competitive, and instead, collaborative, and willing to share knowledge (Zeider, 2014). Instantaneous news reporting added authenticity to the course curriculum as students connected to breaking news and current events in support of the lesson (Zeider, 2014). Tech-savvy generations are said to use mobile technologies outside of their classes to cross boundaries between traditional and innovative education; turning to YouTube before books, for example, to grasp difficult math and science concepts (Genota, 2018). However, mobile devices in the classroom are not always used for class-related learning and one estimate reported that 21% of class time is spent by students on their mobile devices for non-class related purposes (McCoy, 2016). The literature also supports the use of mobile devices in the classroom has led to disruptions to the study environment and daily routines; negative effects on academic achievement; access to inappropriate content on the Internet; and providing opportunity to cheat on tests or access previously stored information (Gao et al., 2017; Gao et al., 2014; Muls et al., 2020). The disparate effects of mobile technology in the classroom are not new and are most certainly exacerbated by the COVID-19 pandemic.

Inappropriate use of technology by teachers and by students has been reported as well. Morrison (2017) and Zarra (2016) presented a litany of problems which arise from inappropriate use of technology in the teacher-student working relationship. The inappropriate interactions occur in the curricular and extracurricular contexts where boundaries are blurred by the ever-present availability of technology for communication (Morgan, 2016; Morrison, 2017; Patrikakou, 2016; Zarra, 2016). Additionally, teachers are reporting harassment by students (Morrison, 2017). Student cyberbullying of teachers is not new. One survey conducted for the Association of Teachers and Lecturer and the Teachers Support Network found teachers have increasingly experienced cyberbullying by students (Henley, 2009). Unfortunately, this trend of inappropriate behavior toward teachers has not been stopped (Morrison, 2017).

Predicting how effective mobile technology is on learning for any given classroom relies on the combination of hardware, software, settings, and instructional methods, among other variables (Escueta et al., 2020; Sung et al., 2015). The features of mobile devices are not sufficient conditions for positive learning effects; rather positive outcomes lie with the teachers' implementation of said devices. Nearly two decades ago, Parks et al. (2003) warned that focusing solely upon technological innovation and its ensuing results only reinforces a myth that computers by themselves are capable of effecting meaningful change. This warning has proven well founded in that technology use in the classroom is only effective insofar as teachers are willing and able to implement it for student learning activities (Broekhuizen, n.d.; Escueta et al., 2020). Wide-spanning capabilities of learning technologies, including mobile technologies, are now incumbent on teachers to help students become proficient in the use of technology (Parks et al., 2003) and this proficiency includes understanding when and how to use such powerful technologies appropriately. Technology is simultaneously a teaching tool and a medium that must be learned.

**School Policies:** Interestingly, the school policies that govern the use of technology in classrooms are far from being as omnipresent as the technology itself. Dating back more than a decade, 84% of 112 high schools sampled from across the United States reported having a specific, written policy on mobile phone use (Obringer & Coffey, 2007). Curiously, Gao et al. (2014) reported in high schools within China, 63.46% had a written policy regarding mobile technologies, specifically cell phones and student use. Such school policies can be found on school or district webpages, in student handbooks, and on classroom documents, but there is no standard policy or practice when it comes to mobile devices use in the United States (Mupinga, 2017). Reporting in 2017, Mupinga found 96% of schools had policies that ranged from vague to specific and the vast majority of the policies were too difficult to enforce. Too often, adequate professional development for teachers who are required to integrate new technologies in the classroom was not considered a priority; therefore, teachers can be left unprepared or lacking understanding of how to use new technologies effectively in the classroom (Mupinga, 2017). It is clear that school policies have been less than effective in keeping up with the pace of technological advancement. Now, with distance learning required via virtual classrooms prompted by the COVID-19 crisis, school policies have only fallen further behind. It is likely to be years before school systems will have the time to bring their technology policies fully up to date, especially those policies that deal with proper and acceptable use of mobile devices in and outside of the classroom for student learning.

Within schools, teachers had found enforcing policies were impractical and confusing if those policies were not consistently implemented by all members of the staff. Teachers were found to be frustrated with policies that did not deter violations, challenging to enforce, and met with refusal of students and parents/guardians to comply. Teachers also indicated that valuable teaching time was being spent on policing mobile technologies. Many times, use of mobile technologies depended on the specific teacher, not the school, and this confused students. Too many school administrators are silent on the topic, leaving teachers to figure out mobile technology class management practices on their own (Gao et al., 2017, Mupinga, 2017).

More recent findings offered by Becker and Levin (2020) and Muls et al. (2020) reinforce the idea that school officials must create and emphasize clear policies and procedures for managing the technology within and beyond the cement walls of the classroom. Such policies must take into account a vast array of technology-related circumstances. By integrating technology into the education environment, educators and school leaders become responsible for managing all elements of such technology and its use. Leadership in this area includes data management, information security, and privacy considerations (Becker & Levin, 2020) as well as issues of social media access and use (Muls et al., 2020). As the scope of technology use in schools expands, the need for clear boundaries framing all facets of acceptable use must expand as well.

## **VI. CONCEPTUAL FRAMEWORK**

The paucity of current research framing the boundaries for integration of mobile technology into the education setting is cause for concern. Educators are faced with developing and implementing their own systems for managing technology use in and out of the classroom with their students and their families (Iivari et al., 2020). There has been no clear or reliable parameter for developing and maintaining boundaries with respect to mobile technology use in schools and now in the virtual learning environment.

In the absence of clear guidelines, the only available framework from which to draw appears to be that of the AUPs. Current literature in the use and development of AUPs by schools and school districts in the United States is very limited, with much of the development of such policies and solutions of handling technology taking place with early adopters with the onset of technology use in the classroom during the early 2000s (Culp et al., 2005; Weitzel, 2019). In the United States Department of Education (2016) report *Future ready learning: Reimagining the role of technology in education*, issued by the Office of Technology, the terminology of responsible use policy (RUP) was introduced. Since schools and districts have not made the updating of AUPs a priority, the use of the recommended terminology of RUP has not been adopted. For the purposes of this study, the term AUP will be used for consistency. An AUP is the top down, legalistic guideline designed to protect school districts, their employees, and their stakeholders in the technology-driven environment (Laughton, 2008; Simbulan, 2004).

AUPs are common features of a school district's plan for integrating technology into the system's daily activities. Furthermore, AUPs focus on the permissible and forbidden activities and sources of content when using school district technology systems, resources, and facilities. The AUP is designed to protect the school system in a global manner that is intended to minimize liability should something go wrong (Consortium for School Networking, 2013).

Unfortunately, AUPs are often written with the courtroom in mind. They are about establishing rules that ensure the school district is in compliance with a variety of federal laws intended to regulate the use of technology and the internet in schools. AUPs can be difficult to understand, not easily applied to the classroom, and complicate the process of managing technology-driven activities with students in real time. Too often, there is a gap between the policy itself and the procedures which are required to implement and enforce the policy (Consortium for School Networking, 2013). Students, their parents, teachers, and other school district personnel are typically required to acknowledge the AUP upon engagement with the school district and often annually thereafter. Yet, many who sign off on the AUP every year could not describe the content of the AUP itself. School personnel, teachers, staff, and administrators, who are charged with enforcing the AUP in the classroom, cannot describe the details of the guidelines that are the key element of the policy.

Ultimately, the AUP itself is meaningless without clear and consistent enforcement on the ground, in the classrooms, both in person and virtually, where it matters the most (Consortium for School Networking, 2013). If the AUPs were really about proactively protecting the students from the many dangers that reside on the internet or within a technology-driven system, then these policies would have clear guidelines for implementation and enforcement. The implementation and use of relevant updated AUPs is even more apparent with the dependency on mobile technologies during the COVID crises. School districts have not been proactive in updating AUPs to meet the current demands of online learning classroom environments due to the pandemic since their focus has been consumed with the day-to-day operations of how to deliver content to students. Student safety and the reliance on AUPs to set clear boundaries in the use of mobile technologies was brought to the forefront due to the onset of the global pandemic. Teachers require clear, current mandates and strategies in how to consider the ethical approaches needed to implement the use of devices, platforms, and software to support a safe student learning environment (Burleigh, 2020). Therefore, the gap between policy and procedure should close. After all, the individual ultimately responsible for the implementation and enforcement of the AUP are classroom teachers who simultaneously lack the knowledge, training, and support to do so effectively.

Educators are expected to navigate the implementation of the AUP within their own classrooms and schools. Those on the front lines of the battle must determine their own boundaries for acceptable use of mobile technology in their classrooms and school buildings. Where no boundary exists, these educators develop and implement their own boundaries and procedures related to mobile technology use, all the while hoping that they will be supported by school and district leadership should something be challenged or, worse yet, go wrong. As a result, educators are often left to their own personal and professional judgment when determining the nature and appropriateness of using various mobile technologies in classrooms and with their students (Hamilton, 2015; Walker, 2016).

There is a need to have students be as proficient as possible in learning educational content and the use of technology to support academic growth. However, the process of mobile technology integration within the traditional and virtual classroom is not accompanied by a solid foundation of rules and conditions; at the same time, there is little in the current literature to build upon. Therefore, teachers must be the policymakers, implementers, and managers of boundaries when students now use various mobile technologies in the learning space. The lessons of what works and what does not will lead educators to guidelines of best practices in how to appropriately integrate technology to enhance student learning (Gao et al., 2017; Mattison, 2018; Sung et al., 2015).

## VII. METHOD AND DESIGN

To address how high school teachers define, implement, and enforce boundaries when using mobile technologies in and outside of the classroom, a qualitative study examining those boundaries was conducted. Mupinga (2017) used a qualitative four question open-ended survey to find out why school policies seemed contradictory. Williams and Williams (2005) drew on interview data and Erickson et al. (2016) used interpretive thematic analysis to examine boundary negotiations between adults and children.

The current qualitative exploration of in-depth narratives from a small sample of American high school teachers was used to glean guiding generalizations about the creation, implementation, and enforcement of boundaries for mobile technologies in the high school classroom. This research was an exploratory design with embedded content analysis using narratives from convenience sampling. Participants were selected through professional networks from each team member. Qualifications of participants included those with a minimum of five to seven years of high school teaching experience in an American public, private, or charter school. Additionally, each of the participating teachers had a minimum of three to five years of experience using technology within a classroom. The initial participant pool consisted of 30 educators who met inclusion criteria from across the researchers' professional network in the northeast and western regions of the United States. Of these, 12 participants self-selected into the study and completed a preliminary survey to determine final qualification for the study. Each of the preliminary participants was asked to consent to the study, answer 14 open-ended questions inclusive of their demographics, and to participate in follow-up interviews for the purposes of clarifying responses. Due to the diversity of the initial participant pool, discrepant information, and substantial variability in the preliminary survey responses, the final sample was narrowed to six participants from one region of the western U.S who completed in-depth interviews about the topic. This final sample provided the greatest consistency among responses which allowed for the most meaningful conclusions to be drawn from the study. In addition to the interviews, the publicly available AUPs from the school districts where the participants were employed were reviewed for purposes of data triangulation and confirmation of ideas that emerged from the interviews.

## VIII. DATA COLLECTION AND ANALYSIS

**Data Collection:** Phone interviews were conducted with a purposeful sample of six high school teachers who taught classes in grades 9 through 12 in the subject content areas of science, mathematics, social studies, and business. Each of the participants had some knowledge of the school district's AUPs for student personal technology use and implemented innovative mobile technology procedures within their respective classrooms based on the population of students and the subject content area taught. Upon the completion of each interview, transcriptions were sent to the participants for a members' check to make sure their comments were accurately represented. Saturation, where no new ideas were evident, was reached after six interviews. A content analysis approach was employed since the process is more flexible than other types of analysis and allows researchers to describe the data in a more systematic manner (Fingeld-Connett, 2013; White & Marsh, 2006).

**Data Analysis:** The process of data analysis included inductive, thematic coding to gain a deeper understanding of the experiences of the study participants (Riessman, 2008). The review of interview transcripts took place individually, then, as a team, notes were compared to inform the analysis of data. The use of hermeneutics as described by Jacobs (2014) may provide a contextual meaning of data obtained based on the specific organization or culture within an organization. By employing hermeneutics, collectively as a team each review of the data brought forth the opportunity to derive a comprehensive meaning from the transcripts resulting in an alignment and integration of the findings (Chase, 2018; Ziegler et al., 2006). During the data analysis process, collectively a Google document was maintained with specific codes and highlighted themes within the transcripts (Johnston et al., 2017). Additionally, analytic memos (Saldaña & Omasta, 2018) were used as a tangible record to note specific areas of interest and similarity by each team member that would lead

to the derived themes and findings. The analytic memos also served as points of discussion during several rounds of data analysis to hone the team's thought process.

To delve deeper into the data analysis process, the participant transcripts were divided into smaller numbered sections of one to three sentences. Individually, the team members read the transcripts to distinguish word grouping or "idea units" (Riessman, 2008, p. 33), which may hold significance during data analysis and theme development. As the transcripts were repeatedly read similarities emerged. These similarities were then grouped leading to the dominant themes that are discussed later in this paper. Observing and verifying similarities of themes within each of the transcripts serves as a foundation of coherence. Both Chase (2018) and Riessman (2008) tackle and inquire if the topic of coherence is based on the bias of the researcher or the narratives obtained from participants. As a team, the potential for bias was acknowledged and the goal was to allow the participants' narratives to drive the research and themes found. Therefore, the information shared by each participant, as captured in the interview transcript, was reviewed in the context as presented. No additional interpretations of the data were produced to conveniently categorize the transcript information.

## IX. FINDINGS

Participants had the opportunity to share their views and experiences in open-ended responses to the questions posed during the interviews. A strong teacher understanding exists for how technology can be used as a learning tool in the classroom and can be an impediment to student learning if not used correctly. Although teachers view technology as important for academic performance, they appear to have strong concerns for how technology, specifically mobile technology is used within the classroom and express concern of inconsistent enforcement and ineffective school or district-based policies. Pseudonyms were assigned to each of the participants and are used in the presentation of the data below. The following coded themes were identified as awareness and participant knowledge, existence of boundaries and policies. The subthemes identified included student responsibility, policies, procedure and practices, administration, enforcement, and stakeholders.

**Awareness and Participant Knowledge:** The following excerpts from the participant interviews showed that teachers have ongoing awareness and knowledge in the absence of clear boundaries for the use of mobile technology in the classroom as set forth by the school or district. Some participants noted the possibility of an AUP for technology which may be found in the faculty handbook.

*The school doesn't have any clear boundaries. Our principal kind of leaves that up to us to determine. But it would be a good idea if we had some sort of consistency between all of the teachers or between all of the departments ~ Mel*

*I think there are clear policies and guidelines. I do recall that at the beginning of the school year when students register for classes, they have to sign an acceptable use policy and so do their parents or guardians. In my class I have very specific boundaries and guidelines and policies that I enforce because our classes so dependent upon the use of the technology ~Kevin*

*But as far as teachers knowing about it, I'm just aware of it in general but I guess if I go back to my Faculty Handbook, I might find the copy in there. Or I probably have to go to the district website to get that information. ~ Amy*

*Maybe this would be a good time to look at the faculty handbook and see if there is something in there about boundaries and technology in the classroom. Just something I never thought of before. ~David*

These responses illustrated observations and experiences of teachers as they are aware technology and acceptable use policies may exist within their individual schools and districts. Regardless of the type of school, all teachers shared similar concerns with personal, faculty, and staff awareness of what policies are in place to support teachers.

**Existence of Boundaries and Policies and Enforcement:** When discussing the existence of boundaries and policies and enforcement, teachers made direct links to barriers that occur in the use of mobile technology in

the classroom. Those boundaries encompass communication with parents, student use, and the support of the school and district when such matters arise. The following excerpts are indicative of these concerns:

*Parents often demand to communicate with their children while in class. Therefore, any boundary that is put in place is often challenged by both students and parents alike. ~Mona*

*Actually, that would be a wonderful revelation by the district. But the district really needs to ...set up clear boundaries for when parents can contact us. Right now I'm the one that has to set the boundaries and I do so in my classroom policies. I know that the school, the district, and union wants to give teachers as much freedom as possible in how they run their classrooms, but it would be very helpful to [have] the backing of the school's administration and the district when we run into problems with parents who continuously contact teachers, harass them, bully them, or berate them. ~ Kevin*

*I just wished the school would do a better job in enforcing those rules. I just think the admin and the district do not want to offend the parents. If rules are not put in place and adhered to, then the school and district ends up being a pushover. Then teachers are the ones who have to fight the battles. This should be the least of our worries.~ Mel*

*Just that boundaries are too difficult to enforce. I sometimes wonder if a kid uses the bathroom during my test, does he have his phone on him? Are they texting each other between classes about the test and other things that we haven't figured out how to prevent? I think it would be a good idea if our admin addressed things like that because right now, it's just my colleagues and I having these discussions. ~Jesus*

*I think if there was a united front between the use of technology and what those boundaries are within not only the school but within the district, I think that would go a long way in solving some of the problems that I know many other teachers and colleagues share as far as students being addicted to their social media and not knowing when to turn off social media and to engage in the classroom. ~Amy*

These data show that in the area of boundaries and barriers teachers understand the burden of enforcement falls directly on them. Although teachers enjoy having autonomy in the classroom when teaching curriculum, the act of consistency in the enforcement of school policies should not be squarely placed on the shoulders of teachers. Each of the participants expressed a need for school-wide and district-wide policies for use of mobile technology in the classroom which will apply to both students and parents/guardians. Recently, teachers have been faced with an additional barrier in light of distance learning in virtual classrooms due to the pandemic. These same teachers noted they have been directed by new district-wide policies that students do not have to be visually present in the classroom, avatars can be displayed, which begs teachers to wonder if their students are truly present in the classroom or if students are using additional resources during a test or final exam. The 'honor system' is being tested and the enforcement of district policies without clear ramifications of violations by students is left again to teachers.

**Student Responsibility:** The following excerpts demonstrate how teachers believe students need to be responsible for the use of mobile technology:

*That would be interesting to see how many students really know about the acceptable use policy and what they can't and can do with technology either the technology that is supplied by the district in the classroom or their own smartphones or if they bring their own computers or laptops to school [and] how can they use those [devices] while they are at school. ~Kevin*

*Outside of the classroom, students are expected to respect technology and our virtual educational spaces. ~Mona*

*Students know when they can use the iPads or tablets, when they can use the laptops, and when it is OK to use their cell phone.... Students can work off those tardies, but I tend to want to hold them accountable, so they need to take their lumps you know along lines of being responsible. ~Amy*

*If teachers really hold students accountable and treat them like young adults, then I also think that students will monitor each other. ~David*

*I think sometimes these students are jaded in the importance of having a smartphone and really do not understand the gift and the benefits that they get from using technology correctly. They could learn so much more if they would really pay attention and use the technology correctly. ~David*

The participants expressed a direct concern of continuously holding students responsible for knowing when the use of mobile technology in the classroom is appropriate. Holding students accountable for their actions in the use of mobile technology in the classroom may seem by students as hindering their social interactions with peers. Teachers observed when students are held accountable and responsible for the use of mobile technology in the classroom there is a greater chance students will live up to the responsibility.

**Policies, Procedure, and Practices:** When asked about mobile technology policies, procedures, and practices used in the classroom, the teachers explained the barriers that arise and techniques to overcome possible abuse of devices. One participant described the importance of engaging students in appropriate use of mobile technology to enhance learning.

*As educators, we are allowed to penalize students if boundaries are not kept. For example, we can confiscate cell phones and administer detentions. However, there is often pushback from parents and guardians that challenge these penalties. ~Mona*

*[As a classroom policy] students come into the classroom the first thing, they have to do is take out their phone.... and place it in the caddy. If they do not place it in the caddy, then they have to stick a note in there saying that they either do not have their phone with them. The reason I use the caddy system is as a form of taking attendance and reducing the temptation of cell phone use and abuse. ~Amy*

*The more engaged they [students] are in using the technology in the classroom for school purposes, the less time they will wander off and use it for the wrong reasons. ~ Kevin*

Teachers take it on themselves to monitor student use of mobile technology. This raises concerns about teachers' sustainability of policing mobile technology in the classroom where the onus is on the individual teacher to continuously monitor such situations instead of focusing on student learning and engagement.

**Administration:** When discussing the role of administrators, each of the teachers felt strongly that support is needed from the school and district based administration to assist in the enforcing policies around mobile technology and device use.

*I really don't think the district has any clear boundaries in this area. I think the guidance that we receive is really from our administration or from the union. ~Kevin*

*But if administrators take the referral seriously by the teacher especially in regard to the improper use of technology, I think then the message to the students and the parents and not only remains constant and there clear as to the school's stance on what is appropriate and inappropriate use of any type of technology. ~David*

*When you have the administrators speak to one another maybe at the middle school level, they start developing this culture of technology use that can then translate to the high school level. ~Mel*

Although teachers indicated strong views on the importance of consistency in upholding mobile technology use policies in their respective schools, teachers expressed an overall need to have the backing of administrators to enforce policies as stated within the school districts' AUP. The use of mobile technology as noted in a district's AUP applies to all schools within the district. The teachers noted that consistency of AUP practices throughout the district starting early within students' education would be seen as second nature and part of the district's culture of mobile technology use.

**Stakeholders:** An area of concern as expressed by teachers was the role of stakeholders, primarily parents and guardians, in the use of mobile technology interaction with their students or contacting teachers as the following excerpts show:

*However, as students get more comfortable in class, technology is then used for social media purposes and even to communicate with parents during instructional time. Parents often demand to communicate with their children while in class. Therefore, any boundary that is put in place is often challenged by both students and parents alike. ~Mona*

*I bet there's plenty of teachers that have stories about times in which they've been accosted, harassed, cornered, whatever word you want to use, by parents in public spaces outside of the school day so, I'll just leave it at that.~ Amy*

*I really do not believe that there are clear boundaries in relationship to parents or guardians contacting teachers during the school day. ~Kevin*

*Parents often check this grade book several times a DAY. As soon as a grade is posted, they immediately contact the teacher to complain about an earned grade. The school does not have any policies directly concerning parents/guardians use of technology during the school day or how to contact teachers. ~Mona*

*I think at the end of the day we really need to educate parents on how to treat us as teachers as professionals. ~Mel*

Some of the participants reported parents and guardians do not value the policies and boundaries teachers place on the use of mobile technology for the classroom. Sometimes this is met with resistance from parents and guardians by purposefully ignoring the teachers' policies, calling their students during class and throughout the school day, or by directly going to administration to complain. The teachers expressed the importance of parents and guardians understanding what healthy boundaries are for when to communicate with their students.

These findings reflect the reported concerns teachers feel when presented with the added responsibility of having to monitor student use of mobile technology when policies and boundaries are not practiced routinely and systematically throughout the school and district. Consistently the teachers raised the same issue of how boundaries for the use of mobile technology is not clear. The statement from this participant sums up the findings:

*Overall, there doesn't seem to be a clear answer about using technology in education. However, without implementing explicit policies and clear boundaries, technology can become an impediment to exceptional teaching and learning. ~Mona*

## X. DISCUSSION

The findings presented provided insights into the complexity of teachers' awareness and implementation of district defined policies for the use of mobile technology within the classroom. To date, studies almost exclusively focused on the benefits of mobile technology and its uses in the classroom and how teachers use various technology platforms and software to increase student engagement and learning. However, there have been no studies that consider the effect of how school policies or district AUPs may influence the actual use of mobile technology in the classroom, either in-person or virtually, and how those policies may affect the social climate within the organization and school community. Additionally, no studies have accentuated the role of parents/guardians in their use of mobile technology to contact teachers or engage their students during the school day. This specific study sought to fill this gap by bringing awareness to the topic of mobile technology use in high school classrooms, the possible effects on teaching, and if such boundaries actually exist. To our knowledge, this is the first study to investigate the topic.

From a policy perspective, the findings suggested how mobile technology policies, either through school districts' AUP or individual school-based policies, are enforced are only as good as how they are implemented

as broad-based directives by the school district. Each of the teachers discussed the role leadership of school-based administrators and at the district level needs to be strong so that AUP and other mobile technology-based policies can be enforced without question by students or parents/guardians. The study participants noted a passing acknowledgment of AUPs by students and parents/guardians. Each of the participants recognized the AUP served as a document to legally cover the district as to technology use and was a required form for students and parents/guardians to sign during school registration. Some of the participants stated while the AUP documents had been signed by students and parents/guardians, they had wondered if the AUP was actually read or understood by the signees. If so, the issues that arise in the classroom as to appropriate and approved use of mobile technology during an instructional period and during the school day would not take place. Therefore, the pushing or ignoring of the mobile technology boundaries would not exist at each of the participants' schools. Additionally, with school leaderships' backing and the school communities' awareness those policies may become second nature within the classroom which may result in reduced abuse of said mobile technology use policies.

Student awareness in the proper use of mobile technology was increasingly recognized as an important measure of classroom success. Teachers would find the consistent 'policing' of mobile technology a distraction and barrier in teaching; thus, students were not being able to truly focus on the subject content matter and engage in learning. The high school teachers articulated a proactive approach to the implementation and enforcement of mobile technology policies and boundaries while balancing the need for use of such devices to engage student learning. Mobile technology can be an instrumental research tool to expand students' awareness of educational resources available to support curiosity, engagement, and learning of subject content area topics and concepts. Therefore, the high school teachers from this study stated they would readily embrace the use of mobile technologies if consistent boundaries were practiced among educators with the support and backing of administration.

Teachers discussed the role of parents/guardians in their 'checking in' with students during class or the school day. The high school teachers noted how parents/guardians felt that contacting teachers throughout the school day regarding their student was a 'right' and therefore, hindering respectful boundaries. Some of the teachers felt that parents/guardians tended to be perpetrators more than the students in the abuse of mobile technology during the school day (e.g., communicating with their child during school hours, demanding interaction with the teacher during class time, etc.). When teachers did not respond immediately to a parent's voice mail or in some instances text messages, parents/guardians would then contact the administration for the unprofessionalism of the teacher. This resulted in some instances of teachers being reprimanded by the administration instead of the administrator backing the teacher and the said school policies of mobile technology use and appropriate response times.

This study reminds us that there are numerous variables that need to be considered when developing, implementing, and enforcing mobile technology use. The process needs to be interactive with buy-in and support within all levels of a school, district, and among stakeholders. There is no one solution for improving mobile technology use policies and developing realistic boundaries at the high school level, nor is there a one-size-fits-all approach to improvements in implementation and enforcement. The overall goal is for each district to develop sound policies around mobile technology that can be realistically enforced without burdening teachers while encouraging student responsible use of such devices.

## **XI. LIMITATIONS**

The current results from this study need to be considered in light of their limitations. First, the study is representative of public school districts in one region of the United States with a focus on high school educators. Therefore, the findings are geographically situated. Because our study focused on public high school educators' experiences in the use of mobile technologies and AUPs, the study comprised a relatively small number of participants, a total of six high school educators. For the purposes of this study and methodology, the sample size is adequate (Boddy, 2016) and the research team agreed that saturation was reached based on the in-depth interviews with each of the study participants. Although the study was limited in the scope of the geographical location and secondary schools, future studies could include participants from different types of school organizations, grade levels, and regions within the United States. Second, it is important to acknowledge that teacher experiences and the types of AUPs and how those policies are implemented in school

districts are factors that may have shaped the results of this study. Teacher experiences may be based on the number of years at the specific school, their familiarity and level of comfort with the use of mobile technologies, and the policies and procedures of their respective school and school district.

Additionally, while this study could be useful for educators and school districts to gain a deeper understanding of how the use of mobile technologies are implemented in the classroom based on teachers' experiences and personal knowledge of AUPs, we do not know if the findings are reflective of other high school educators in their experiences in the use of mobile technologies in the classroom, either in-person or virtually, or their knowledge of their respective AUPs. Further, the data for this study were collected in the time immediately prior to the rise of COVID-19. The teachers in this study were teaching in traditional face-to-face classrooms with typical integration of technology. In looking at the data, the significance of the findings only seem to be more relevant today. The explosion in mandatory use of technology for all aspects of instruction and communication in schools means that the AUP policy shortcomings that were evident at the time of data collection are even more consequential now.

**Implications for change via education policy:** Technology in education is both a means for creating change in educational systems and broader social change in and of itself. Thus, the use of technology in the classroom, traditional and virtual, can no longer be ignored. The COVID-19 crisis has brought to the forefront the need for school districts to acknowledge that technology use in the classroom is a massive engine of social change in how and when the delivery of curriculum can and will occur. Therefore, it is incumbent upon agencies who use technology to implement such devices responsibly. To this end, in education institutions, the need is clear that AUPs need to keep up with the times.

Careful thought is essential when change occurs within any organization, inclusive of schools. A possible implication in the development of stealthy AUPs to set mobile technology boundaries lies in the responsibility of holding school officials accountable (Hutt & Polikoff, 2020) to secure consequential AUPs that can be readily implemented in the classroom by teachers and supported whole-heartedly by school administrators. For change to occur within educational institutions to champion safe learning environments while supporting the teachers who will need to enforce such mandates, an encompassing action plan must be developed that establishes and communicates the priorities of the school district's AUP (Fusch et al., 2020). To develop meaningful AUPs that will be implemented in the classroom, teachers need to have a seat at the table in a shared leadership capacity to affect positive social change (Iivari et al., 2020; Rimita et al., 2020).

When school districts are able to quickly pivot in times of crisis and uncertainty to recognize the distinctive and unique social needs and safety considerations within the school community and student population (Brown & Baltes, 2017; Fusch et al., 2020), specifically in the use of mobile technologies, a weight is lifted off of the shoulders of teachers. As a result, teachers are then able to focus on supporting their students' social and emotional wellbeing in a safe learning environment. After all, teachers' responsibility within the technology-driven social change paradigm should be to ensure that students are proficient with technology use while experiencing the benefits of technology-enhanced instruction. As such, school leaders must accept responsibility for providing the guardrails for safe and secure technology use through establishing and enforcing clear, consistent, and current technology use policies within traditional and virtual school environments.

## **XII. RECOMMENDATIONS AND CONCLUSIONS**

This study is particularly timely given the current use of mobile technologies in student distance learning and classroom engagement. The need to further examine the topic of relevant and applicable AUPs is even more apparent given the insurgence in the required use of technology within schools, a form of social change to a traditional learning environment, process, and system of dispensing knowledge. From the perspective of teachers, this is the perfect opportunity to work collectively between the respective district office, schools, students, and parents/guardians to develop guidelines for effective and safe educational practices and establish boundaries in the use of mobile technologies. Within current and future discussions on the topic of mobile technology use and boundaries in high school classrooms, the topic of clear and consistent boundaries are needed within a district. Education technology is persistent and its pervasive use in classrooms, whether in a

traditional school or virtually, is here to stay. The COVID classroom has seen a dramatic uptick in the demands of technology integration within all levels of K-12 education. The established boundaries must be consistently enforced by all teachers within a district regardless of grade level. Consistency of implementation and enforcement must occur not only within a specific school in the district; but also, a scaffolding effect should be in place from one grade to the next or school to the next (i.e. elementary to middle school; middle to high school). The district level document, the AUP, should be a living, breathing document known and practiced by all district stakeholders. Therefore, everyone within the district is held accountable for knowing and implementing the AUP.

Future work should aim to identify how mobile technology policies define specific enforceable boundaries. Influence of other outcomes may provide a clearer direction for how to effectively develop and set mobile technology boundaries within high schools. Other studies based on this initial work may be cultivated from the findings of this study and help inform the successful implementation of AUPs and educational technology programs and platforms, with a mindful eye on the need for specific guidelines and practices of appropriate rules of engagement. Research questions to consider may include: How do teachers leverage consistent mobile technology use policies to draw attention away from matters of discipline to increased classroom engagement and student learning? How can school leaders engage and inform parents/guardians as to how to promote proper use of mobile technologies with their students? Additionally, how can school leaders with the support of teachers educate parents/guardians on appropriate mobile technology use and communication boundaries during the school day? Better understanding of these issues could provide useful guidance on specific ways to target increased engagement and productive use of mobile technologies, setting clear and attainable boundaries.

The findings of this study may serve to enlighten educational policy makers in developing guidelines for effective and safe educational practices around the use of mobile technologies in high school classrooms. With the development of solid practices and policies in mobile technology use, teachers have the opportunity to implement and enforce, with the backing of administration, defined boundaries as set forth in such policies. The use of technology is commonplace, so should the protections afforded to students in the classroom. Clear, present, and consistent enforcement in the use of mobile technologies will enhance student learning and readiness.

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