Email and Its Involvements in the Lives of K-12 Teachers:

Phenomenological, Postphenomenological, and Posthumanistic Explorations

by

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ABSTRACT

Web-connected devices are everywhere and can be used to send electronic messages, no matter the time or place. They are not merely tools or a means to an end; they also shape our everyday lives. In kindergarten to Grade 12 (K-12) schools, teachers are increasingly contacted by parents, students, colleagues, and others. They have reported that digital communication can be overwhelming when added to what teachers typically do outside regular work hours, such as planning, grading, and writing student reports. Using email as a critical example of a digital communications tool, this study examines the experiences of K-12 teachers in receiving email outside their regular work hours.

Inspired by Max van Manen's phenomenological approach entitled "Phenomenology of Practice", this research explores experiences situated in this professional context. Interviews were conducted with 24 teachers in Alberta, Canada from Grades K to 12 to collect lived experience descriptions or examples of receiving email outside regular work hours as they were lived through. This research also uses postphenomenology in order to gain insight into the past, present, and future of email and proposes a model to describe the evolution of digital communications tools. The final chapter explores a posthumanistic approach related to both phenomenology and postphenomenology called "interviewing objects" to uncover what email may be producing.

As caring professionals, receiving email outside regular work hours can pose a dilemma for teachers. Opening a message that describes a difficult situation can mean that a teacher spends their evening, weekend, or holiday emailing back-and-forth or ruminating over an issue for a prolonged period of time. Email also has contradictory effects—it can bring students,

parents, and colleagues closer but at the same time, may make a teacher unavailable to loved ones or friends. It provides a freedom from having to answer email in only the school but may create a feeling of being shackled to email. Being aware of experiences may help teachers and others to be more thoughtful about their use of digital communications use.

PREFACE

This is an original work by Joni Turville. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name "A Phenomenology of Email in Teachers' Lives" No 00067284, September 30, 2016.

This document is comprised of five papers. All papers have been published and/or presented at academic or professional conferences.

Paper I. "From 'You've Got Mail' to Email Overload: A Postphenomenology of Email" delves into the roots of email by describing historical variations. It provides not only a recounting of email's evolution but also of how technology has impacted individuals and the wider culture. It also proposes a genealogical model to describe the evolution of digital communication technologies. It was presented at the 2017 conference of the Canadian Society for the Study of Education (CSSE) in Toronto, Ontario and is forthcoming in *Techné: Research in Philosophy and Technology*.

Paper II. "Availability and the Ethics of Care: A Phenomenology of Email in Teachers' Lives" addresses the primary research question: "What is it like for a teacher to receive email outside regular work hours?" An early version of this paper based on an exploratory study was presented at the tenth international *Culture, Technology, and Communication Conference* (CaTaC) held at the University of West London, UK and was published in the peer-reviewed conference proceedings. A short article adapted from this paper also appear in the Canadian Teachers' Federation magazine *Perspectives*, Issue 27, March, 2018. It was also presented in Ottawa, Ontario at the 2017 National Staff Meeting of the Canadian Teachers' Federation in a

panel discussion on teachers' professional work spaces.

Paper III. "Instructional Leader or Emailer-in-Chief? The Complexities of Email for School Administrators" discusses email from the perspective of school leaders. As data from interviews were analyzed, it was noted that some administrator experiences were unique and therefore a separate paper was created to account for the differences in their experiences. It was presented at the "Leadership Essentials for Administrators" conference in Calgary, Alberta in November, 2017 for school administrators in Alberta. It was also presented at the "uLead 2018" conference in Banff, Alberta for an audience of international school and system leaders.

Paper IV. "Teaching Beyond the Classroom: On the Pedagogy of Email" gathers the experiences of both teachers and administrators and was created because many of the instances recollected were pedagogical in nature. They not only spoke to concern for student learning but also of student general wellbeing and care. An early version of this paper was presented in 2017 in Malaysia at the International Conference on Humanities, Language, Culture, and Business. It was also presented at the World Congress on Education, Dublin, UK in 2018.

Paper V. "If Email Could Speak, What Would It Say? Interviewing Objects in a Digital World" is a posthumanistic examination of email using experiential accounts of email. It draws on the work of Catherine Adams and Terry-Lynn Thompson (2016) *Researching a Posthuman World: Interviews with Digital Objects*). In this paper, I use heuristics, related to both phenomenology and postphenomenology to explore what email may be producing in our everyday lives. It was presented at the 18th Annual Media Ecology Conference at St. Mary's College, California in June 2017 and won the conference award for top student paper. It has also been published in *Explorations in Media Ecology*, Volume 16, Number 2–3, September, 2017.

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Chapter One. Introduction

After a few minutes of observation in most public places, it is apparent that technology has become a significant part of our everyday lives. Smartphone users walk in a heads-down stance, staring at the screen while texting or engaging with the latest app. Small children prod touch screen devices to amuse themselves while their parents push them in strollers. Web-connected digital devices are being used to send messages to others, take pictures, organize schedules, and navigate vehicles. Gaming systems and e-readers connect to the Internet and to databases through wireless networks. The myriad of devices available makes it easy to connect to others, whether at work, home or at school.

The hyper-connected mediasphere has also become a part of teachers' everyday lives in kindergarten to Grade 12 (K-12) schools. Various tools are used to communicate with students, parents, and colleagues. Traditional tools, such as paper notes and phone calls, are still used, but communications now extend to include school websites, classroom blogs, social media, and student information systems (SIS). We may begin to wonder how the evolution of technologies may also be evolving and reshaping pedagogical and parental communication. How might a phone call to a parent differ from a message sent through an app? How might a face-to-face conversation with a student be experienced differently than retrieving their information from an online SIS?

Research Inspiration

The inspiration for my research came when I was having dinner with a friend who is an administrator at a large middle school. She described the things that were causing her stress and near the top of her list was email. She indicated that during busy times of the school year, she

received email from students, parents, teachers, support staff, the principal, central office administrators, and others. Responding to messages was taking her up to two hours each evening since she did not have enough time to respond during the school day. She lamented that she wished she could go back to the time before email when people came to see her in person or called her on the telephone because these ways of communicating seemed to cause fewer misunderstandings and, in many cases, resolved situations more quickly. After a cursory scan of the literature, I found little research that spoke to this particular issue in the context of K-12 education. I began asking my friends and colleagues about their experiences with email and I found myself on the receiving end of many very passionate rants! These developments created the impetus to do a more thorough review of the literature that existed.

Overview

In this chapter, I provide an overview of the literature on email in general, followed by a discussion of existing research on email in K-12 education. Since this dissertation is comprised of five separate papers, it is important to note that literature relevant to each topic will also be discussed within each paper, necessitating some repetition. The chapter closes with a description of the research question that arose from the review of the literature.

Email Beginnings

Connecting with others is a strong human desire. The letter, the telegraph, the telephone, and the fax machine are all technologies that were invented to be able to make communication from a distance possible. Email is still a relatively young technology. Its earliest origins can be found in The Advanced Research Projects Agency Network (ARPANET), the network that later became the foundation of the Internet and was originally a project of the defense department of

the United States (Crawford, 1982; Freeman, 2009; Schaefermeyer & Sewell, 1988; Sproull & Kiesler, 1993). Scientists working across the country were looking for a way to connect quickly, and the first message from an individual computer to another was sent across ARPANET in 1969 (Freeman, 2009). Later, ARPANET morphed into a civilian network, first Telnet and later Usenet, which connected individual computers to the internet (Baron, 1998; Freeman, 2009). Once desktop computers began to be used at work and later in homes, the rise of email soon followed.

In its inception, email was a wondrous thing—a message could reach someone anywhere in the world within a matter of seconds. Prior to that, the best that could be done was to compose a letter, buy a stamp, take it to a mailbox, wait for delivery, and finally, a reply might arrive. This cycle continued, taking weeks or months, depending on the distance the letter had to travel. In the late 1980s and early 1990s, research on email described it as a ground-breaking technology that promised to increase the frequency and quality of communication, and it rapidly became a favoured communication tool (D'Souza, 1992; Markus, 1994; Sullivan, 1995).

This excitement was well-founded; there is little doubt that having access to email has many benefits. The ability to communicate with others digitally and asynchronously means that differing time zones and distance are no longer barriers to communication (Baron, 2005; Schaefermeyer & Sewell, 1988). The phrase, "anytime, anywhere" became popularized as a way to describe digital communication (Finholt & Sproull, 1990). Today, while there is a wide range of tools for near real-time communication, email continues to be widely used (Franssila, 2013; Radcati Group, 2015; Yuan, Zhao, Liao, & Chi, 2013).

Email and Communication

Email can be thought of within the broad field of computer-mediated communication (CMC) (Baron & Ling, 2011; Romiszowski & Mason, 2004). Though CMC has evolved to include sophisticated apps, text-heavy email has persisted and continues to have a major impact on communications. Email has developed a tone quite different than that of traditional letters or memos. Baron (1998, 2008) observes that email is often used in a manner that is closer to speech than written language. Messages are often sent unedited and composed in a more casual tone that often leaves out formalities of writing, including greetings and closings (Baron, 1998; Baron & Ling, 2011). Our comfort levels and behaviours change alongside technological advances. Baron (1998) notes,

> At the same time, as technologies mature, users generally increase their comfort levels, even changing their presuppositions about what information is, can be, or should be conveyed through the medium, and how messages will be received by interlocutors. A hundred years ago, people using the telephone worried about not being able to see the person with whom they were speaking: there were no cues as to social class, and facial expressions and gestures were not conveyed. (p. 165)

Our communication practices and behaviour have changed as communications tools have evolved alongside the many email characteristics.

Characteristics of email communication. The features of email have been well-documented. Its many and varied characteristics are important when considering its involvements in people's everyday lives. They are organized below under the categories of functionality, versatility, permanence, and social factors.

Functionality.

- *Speed*. Messages can be delivered in a matter of seconds (Baron, 1998; Berghel, 1997; Garton & Wellman, 1995; Ingham, 2003; Markus, 1994; Romm & Pliskin, 1999; Renaud, Ramsay, & Hair, 2006; Schaefermeyer & Sewell, 1988; Szóstek, 2011; Tassabehji & Vakola, 2005; Weinstock, 2004).
- *Asynchronicity.* Messages can be sent when users are not necessarily online at the same time (Baron, 1998; Berghel, 1997; Friedman & Currall, 2003; Ingham, 2003; Markus, 1994; Schaefermeyer & Sewell, 1988; Szóstek, 2011; Whittaker & Sidner, 1996; Wells & Dennis, 2016).
- *Aspatiality.* Messages can be used to communicate anywhere on the globe (Baron, 1998; Garton & Wellman, 1995; Whittaker & Sidner, 1996).
- *Textuality.* Email is typically text-only and therefore does not have the benefit of tone, body language, and the like. Though the capacity to add video or other media exists, most email interactions are text-based (Butts, Becker, & Boswell, 2015; Friedman & Currall, 2003; Garton & Wellman, 1995).
- *No-cost.* There is no obvious monetary cost to sending an email, though there are other, hidden costs such as the hardware and software required to maintain an email system and the time creating or responding to email takes from doing other work (Baron, 1998; Berghel, 1997; Ingham, 2003; Ragsdell, 2012; Schaefermeyer & Sewell, 1988).

Versatility.

- *Reviewability.* A recipient may read a message carefully or may instead choose to

skim it or even delete it without reading (Berghel, 1997; Friedman & Currall, 2003; Romm & Pliskin, 1999; Tassabehji & Vakola, 2005).

- *Manipulability.* Information created in an email can be manipulated by the sender or receiver (Garton & Wellman, 1995; Romm & Pliskin, 1999).
- *Routability.* Address features allow viewable or hidden recipients (i.e., through a blind carbon-copy) or email may be modified and routed to other users (Romm & Pliskin, 1999).
- *Flexibility*. Documents and media can be attached to and sent with email; calendar requests, reminders, and many other tasks can be processed with email (Ingham, 2003; Whittaker, Bellotti, & Gwizdka, 2007).
- *Multi-device accessibility*. Email is available on many different kinds of devices including desktop computers, laptop computers, smartphones, and tablets (Ragsdell, 2012).
- *Multiple addressability.* One email message can reach an unlimited number of people (Berghel, 1997; Garton & Wellman, 1995; Ingham, 2003; Romm & Pliskin, 1999; Schaefermeyer & Sewell, 1988; Sproull & Kiesler, 1993).
- *Revisability.* Email programs provide the ability to create an unlimited number of drafts prior to sending (Friedman & Currall, 2003; Wells & Dennis, 2016).

Permanence.

- *Irretrievability*. Once an email is sent, it is not possible to "unsend" it; it remains and potentially has a life of its own (Taylor, 2015; Weinstock, 2004).
- *Durability*. Email can be saved to create a record of communication (Baron, 1998;

Berghel, 1997; Friedman & Currall, 2003; Garton & Wellman, 1995; Romm & Pliskin, 1999; Szóstek, 2011).

Sociality.

- *Informality.* Email is typically briefer and less formal than letters or memos (Baron, 1998; Weinstock, 2004).
- *Social accessibility.* Email may remove social distance, as an email can be sent or received by anyone in possession of another's email address (Baron, 1998; Berghel, 1997; Garton & Wellman, 1995; Sproull & Kiesler, 1993; Tassabehji & Vakola, 2005).

Each of these characteristics may also be thought of as a double-edged sword in that they can be both a benefit and a detriment (Friedman & Currall, 2003; Ragsdell, 2012; Renaud et al., 2006; Taylor, Fieldman, & Altman, 2008). For example, on the one hand, we can communicate with a friend or colleague via email anywhere, anytime. We do not have to meet at a prearranged time or call during business hours. On the other hand, being able to communicate with others means that we are also more available. A ringing or vibrating device might prompt us to check email, whether or not it is at a time that is conducive to reading it. Boundaries between what is work and what is personal time have become unclear.

Research on Email in the Workplace

Over the years, research on email has tended to focus on its characteristics, functionality, and impact, and predominantly within the business world. The majority of studies take one of three positions. Firstly, email has become a large consumer of time for employees and there must be a way to train people to deal with it more efficiently (Jackson, Burgess, & Edwards,

2006; Soucek & Moser, 2010; Tassabehji & Vakola, 2005; Taylor et al., 2008). Secondly, email has a negative impact on employee productivity and there is a need to create software to help deal with this problem (Bellotti, Ducheneaut, Howard, Smith, & Grinter, 2005; Schuff, Turetken, D'Arcy, & Croson, 2007; Szóstek, 2011; Whittaker & Sidner, 1996). A third position suggests a combination of software improvements and employee training (Dabbish & Kraut, 2006; Demirdjian, 2005; Denning, 1982; Whittaker et al., 2007).

Over time, email has become the primary source of communication in most workplaces (Renaud et al., 2006; Taylor et al., 2008; Vidgen, Sims, & Powell, 2011) and has had the biggest impact on business communication since the arrival of the telephone (Taylor et al., 2008). Email has many benefits such as creating the ability to communicate with colleagues quickly and easily. In one study, a majority of respondents indicated that email increases their productivity and flexibility during working hours (American Psychological Association, 2013). Email has become so pervasive that it is often used to communicate with co-workers when they[1]are in the same building and who could have a face-to-face discussion (Markus, 1994). Additionally, researchers at Carnegie Mellon observed that it took approximately four times longer for people to reach a decision using email than it did when meeting face-to-face (Sproull & Kiesler, 1993).

Email overload. As early as the mid-1990s, when email was beginning to be used more regularly in the workplace, there were questions about email's impact on people. The notion of email overload was originated by researchers Whittaker and Sidner (1996) who described email

[1] Following the announced changes to the University of Alberta calendar (Collins, L. 2016) and application form (Reiger, S., 2016), and current thinking on inclusive language, this proposal will use gender-neutral language whenever possible.

overload not as the volume of messages received but rather that email was being used for many more functions than simply sending messages. Today, email overload is commonly thought of as the perception that email is arriving in such large volumes that it cannot be managed (Dabbish & Kraut, 2006; Soucek & Moser, 2010; Szóstek, 2011). Years later, Whittaker and Sidner's (1996) study was revisited and researchers found that though email had many more features than ever before, it was still being used as a catch-all for messages, tasks, reminders, and the like. The volume of email and spam were also found to be factors in contemporary email overload (Fisher, Brush, Gleave, & Smith, 2006).

Email and work/life balance. Much of the current discussion regarding email and other electronic communication in the workplace relates to its disruption of work/life balance. The increasing demands of work lead to a significant increase of both paid and unpaid hours of work and increasing levels of stress, partially attributed to the proliferation of mobile technologies (Duxbury, Lyons, & Higgins, 2008). Others have noted that employees are often on call 24 hours a day, seven days a week, either because this is self-imposed or an organizational expectation (Reid & Ramarajan, 2016). A study by the American Psychological (2015) indicated that 53% of working adults report that they check work messages, including email, texts, and voice messages outside of working hours. Forty-four percent said that they check email while on vacation and 54% check for messages when they are sick at home.

A study by Barber and Santuzzi (2015) noted that organizations rely on email to transfer knowledge and build networks and therefore employees may feel pressured to respond quickly, even when they are not at work. Barber and Santuzzi describe this trend as *workplace telepressure* which can contribute to the blurring of boundaries between work and personal time.

The result is that there is a tendency to extend working hours, reducing the amount of time needed to recover from the previous day's work. When sufficient time to rest does not occur, the cumulative effect of stress and reduced recovery time can negatively impact physical and psychological wellness. This effect suggests that it may be important to have employees set boundaries around responsiveness outside regular working hours. Other studies have found similar impacts on wellness and recovery time regarding technological communication that spills over into personal time (Butts et al., 2015). This may be even truer of schools as workplaces since email is difficult for teachers to do during working hours.

Email in K-12 education. Teaching and learning with technology is an area that has been well-researched; however, there has been comparatively little attention regarding email's involvement as a communication tool in K-12 education. This section will begin by examining the few studies that discussed general patterns of email use and then subsequent sections will discuss more specific research grouped around three topics: email as parent-teacher communication, email as student-teacher communication, and email as colleague to colleague communication.

General Patterns of Email Use in K-12 Schools

One study that examined email interactions among teachers, students, and parents was conducted within K-12 schools in Singapore (Hu, Wong, Cheah, & Wong, 2009). The purpose of this research was to identify patterns of email use from teachers' perspectives using surveys. Participants who taught Grades 1 through 12 participated in the study with 2,998 surveys returned. The results were divided into three teacher groups: Grades 1–6, 7–10, and 11–12. Approximately 55% of all Grades 1–6 teachers used email to communicate with parents,

followed by 30% of Grades 7–10 teachers, and 28% of Grades 11–12 teachers. It was found that in most cases, parents initiated email exchanges and the exchanges were typically about school program matters rather than those dealing with student issues (Hu et al., 2009).

There were differences found in email patterns for teachers at different grade levels. The research found that for teacher-student email, those who taught in higher grades emailed their students more frequently than those who taught younger grades. Email exchanges were usually initiated by students and most entailed seeking to clarify school work. Of all teachers, Grades 11 and 12 teachers more frequently initiated email communication, usually related to academic and extra-curricular announcements (Hu et al., 2009). The study also examined teacher to teacher email. On average, teachers emailed their colleagues at least once per week. Administrative-type email was the most common, but teachers also used email to share resources and for collegial communication. Such use was more frequent at the secondary level than the primary grades. The researchers speculated this was because it was more common for a teacher to have time at their desk in secondary classrooms than in classrooms with younger students (Hu et al., 2009).

A different examination of the overall impacts of email in K-12 was done in a national study on the impact of electronic communication on school leaders in Canada, including email (Alberta Teachers' Association, 2017). The research noted that school administrators received an average of 112 work-related emails each day and on average spent 17 hours per week processing email, much of it at home. Role overload exacerbated by the "anytime, anywhere" nature of email created stress such that four in 10 administrators often considered leaving their jobs. Though this study did not delve into the nature of or the specific audiences for email, it

highlighted the challenges of email in the K-12 education system.

Email as parent-teacher communication. The largest body of research that addresses aspects of K-12 teachers' involvement with email was found on the use of email between parents and teachers. Many of these studies focused on email as a way to increase parental engagement. Digital technologies have changed the way that teachers and parents communicate within K-12 schools which have prompted researchers to study parent-teacher communication tools in a variety of ways. These include the characteristics of parent-teacher email, how it may be used to support students, its potential to increase parental involvement, and how it has influenced the ways in which parents and teachers communicate.

Characteristics of parent-teacher email. Thompson (2008) used interviews and textual analysis of email messages to understand the characteristics of parent-teacher email communication. He discovered that the majority of email initiated by teachers was comprised of bulk email that was informational in nature and was addressed to all parents. In contrast, parents tended to be the primary initiators of email regarding individual student concerns. Parents chose email because they had access to the addresses of school staff while recognizing that teachers had many students for whom they were responsible (Thompson, 2008).

Thompson's (2008) research also found that parents who emailed teachers most frequently were those who used email in the workplace. He noted that parents with a lower socioeconomic status emailed teachers less and speculated that this may be due to a lack of internet access during the day or a lack of access to devices. It was also noted that the most frequent subject of email messages was student grades. Other topics included scheduling and reminders, student health issues, and student behaviour. Both teachers and parents believed that

the use of email helped improve student attentiveness to schoolwork and to grades (Thompson, 2008).

Parent-teacher email as student support. Email has the potential to better support the needs of students through increased communication. This was the impetus for a study of Saudi Arabian parents' and teachers' perceptions of using email for communications regarding students with special needs. Dubis and Bernadowski (2015) began their research by noting that Middle Eastern parents are not typically as involved in the day-to-day lives of their children's education as are Western European or North American parents. A survey was created to ask both parents and teachers about their attitudes towards email. A majority of parents and teachers were positive about using email to facilitate home-school communication, even though such contact is not typical in Saudi Arabia. Parents suggested that using email would be helpful in removing barriers to communication such as the lack of time to attend face-to-face meetings (Dubis & Bernadowski, 2015).

In an earlier study on how email could support middle school student learning, Kirkbride (2002) used an experimental model where he provided some parents with email outlining math homework assignments while other parents did not receive such reminders. Teachers recorded homework completion percentages over a 12-week period and found that the use of email in this way increased students' rates of homework completion. Kirkbride (2002) noted inequities in access to devices and internet connectivity and proposed, therefore, that email should not become the sole communication tool for parents.

Email as a means to increase parental involvement. A number of studies investigated email as a means to increase parental involvement in schools using a wide variety of methods

and theoretical frameworks. An early study in this area was an action research project by Blackerby (2004) who surveyed parents on their communication preferences. An option was provided for parents to indicate that they would like to be included in a new email communication program. A distribution list was created with the addresses of parents who opted to be part of the program. Messages were sent each week to parents that contained informational items along with a reminder that they could also use email to communicate with the school staff at any time. At the end of the email program, families were sent another survey to ask once again about their communication preferences. The research found that a majority of parents still preferred telephone calls, written communications, and in-person meetings. Blackerby speculated that internet and device availability might have been a barrier to having parents view email as a more preferred means of communicating. The study also noted that parents placed a high value on receiving information about their child's schooling and that email had potential as a means to provide such information (Blackerby, 2004).

Several studies focused on the use of email as a tool to increase the involvement of middle school parents since parental engagement tends to wane as students reach higher grades. Shayne (2008) found that electronic communication was a dominant source of information for middle school parents but recognized access to technology was a barrier for both teachers and parents. Koch's (2010) study was broader and included not only email but websites and student information systems as a means of engagement. He found that though middle school parents supported the use of email over other electronic means to provide informational items, they still preferred face-to-face interactions with teachers. Rogers (2007) found that middle school parents with high socioeconomic status (SES) used technology more to communicate with the

school staff than those with lower SES and that mobile phones were changing the nature of parental communications patterns with teachers.

The most recent study on email as a tool for parent communication was Radin's (2013) doctoral research that studied how email could be used to increase middle school parental involvement. One group of parents was sent a structured, bi-weekly email message over a period of 16 weeks. The message included links to homework assignments, resources, and opportunities for involvement. The teacher's email address was also provided along with encouragement for two-way communication. A second group used the same email structure but the email messages were delivered from the student's email address to their parents. A third group received whatever mass and ad hoc email communication that would typically be used in the classroom.

Radin (2013) concluded that though parents desired regular, effective home/school communication, there was no evidence that email impacted their involvement, according to a formalized parental involvement rating scale. He also noted that when teachers and parents did not meet face-to-face regularly, their communication often defaulted to email. He predicted that electronic-based communications would continue to be a major part of home-school communication, given global trends towards mobile technologies.

Only two studies were focussed on parental engagement in elementary schools. Tobolka (2006) studied email as parental communication using parent surveys, checklists, and observations to determine the impact of technology on parental involvement. He created a website and a weekly email message to parents to determine whether it had an impact on student completion of homework. He also emailed parents weekly with any concerns regarding

behaviour or academics. The study revealed that electronic communication improved parents' knowledge about classroom activities. Parents also felt email was a convenient means of communication.

Olmstead (2013) was the second study located that spoke to parent-teacher email in younger grades. She used surveys and interviews to understand how technology could increase parental involvement. Grades 4 to 6 parents *and* teachers believed that technology was effective in fostering communication and involvement. Email was the most frequently used technology tool for both groups while parents indicated they would also be open to using text messaging and social media. The research recognized that the purpose of each communication was important in selecting the tool. For example, email could be effective in sharing information but less effective in discussing a complex topic. Olmstead also stated that teachers and administrators need time and professional development in order to remain current with technology tools for communication as these tools tend to evolve quickly.

Only one study was found specific to parent-teacher email at the high school level. Reed's (2008) research sought to determine how email impacted communication between high school teachers and home. In phase one of the study, teachers were asked to communicate via traditional means, excluding email, and during phase two, the teachers were asked to use any communications means and were also provided with email templates. Teachers logged their communication with parents during both phases. The findings indicated that the use of email increased the amount of communication between parents and teachers and therefore parental engagement.

The changing nature of parent-teacher communications. Thompson (2009) noted

some of the issues that could arise during parent-teacher email exchanges. First, there was a possibility for the misinterpretation of messages, since there may be difficulties in determining the intent of such communication without the benefit of vocal tone and body language. Secondly, he noted a reliance on email such that teachers felt it decreased parent attendance at parent-teacher conferences. The third issue raised was that email could cross boundaries such as an over-involvement by parents. Teachers worried that some students were abdicating their own responsibility for their work since parents were so frequently in touch via email that the students did not have to take responsibility themselves.

Later, Thompson, along with Mazer and Flood Grady (2015) expanded their research to explore parent-teacher communication through the use of smartphones. Through an online survey of K-12 parents, the researchers asked how parents connected with teachers concerning student academic support. They found that email was used most frequently, overtaking face-to-face, phone, and written communication. Parents preferred email because of its convenience and speed, even though they recognized that there was the potential for miscommunication. This was in contrast to parents a decade earlier (Blackerby, 2004) that revealed a preference for telephone calls, written communication, and face-to-face visits by parents. The contrast of these studies suggests that communications between parents and teachers have evolved over time.

Email as student-teacher communication. There is a body of literature regarding professor-student email in university environments but only three studies were located that focused on K-12 education. One study was Doherty and Mayer's (2003) study of the use of email to engage Indigenous middle school students in Queensland, Australia during a course on technological literacy. Weekly email messages were exchanged as part of the coursework

between teachers and students which evolved into interpersonal exchanges. Fostering relationships through email communication was not a specific goal of the program; however, it became apparent that it was a support for relationship-building. The study concluded that "communication technology offers a space where care and content can coexist and be mutually supportive" (Doherty & Mayer, 2003, p. 599).

A second project was located that involved an action research project at a high school in the United States (Maxwell, 2015). The researcher used discourse analysis to examine email exchanges between three students and their teacher over the course of one year. It was found that while email could be used as an instructional tool, it could also foster teacher-student interactions. Interestingly, Maxwell (2015) also found that email supported positive relationships and exacerbated already difficult ones.

A number of studies explored the use of email between teachers and students to develop English Language Learners' use of English, though these studies are largely in university settings. One exception was a study (Sung, Piazza, Pierce, & Bryce, 2011) that researched the development of a high school English Language Learner's vocabulary through email exchanges with his teacher. Over the course of a year, the pair exchanged 358 messages. Researchers concluded that email was an excellent tool for this student in particular, who was too shy to practice English face-to-face but was able to explore expressive language through email (Sung et al., 2011).

Email as colleague-to-colleague communication. Another under-researched area in K-12 education is colleague-to-colleague email communication. Only two doctoral dissertations and one research article were found on this topic. Diokno (2015) found that email had an impact

on school leader workload in elementary and secondary schools in Arizona. Participants considered email as an essential tool for communication, spending between one and two hours per day on email. Some participants reported that they checked email on multiple devices such as work computers, home-based devices, and mobile devices. The greatest numbers of email were received from staff, followed by district personnel, and finally families and students.

Email can also have an effect on the relationships between school leaders and teachers. Berthiaume (2015) engaged in research with high school principals and teachers in Michigan. Principals felt that reading and responding to email took time away from other responsibilities such as instructional supports, supervision, and evaluation. They were very aware of the potential for content and/or tone to be misunderstood and thought of email as only one part of a communication process, particularly if the topic was complex or difficult. The tone of an email had an impact on its effectiveness in building and maintaining collegial relationships.

Email communication can facilitate sharing between colleagues as well. One research article was found involving email between colleagues in a K-12 setting. Grunberg and Aremellini (2004) studied email communication between high school teachers in Uruguay. Teachers were provided access to an email program that facilitated the posting of public email to a teacher group and private messages to individuals within the group. Email was analyzed and it was found that almost half of messages were used to engage in professional resource exchanges. The majority of email took place using one-to-one messaging rather than a query to the group. Grunberg and Aremellini (2004) also discovered that private messages received more answers than those posted publicly. The researchers had anticipated that having a public area to share professional concerns and resources might result in a means of building a professional

community; however, teachers preferred to engage in private exchanges. Despite this finding, the authors concluded that email was an effective medium for collegial exchanges.

Summary

There is a wide-ranging body of literature on the development of email as a communication tool and its related affordances. There is also a wealth of research on email in the workplace and the benefits and challenges it may bring. What is missing in research is an examination of email's involvements in K-12 education. Email has the potential to increase communication between parents, teachers, and students, and there appears to be a growing reliance on digital communications, including email, in schools. It was interesting to note that there were several doctoral dissertations on the topic that did not result in peer-reviewed publications. These findings increased my resolve to explore email in K-12 settings and to ensure that my research would be shared widely to inform teacher practice.

Research Question

Convinced of the dearth of research on using email in K-12 settings, there were many choices about what could comprise a robust research question. As I reflected back on the dinner conversation that was the inspiration for my research, it was the description of my friend's experience that I found compelling. Her account of how she felt digital communication tools were consuming her personal life, yet were entangled with her identity as a teacher, was powerful. I determined that the following question captured what was most concerning about this problem: How are 21st century, digital technologies mediating pedagogical communication and relationships in an environment where communication is possible 24 hours a day, seven days a week (24/7)? To narrow the scope of this study and to address the main concern I had heard, I

determined that email would be used as a critical example of today's communication situation. Therefore, my main research question was: What is it like for a teacher to receive email outside regular work hours? This deceptively simple query spurred many months of conversation, research, and reflection.

Overview and Organization

Engaging in the study of how email is implicated in the lives of teachers has been a journey that has had some unexpected detours. I like to think of my study as a path that unfolded via the use of multiple, yet related approaches. The word *via* is a Latin word that means "by way of" and can refer to a road, path or course ("Via," 2017). The path I have taken has not always been linear and has led to unexpected discoveries.

The multi-paper dissertation. This dissertation takes the form of published, in review, and unpublished papers, an approach growing in popularity (Robinson & Dracup, 2008). Paper-based theses are a suitable alternative format at many universities, though traditional formats are still commonplace (Bartula & Worrall, 2012; Robinson & Dracup, 2008). The University of Alberta's Faculty of Graduate Studies and Research (FGSR) recognizes the validity of a paper-based dissertation and states, "one or more chapters of a thesis may contain published material if permitted by the regulations of your department (or Faculty if non-departmentalized) governing your specific degree program" (University of Alberta, 2014, p. 6). In the Faculty of Education at the University of Alberta there are several examples of this type of alternate format (e.g., Adams, 2008; Conrad, 2004; Gleddie, 2010; McRae, 2007; Thompson, 2010). Dissertations organized in this way typically consist of three to five papers with an introduction and a conclusion. Necessarily, some sections of each paper contain repetition (Adams, 2008; Conrad, 2004).

I chose this format because the data gathered lent itself to being explored in different ways and because of the lack of published research on email in K-12 education. Multi-paper dissertations may be seen as "a pathway for candidates to foster and demonstrate their publishing capabilities" (Jackson, 2013, p. 355). The opportunity to submit, and in some cases, publish, assisted me in mobilizing this research more quickly, as I was concerned about my ability to do this upon my return to work following my sabbatical leave. The need for the publication on this topic was demonstrated by the fact that a very early version of one paper was accepted for publication in a peer-reviewed conference proceedings publication and subsequently, a presentation at an international conference (Turville, 2016).

This dissertation consists of five papers. Papers II, III, and IV are phenomenologically oriented but each speaks to a different aspect of email experiences. Paper I offers a postphenomenological view of email and Paper V uses the lived experiences of participants to explore what email may be saying in today's technology-infused world. Each paper is described in the sections below.

Paper I. "From 'You've Got Mail' to Email Overload: A Postphenomenology of Email" focuses on email's mediational roles, rather than a single, recognizable experience. It worked well alongside the primary methodology, a phenomenology of practice and it facilitated an examination of email's embeddedness within the wider culture over time. It also serves as a robust introduction to email's history and involvements.

Paper II. "Availability and the Ethics of Care: A Phenomenology of Email in Teachers' Lives" addresses my primary research question: "What is it like for a teacher to receive email outside regular work hours?" In this paper, I explore how email can be entangled with the notion

of availability and what it means to be a caring teacher. The seemingly routine event of receiving email not only facilitates communication with students, parents, and colleagues but may also impact teachers' availability to loved ones and others.

Paper III. "Instructional Leader or Emailer-in-Chief? The Complexities of Email for School Administrators" discusses email from the perspective of school leaders. As data from phenomenological interviews were analyzed, it was noted that some administrator accounts were different from those of teachers and therefore, a separate paper was created. This paper describes some of the tensions between the desire to be an instructional leader in the school while managing the volume and variety of email that a school administrator receives.

Paper IV. "Teaching Beyond the Classroom: On the Pedagogy of Email" gathers the experiences of both teachers and administrators. Here, I consider the notion of pedagogy as more than just supporting student learning, but as an enduring concern for students and their families. Email's reach into teachers' lives also brings pedagogical concerns to them at unexpected times.

Paper V. "If Email Could Speak, What Would It Say? Interviewing Objects in a Digital World" is an examination of email's involvements using experiential accounts from this study. In this paper, I "interviewed" email by using heuristics related to phenomenology and media ecology to explore what email may be producing in our everyday lives.

Significance

Digital communication is pervasive and has a significant impact within K-12 schools. I chose to focus this study on email specifically because often the most ubiquitous technologies are the ones that create the most significant, but unaccounted for, impact on our lives (Adams,

2012; Galloway, 2004). As I shared my research idea with colleagues, it became apparent that the use of email had become a source of stress. Could its effects be a factor in teacher retention? In Alberta, where this research was conducted, 25% of teachers leave the profession within the first five years of practice (Alberta Education, 2016). Perhaps email experiences contribute to unmanageable workloads and a loss of early-career teachers.

Beyond understanding the experience of email for teachers, this research may also have implications for other professionals. The inescapability of email for employees has been a recent topic in the news. For example, in France, the "right to disconnect" law came into effect on January 1, 2017 (Watt, 2017). It states that businesses must not send email to their employees on weekends or during vacation. This law is thought to help workers avoid remaining plugged into work when they are away so that they do not return to work still exhausted (Watt, 2017). Some organizations have enacted their own solutions. In an article for *The Telegraph*, Vasagar (2013) describes efforts in Germany to reduce employee burnout. At the country's ministry of employment, managers were banned from emailing staff outside their regular working hours and officials implored other organizations in the country to follow suit. The auto manufacturer, Volkswagen, has led the way by blocking email access by employees after end of the workday. Other German firms have stated that employees are not expected to check email on their own time (Vasagar, 2013). In other news articles, email has been described as an "epidemic" (Kozicka, 2016, para. 26). Such wide-ranging efforts to manage email make understanding the experience of email worth exploring.

This research makes original contributions since there is so little literature regarding email in K-12 settings. The nature of my question is also unique since no studies have been done

that describe the lived experiences of email for teachers. In Chapter Two, I outline and describe the research methodologies used in this study, the experience of presenting and publishing along the way, and ethical considerations for this research.

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Chapter Two. Methodological Orientations:

Phenomenology, Postphenomenology, and Interviewing Objects

There are different ways by which this research may have been approached. Narrative inquiry, for example, may have been a way to understand the stories of teachers using email outside their typical workday (Connelly & Clandinin, 1990). Besides finding scant research on the topic of email in K-12 settings, what was also missing from the literature is what Sherry Turkle (2004) describes as the "phenomenology of the digital experience" (p. 102). During a review of the literature, I found that understanding teachers' lived experiences of using email remained unexplored. One way to study experiences as they are lived is by using phenomenology, which is "the reflective study of prereflective experience" (van Manen & Adams, 2012, p. 615). In other words, what is this experience like in the moment? Phenomenology provided a means to study the lifeworld of teachers and this is the approach I took for this research to understand the question: What is it like for a teacher to receive email outside regular work hours? This chapter will discuss my journey of learning about phenomenological inquiry and how it branched into other, related research methodologies.

As I searched for works that might be similar, I located one phenomenological paper involving email. It was written by Theresa Dobson (2002) who explored the ability of users to develop relationships via email in its early days of popularization. It begins by describing a fast-moving, letter-writing friendship, using the movie *You've Got M@il* with Tom Hanks and Meg Ryan as an illustration of this type of communication. The paper opens up experiences related to the paradoxical nature of electronic communication, for instance, how email can bring people close to one another, while at the same time creating isolation. Dobson describes this kind of

email as less like letter-writing and more like a conversation, thereby reducing formality and increasing intimacy. While reflecting on how email differs from a handwritten letter, she also discusses the more personal quality of handwriting compared to the ephemeral nature of electronic communication (Dobson, 2002). Though elements of this paper refer to a time when email was still quite novel, the insights hold true today. I wondered what might have changed more than a decade later.

Inspired by the need to explore the lived experiences of teachers in receiving email, I began by learning more about phenomenology. It is rooted in a philosophical tradition founded by German philosopher Edmund Husserl who thought it important to be able to describe and understand things as they appear to us. His call to go back "to the things themselves" reminds us that in order to make sense of our world, we must engage with that which is taken for granted (Husserl, 1911/1980, p. 116). In other words, we must engage with the lifeworld so we may see each experience anew. This means that even the most routine and innocuous moments and events, such as receiving an email, can be understood as meaningful through a phenomenological lens.

It can be challenging to describe phenomenology because it refers to both a philosophy and a methodology. Adding to the complexity are the many variations of phenomenology including existential phenomenology, sociological phenomenology, and psychological phenomenology to name a few (van Manen, 2014). Phenomenology is also used as a research approach across many practical disciplines including nursing, human ecology, sociology, and education (van Manen, 2014).

Phenomenology may be described as the science of phenomena. But what is a

phenomenon, exactly? In *Being and Time*, Martin Heidegger (1953/1996) traces the Greek expression *phainomenon* from which the term "phenomenon" originates: *"phainomenon* means what shows itself, the self-showing, the manifest" (p. 25). This school of philosophy examines experiences as they are lived through, prior to reflection or interpretation. Maurice Merleau-Ponty (1945/2012) describes phenomenology as "a direct description of our experience as it is, without taking account of its psychological origin and the causal explanations which the scientist, the historian or the sociologist may be able to provide" (p. 7). He further suggests that it is a way of thinking that is counter to a positivistic, scientific narrative and frames phenomenology as a method to describe the world rather than to explain or analyze it (Merleau-Ponty, 1945/2012). That phenomenology is focused on experiences was of interest to me since most studies of email relied on interpretation rather than description. Phenomenology has been called the "science of examples" (Buytendijk as cited in van Manen, 2014); therefore, learning through the experiences of teachers provided an in-depth way to explore the phenomenon of receiving email outside regular work hours.

Primary Methodology: Phenomenology of Practice

Phenomenology, as an approach to doing qualitative inquiry, has been described in different ways by a variety of researchers in different practical disciplines. Max van Manen's (2014) "phenomenology of practice" is particularly well-suited for research questions involving pedagogical concerns. Phenomenology of practice is informed by philosophical phenomenology, but it also uses empirical and analytical methods rooted in the social sciences, such as interviewing, as part of the inquiry process (van Manen, 2014).

Phenomenological research asks, "What is experienced in that moment before we reflect

on it, before we conceptualize it, and before we even name and interpret it?" (van Manen, 2014, pp. 385–386). This approach is still imperfect, because as soon as we recollect an experience, even if it occurs just a few seconds after, there is still distance between the actual moment of experience and the recollecting and retelling (van Manen, 2014). Even the most detailed, eloquent descriptions can never adequately describe a lived experience. The purpose of gathering descriptions, as imperfect as they may be, is to become closer to a particular phenomenon through the vantage of participants (van Manen, 2014). "Thus lived experience forms the starting point of inquiry, reflection, and interpretation" (van Manen, 2014, p. 40).

There are three main domains that provide the foundation of this methodology (van Manen, 2014):

- Human science methods—interviews, observation, and writing that forms the basis of phenomenological reflection.
- Reflecting phenomenologically—the epoché-reduction and the reduction.
- Philological methods—the use of language – poetically, argumentatively, and so on.

Figure 1 depicts how these domains are interrelated and the arrows demonstrate the iterative nature of the process. Each of these domains will be elaborated upon further as they relate to this study in the next sections.

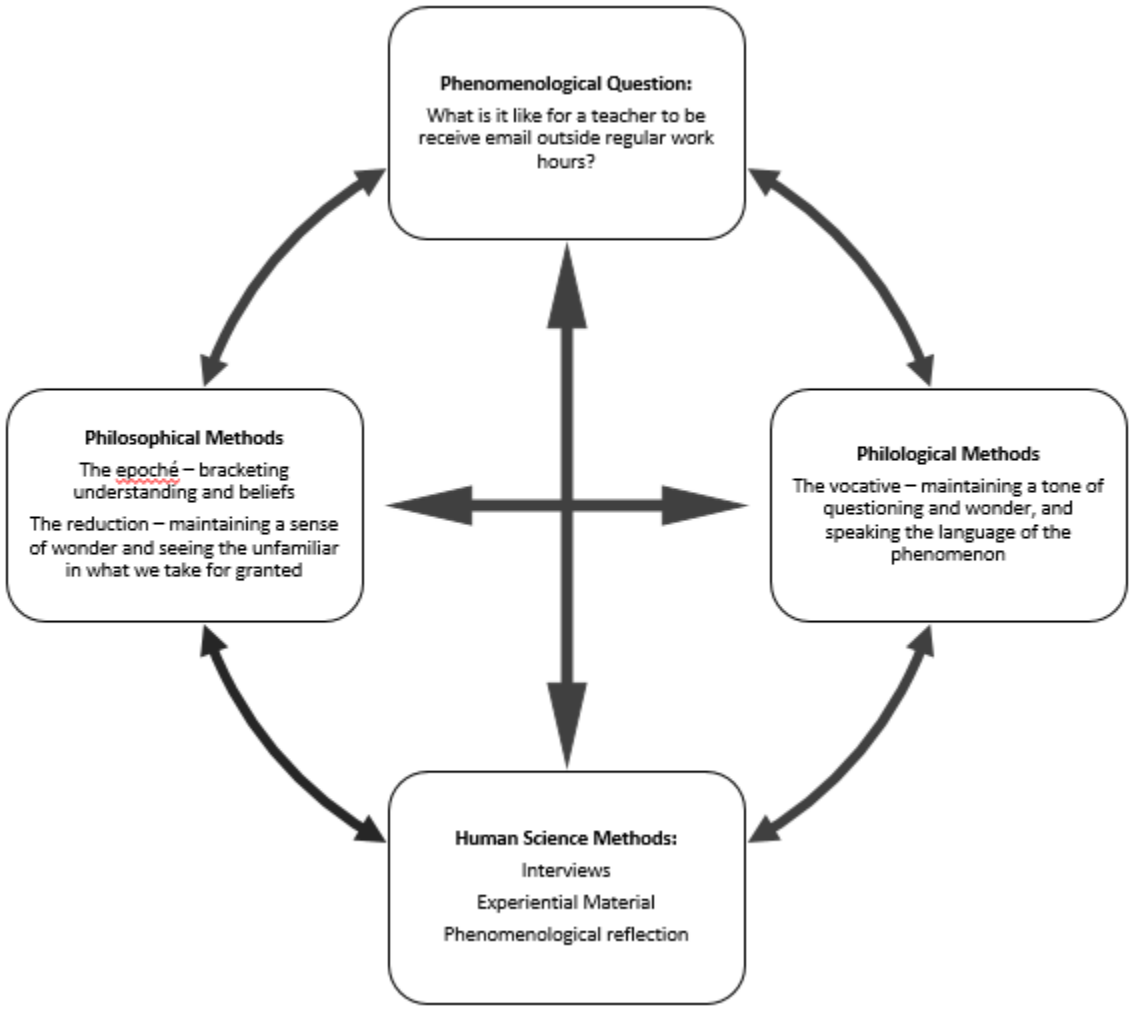

Figure 1. Phenomenological method used in this study.

Note: Adapted from *Phenomenology of Practice* (van Manen, 2014) and class notes in Phenomenological Research & Writing—EDSE611 (Adams & van Manen, 2015).

Description of the Study

In this study, the lived experiences of K-12 teachers were sought in order to better understand the phenomenon of receiving email outside regular work hours. Initial participants were gathered through my professional networks and subsequent participants were recruited through snowball sampling. A total of 24 teachers participated, including elementary, junior,

and senior high school teachers. In Alberta, where this study took place, school administrators are also certificated teachers, and of all of the participants, 10 also held an administrative role.

Human science methods. A phenomenology of practice methodology uses interviews in order to gather experiential material and this was the primary data used to explore my phenomenon. Transcripts were reviewed to find examples of teacher experiences as they were lived through. These experiences were then used to create anecdotes to help make "what is unexplainable knowable" (van Manen, 2014, p. 257). In other words, these narratives can help others understand the experience of teachers, even if the specific experiences are unfamiliar to them.

The interviews in this study focused on the research question: What is it like for a teacher to receive email outside regular work hours? I conducted interviews in person and via telephone. At the outset, I defined "outside regular work hours" as any time that participants believed to be separate from their typical working hours. This could include mornings, evenings, lunchtime, weekends, and holidays. One interviewee taught part-time, so she described some of her experiences that took place during the work week but on days that she was not teaching. Appendix A details the interview protocol used in this study.

Gathering lived experiences. Having successful interviews was of the utmost importance since participants' experiences comprised my data. I had to attend to the interview environment, as well as help them remain oriented to lived experiences specific to my research question. I understood the importance of creating a comfortable environment with all participants since most interviews took place in the evenings after a long day of teaching. I was also conscious of the need to create rapport with participants so they felt comfortable enough to share their

experiences. I began the interview time by asking questions about their lives and their teaching context while maintaining a friendly and professional manner. I also shared my professional background and outlined the research project so as to create a "conversational partnership" (Rubin & Rubin, 2004, p. 7). This enabled us to interact as colleagues interested in mutually exploring a phenomenon.

Since phenomenology relies on recovering the lived moment of the "now" (van Manen, 2014, p. 57), I began with a question that was central to my research, but not the research question itself. To ease participants into the topic, I began by asking: Can you remember the last email you received? Can you describe it? This enabled participants to reflect on a recent email experience to provide a transition to more specific questions; however, some of these very first recollections elicited lived experience descriptions (LEDs) about email outside regular work hours.

Participants were then asked the principle research question: Can you think of a specific instance when an email arrived outside regular work hours? Initially, many interviewees found it difficult to recall a specific moment and instead, wanted to talk about email in general. The following example typifies such a response:

> Me: Can you think of a specific example of receiving email outside regular work hours?
>
> Respondent: Issues at school. Issues with a concern they might have with a teacher, an incident that has happened in that class with their child or how the teacher is teaching or not teaching in that parent's opinion or the kind of communication they are receiving or not receiving from that teacher and the parent has a concern about that, or there's a bullying issue or a student to student-related issue.

It often took a great deal of probing to nudge participants to recall a particular instance and then be able to stay with it long enough to describe the experience as it was lived through. In such cases, questions from *Phenomenology of Practice* (van Manen, 2014) were valuable: "When exactly did this happen? What were you doing? Who said what? What happened next? What else do you remember about the event?" (p. 316).

Following the interview, participants were also provided a handout that described the option to share additional accounts remembered or experienced. The "Written Account Protocol" (Appendix B) used prompts from van Manen's (2014) description of phenomenological interviewing:

- Describe the experience as much as possible as you live(d) through it. Avoid causal explanations, generalizations, or abstract interpretations;
- Describe the experience from the inside, as it were—almost like a state of mind: the feelings, the mood, the emotions, and so on;
- Focus on a particular example or incident of the object of experience: describe a specific event . . . a happening, a particular experience;
- Try to focus on an example of the experience that stands out for its vividness, or as it was the first or last time;
- Attend to how the body feels (or felt), how things smell(ed), how they sound(ed) and so on;
- Avoid trying to beautify your account with fancy phrases or flowery terminology. (p. 314)

No participants submitted additional accounts and I did not send any reminders since the

interviews provided sufficient experiential material for this study.

Crafting anecdotes. Each interview was recorded, transcribed, and later examined to find LEDs or instances of email experiences as they were lived through. These LEDs were later used to craft anecdotes which were short descriptions of single incidents that included concrete details. They usually end quickly once the description of an experience is complete and typically end with an impactful last line (van Manen, 1990, 2014). They are used as a narrative, methodological device to provide examples of the everydayness of a phenomenon and have "evidential significance" (van Manen, 2014, p. 258). In this study, anecdotes are written using evocative descriptions so that even those who have not had the experience of teaching may be able to sense what it is like. Editing of the anecdotes then took place which involved revising the text to focus on the experience and also involved changing details (such as obscuring the gender of people mentioned) in the anecdotes. This step provided additional protection of privacy.

After editing the anecdotes derived from interviews, I shared them with participants via email. During the interview, I had described the nature of anecdotes and that they would be the outcome of the interview. I had explained that unlike other types of qualitative research, these would not necessarily be direct quotations. Instead, what they would be reading were accounts, derived from their interview, written in the first person, that described their experience in a way that would help other people understand what email after work hours was like for a teacher. In the email, I asked if the anecdotes accurately reflected their experience and if not, if they would propose any changes. Van Manen (2014) suggested this is a useful part of the research process:

> If possible check or consult with the source (such as interview or author) of the narrative to determine iconic validity (but don't confuse iconic validity with empirical or factual

validity). Ask: Does this anecdote show what an aspect of your experience is/was like? (p. 255)

Of the 24 participants, only five suggested edits to their anecdotes. Two simply gave grammatical or stylistic feedback and two requested changes because they were concerned that there might still be something identifiable about particular people in an anecdote. One participant read an anecdote and explained that what I had written was not exactly like her experience and she suggested alternate wording. Subsequently, I made changes to the anecdote based on her feedback. The remaining teachers indicated that what they read was true to their experiences.

During this process, three participants commented on what it was like to read the anecdotes. One commented, "This is good. Reading it sounds surreal—this is my life!" Two participants remarked that participating in the interview heightened their awareness about their use of email. One said, "It has been interesting that since I spoke with you I am much more aware of all the emails I send and receive." Another participant noted, "I want to let you know that since our phone interview I have reflected on my email notices that come to my mobile device. I have taken off even the number indicator that shows how many unread emails I have waiting for me. Now, I get no notifications and [no] . . . badges to show that any have come through. I wait until Monday morning or the next weekday morning to check email and I love it." These comments echoed research that has noted that interviews can strengthen participants' understandings and, at times, lead to action (Procter & Padfield, 1998).

Reflecting phenomenologically through philosophical methods. The next phase of the research is more difficult to describe than other forms of research with prescribed methodologies

since it does not involve a lock-step process. Instead, it involves a certain thoughtfulness that must be taken up in order to be attentive to the phenomenon. This attitude is maintained while consistently reflecting on participant experiences through writing. As van Manen (2014) proposes, in phenomenological research writing is not considered a separate step where results are reported and discussed; rather, the research *is* the writing. He points out that the qualitative researcher must be able to help others understand an aspect of the world as experienced and that in producing the text the writer is also producing themselves. The main elements of a phenomenological method are the epoché-reduction and the reduction, which are intended "to gain access to the meaning structures of a phenomenon" (van Manen, 2014, pp. 215–216).

The epoché-reduction. The epoché-reduction, sometimes called *bracketing*, meant that I was obligated to set aside any assumptions I held about the phenomenon (van Manen, 2014). It is understood that every researcher necessarily brings their own experiences, understandings, and biases to a study. In order to bracket, I had to deliberately examine my own attitude, knowledge, experiences, and assumptions about email. I brought two contradictory pre-understandings to this study: 1) email is a tool that I use daily which helps me to communicate quickly and easily, and 2) email can be relentless and can cause stress and complexity. In acknowledging my own experiences, I was able to set them aside in order to carefully attend to each account given by teachers with an open mind.

Van Manen (2014) discusses bracketing further by describing moments of the epoché-reduction. I returned to these moments many times throughout the research process. The moments of the epoché-reduction most pertinent to this study are summarized below from van Manen's *Phenomenology of Practice* (2014):

Heuristic reduction (wonder). Wonder is not mere curiosity, but rather, it is the ability to see something that is ordinary and recognize the strangeness of it. Maintaining a sense of wonder was one of the most challenging aspects of the process. At times, it was difficult to return to viewing each email experience anew after being immersed in the topic for a long period of time. Viewing each experience as described by participants with a sense of wonder helped to orient me toward concrete experiences in order to see the peculiarity of them. As van Manen (2014) states, "The 'way' to knowledge and understanding begins in wonder" (p. 223).

Experiential reduction (concreteness). To engage in the experiential reduction, I had to bracket my previous knowledge and beliefs in order to focus on the concrete details of the phenomenon as given by teachers. The experiential reduction required me to continuously return to the email accounts gathered in order to attend to the concrete details.

*Methodological reduction (approach).*Phenomenology can be challenging because every phenomenon must be examined on its own. There is no strictly defined method to "do" phenomenology. I studied many phenomenological works to view how other researchers developed their own unique approaches. Seeing the many ways that a phenomenon could be examined challenged me to be open to multiple approaches. This openness led me to explore postphenomenology and interviewing objects which I will discuss later.

Since the practice of phenomenology is not ordinal, or even cyclical, I had to return to the epoché-reduction over and over during the process. Even though I bracketed my pre-understandings prior to engaging in interviews, I needed to deliberately bracket my presuppositions once again while the interviews were being analyzed, while the anecdotes were being crafted, and each time I engaged in phenomenological writing. Van Manen (2014)

describes the *epoché-reduction* as what delineates a study as phenomenological. During this process, it was important to bracket while not breaking contact with the phenomenon itself. Merleau-Ponty (1945/2012) describes this delicate balance as "loosen[ing] the intentional threads that connect us to the world in order to make them appear" (p. xxvii).

The reduction proper: Meaning giving sources of meaning. While the epoché-reduction prepares the researcher to be open to a phenomenon, the reduction proper is an engagement of "the reflective phenomenological attitude that aims to address the uniqueness of a phenomenon as it shows or gives itself in its singularity" (van Manen, 2014, p. 228). As with the epoché-reduction, there are identifiable moments in the reduction proper. They are not a set of procedures, but rather an attitude or attentiveness that must be adopted by the researcher (van Manen, 2014). Moments of the reduction proper most relevant to this study are summarized below from van Manen's *Phenomenology of Practice* (2014):

Eidetic reduction (invariant). Here, the essence or eidos of an experience is revealed—the recognisability of an experience allows us to explore what it is and is not in comparison to similar, related phenomena (van Manen, 2014). In this study, for example, I explored how email is like and unlike a letter or face-to-face interaction. I also explored how a conversation via email might unfold if it were a telephone call. By studying particular events and describing their structures, I was able to uncover the particularities of the lived experiences of teachers.

Ethical reduction (alterity). Here, I tried to move beyond the understandings created by the self to search for "what is not self", or alterity (van Manen, 2014, p. 232). This is also a way to consider the experience of the "other" and understand caring. The ethical reduction helped me to gain insight into caring responsibility that is inherent in being a teacher.

Experiential reduction (concreteness). With the experiential reduction, the focus is on concrete examples of the phenomenon given by participants. I had to continually focus on the question: how do teachers experience receiving email outside regular work hours, even before they are able to put language to it? One example of concreteness was the description of where people were located when they received email. In one example a teacher described their experience of reading email while stumbling to the bathroom in the morning. This was an important, concrete detail that lent insight into what email may be inviting, even before we begin to think about it.

As I engaged in these moments of reflective thoughtfulness, I used techniques as described in van Manen's (2014) *Phenomenology of Practice*. They were the starting point in beginning to explore the meaning of anecdotes gathered from participants and included

a) Reading the anecdote as a whole to determine the essential meaning revealed;
b) Creating a title that described the theme of the piece;
c) Underlining key words and phrases that captured the meaning of what was described;
d) Reading each phrase and sentence to consider what each was revealing about the lived experience; and
e) Reading the passage for existentials: relationality, corporeality, spatiality, temporality, and materiality.

Thematic analysis. In phenomenology, thematic analysis "refers to the process of recovering the theme or themes that are embodied and dramatized in the evolving meanings and imagery of the work" (van Manen, 1990, p. 78). In a phenomenology of practice, it would not be helpful to use software programs that analyze text to determine the frequency of particular words

or phrases and then use the most frequently-used to create themes. Instead, thematic analysis is a process whereby, while maintaining the attitude created through the epoché-reduction and the reduction proper, I reflected upon the text in a manner that has been described as "a complex and creative process of insightful invention, discovery, and disclosure" (van Manen, 2014, p. 320). During the reflective process, themes emerged that helped describe experiences. These themes created a sense of openness which revealed insights about the phenomenon of teachers' experiences. The text in papers that use a phenomenology of practice approach was organized around identified themes, typically prefaced by an anecdote, which is intended to help the reader to grasp each theme experientially (van Manen, 2014).

Philological methods. It has been said that textuality and the process of writing are central to human science methods (van Manen, 2014). Research, in its essence, is writing (Barthes, 1986). If a researcher cannot express their findings, then they are unable to communicate what has been learned. Phenomenological writing can have almost a poetic quality to it, and this is intentional. In the words of Merleau-Ponty (1964), "Style is what makes all signification possible" (p. 58). Van Manen (2014) describes this type of writing as giving the phenomenon itself a voice through language so that readers may experience a response: "it tries an incantative, evocative speaking, a primal telling" (p. 241). He compares phenomenological writing to poetry or art when it affects us in ways that are intimate yet hard to explain.

The *Online Etymology Dictionary* (2017), notes that "philology" comes from the Greek word *philogogia,* derived from *philo* ("loving") and *logos* ("word" or "speech"). In a phenomenological study, philology is part of writing, as the researcher tries to *show* the nature of a phenomenon rather than just telling *about* it (van Manen, 2014). One of the most challenging

aspects of writing phenomenologically is that it requires the systematic exploration of a phenomenon while discovering ways to express it vocatively. The writing is honed over time so it is attuned to the pre-reflective experience of the participants in a way that brings resonance to the reader (van Manen, 2014). The word "vocative" comes from the Latin word *vocativus,* the past participle of *vocare* or "to call" ("Vocative", 2017). Therefore, a strong phenomenological text calls to the reader and creates a "feeling understanding" (van Manen, 2014, p. 249).

The phenomenological writing and rewriting during this research was very challenging. At times I did not think there was any possibility of gaining more insights or finding yet another way or stronger word choices to describe an experience. When I felt I could not write anymore, I would step away, work on something else, or continue to read phenomenological and non-phenomenological works. I also found inspiration to return to my writing through poetry, art, and myths. Often, it was when I was walking outside or having coffee with a friend and thinking about matters unrelated to my research that I would have a flash of insight about a piece of writing with which I was stuck. Engaging in this textual labour helped me to uncover more than what I thought was possible to discover about teachers' experiences of email and yet in phenomenology, there are often other insights to be found.

Secondary Methodologies

Phenomenology of practice was my starting point, as I used it to engage in phenomenological interviews. The interviews were used to find examples of email outside regular work hours as they were lived through. As I began writing my phenomenological papers, I was able to maintain a sense of openness that led me to consider the addition of other methodologies to my papers—postphenomenology and a posthumanistic approach called

"interviewing objects". Phenomenology and postphenomenology have an obvious phenomenological connection and interviewing objects uses heuristics related to both phenomenology and postphenomenology. All three reject a step-by-step method and instead are designed to create an attitude of questioning. Therefore, these secondary methodologies provide multiple ways with which to pursue my research question. Each will be described in the following sections as well as in the text of each related paper.

Postphenomenology. In the early stages of my research, while I was continuing to read the literature in the field, I encountered a related methodology called postphenomenology. Postphenomenology has been described as a branch of the philosophy of technology and has been advanced by scholars such as Don Ihde (1983, 1990) and Peter-Paul Verbeek (2005). The marriage between phenomenology and postphenomenology was described by Irwin (2016) who asserted, "Applied phenomenology by way of postphenomenology provides a strong framework . . . [it] emphasizes the use of phenomenology as an analytic tool, and then takes an experimental turn to analyze the human-technology interplay through observation" (p. 32). While phenomenology is oriented to lived experience, postphenomenology focuses on the particularities of a specific technology.

The study of humans and technology has been present in the literature long before postphenomenology arrived on the research scene. Martin Heidegger (1954/1977), in the mid-20th century, explored technology through phenomenology, and much of his thinking is still influential today. Postphenomenology is a relatively new field that encompasses both phenomenology and technology and represents somewhat of a departure from Heidegger's early existential analyses.

The term postphenomenology became popularized by American philosopher Don Ihde who wanted to move away from the "I" or subject-centered phenomenology in order to explore objects and materiality (Ash & Simpson, 2016). Postphenomenology is an ontological stance that is relational and turns towards things. It includes analyses of how technology mediates between people and their world without abandoning important understandings from phenomenology (Ash & Simpson, 2016; Verbeek, 2005). According to Ihde (2009), it "finds a way to probe and analyze the role of technologies in social, personal and cultural life which it undertakes by means of concrete—empirical—studies of technologies in the plural" (p. 40). It has been claimed that this approach is not a rejection of phenomenology but rather the preserving of philosophical underpinnings, such as existentials, while exploring the relationship of technology and society (Feenberg, 1995; Verbeek, 2005). Put simply, postphenomenology offers a framework with which to explore the differences that technologies make in our lives. Through examining human-technology relations and through variational theory, similar to the eidetic reduction, insights about email in teachers' lives can be gained.

Human-technology relations. Ihde (1990) observes that, on the one hand, people within a lifeworld may have unmediated perception which can be represented in a formula as I→World, where the arrow represents intentionality. Intentionality is the understanding that every experience is the experience of *something*. For example, when we experience a thought, we have that thought about something. We may listen, but we are listening to something (Ash & Simpson, 2016; Ihde, 1983; Rose, 2006; van Manen, 2014). Ihde then inserts digital objects into the formula which becomes Human-Technology, where the dash represents intentionality but also recognizes a reciprocal relationship where "things" also point back to us, hinting at a

posthumanistic viewpoint.

Ihde (1990) describes four kinds of human-technology relations—embodiment, hermeneutic, alterity, and background. Embodiment occurs when a technology becomes an extension of our corporeal bodies and our prereflective experiences happen with a technology. Hermeneutic relations occur when the technology is used to interpret meaning. Alterity happens when a technology is experienced as a quasi-other, and background relations describes how a technology can become transparent and, in a sense, disappear from our world. Using an iPhone as an example, Table 1 illustrates Ihde's conceptualization of these human-technology relations.

Table 1: *Human-technology relations*

Mediated Perceptions	Example	Description	Formula	Formula Example
Embodiment	Using an iPhone light to add light.	The iPhone augments the ways in which I extend my body, my eyes in this case. They function together.	(I-Technology)→World	(I-iPhone)→World
Hermeneutic	Using a health app to check my heart rate.	The app provides a representation of my heart rate that I interpret.	I→(Technology-World)	I→(Health App-World)
Alterity	Pop-up notification from wellness app reminds me to stand up and stretch.	The pop-up acts independently and acts as an "other" that reminds me to take a particular action.	I→Technology (World)	I→Wellness App (World)
Background Relations	Wireless (wifi) signal	A wifi signal works unnoticed once I connect.	I→(Technology/World)	I→(Wifi/World)

Note: Adapted from *Technology and the lifeworld* (Ihde, 1990)

Variational theory. Another key concept within postphenomenology is that of variational

theory, closely related to the eidetic reduction in phenomenology. By analyzing the range of ways a technology can be used, along with its limitations, a more in-depth understanding of a specific technology can be gained. Ihde (1990) also refers to a discussion of such variation as multistability. The use of variational theory is another example of how postphenomenology and phenomenology fit together well.

Returning to the example of an iPhone, we can see its multistability in the way that it functions in multiple dimensions. We can use the iPhone as a phone, a Global Positioning System (GPS) device, a magnifying glass, or a word processor. The device may also appear in different ways to different people, depending on their comfort and skill level. This, in turn, influences the ways in which people use it, thus making its phenomenological meaning different as well (Ihde, 2009). The notion of multistability is relevant in a discussion of email since it is a technology that is used in many ways, for many different purposes, by different people.

During my study of postphenomenology, I came across a book entitled, *A Postphenomenological Inquiry of Cell Phones* by Galit Wellner (2016). In the book, Wellner traces the history of cell phones through five historical variations in order to create a genealogy and discuss human-technology relations. I was surprised to note many parallels in the development of email to that of cell phones and wondered if a similar approach might assist in describing email's emergence through today's ubiquity. I returned to my literature review on email and began to explore.

Given that Wellner's (2016) postphenomenological approach used a genealogy to describe human-technology relations within historical and cultural contexts, I decided to explore email in a similar manner. Later, I gathered this work in a postphenomenologically-oriented

paper. I felt that this approach not only added to the review of the literature but also provided context for how email changed from an application designed for the scientific community to today's pervasive use. During the writing of this piece, I connected via an online research portal with Wellner to ask her for the full text of one of her articles. During our exchange, I shared that I was working on a piece modeled after her postphenomenology of cell phones and she offered to read my work. To my surprise, she returned very positive feedback and encouraged me to consider submitting it to a journal. After much more exploration and writing, this work later became an article that was accepted by *Techné: Research in Philosophy and Technology* (Turville, forthcoming, 2018) and appears in this dissertation as Paper I. Though not specifically focused on teachers, it provides valuable context in describing how email became the most often used digital communications tool, even throughout the development of many more modern and feature-filled applications.

A posthumanistic approach—Interviewing objects. As my data collection was underway, I was taking a university course entitled, "Pedagogy of Technology". This semester-long class was designed to explore the pedagogical implications of technologies in educational settings. I was excited to take this course because of the obvious connections to my research. Exploring this topic entailed reading classic and contemporary works on the philosophy of technology. One of the course activities involved moving around the classroom with sticky notes and noting what various objects in the classroom might be "saying" or inviting us to do (e.g., the power button on a document camera with "press me" and a screen with "look at me"). This attending to objects can help us to see the taken-for-granted things in our world in a different way (Adams & Thompson, 2016).

As I worked through course assignments alongside my research, I became increasingly convinced that email also speaks. This is a notion explored by Ihde (2003) as a way to understand the intertwined nature of human-technology relations in postphenomenology. During the course, I was also introduced to Catherine Adams' and Terrie Lynn Thompson's (2016) book, *Researching a Posthuman World: Interviews with Digital Objects*. Adams and Thompson describe posthumanism not as "beyond human" but rather as a means to "address our co-constitutive entanglements with nonhuman entities" to consider its use in our everyday lives (p. 2). This approach challenges anthropocentric views in understanding our involvements with technology.

Adams and Thompson (2016) propose a number of heuristics with which to understand technological "things" and I began to explore three in particular: 1) gathering anecdotes, which had explicit connections to van Manen's (2014) phenomenology, 2) listening to the invitational quality of things, which is also closely connected to phenomenology, and 3) applying the laws of media derived from media ecology and specifically the work of Marshall and Eric McLuhan (1988). The purpose of interviewing objects is to explore the digital and "[make] its effects and affects *visible*" (Adams & Thompson, 2016, p. 2) [emphasis original]. This exploration led to the creation of Paper V which uses anecdotes from research participants that lend insight to how email speaks. It was later published in *Explorations in Media Ecology* (Turville, 2017).

Presenting and Publishing Along the Journey

With the encouragement of my supervisor, I presented and published papers as I wrote, and this was an invaluable part of the process. One notable experience was in presenting an early version of a chapter at a conference. A participant with a more quantitative orientation to

research challenged me to describe my methodology in more detail. The discussion prompted me to return to the description of the methodology in each of my papers to ensure clarity.

Other experiences demonstrated that my topic struck a chord. I was presenting one paper on a national panel that included two other people, each of us discussing our research in relation to teachers' professional spaces. After we each presented, participants rose to microphones to ask questions and comment on what they had heard. To my surprise, every one of the people directed their comments and questions to me, many relating their own stories about how email had been impacting their own lives.

At another presentation, one participant was quite adamant that younger people would find the topic of email unimportant as she believed they more frequently use apps and texting to communicate. As soon as she finished her comments, a young graduate student commented that she found email to be quite overwhelming because communication related to her university studies and teaching assistantship was done via email. This interaction validated my belief that although email is not a new technology, it continues to be used heavily and, as such, remains a topic of concern.

As I received feedback from reviewers on journal articles and conference proposals, it helped me to not only sharpen my writing, but to consider other's perspectives of my work, and thus develop my thinking further. For example, one reviewer of Paper I noted that if I looked more closely at the historical variations of email I had described, a genealogical model could be proposed. This feedback was invaluable in helping to articulate a model to describe the evolution of digital communications technologies—something I may not have seen on my own. Finally, having papers accepted by peer-reviewed publications was exciting, and working

through the review and copy-editing process was also informative.

Ethical Considerations

Qualitative research attempts to understand what people think about and how they experience the world. Whenever human participants are involved, it is important to protect them and minimize any risk of harm that could occur during the process (Government of Canada, 2014). This study involved the phenomenological interviewing of teachers regarding email outside their regular working hours. I took specific steps that are detailed in this section to ensure that participants were adequately protected in accordance with government recommendations and university requirements for ethical research guidelines. Approval was granted from the Research Ethics Board at the University of Alberta.

Consent. I shared the nature and goals of the research in full on the participant information form as well as with participants prior to the interview itself. This was done prior to asking for participants' consent. Potential risks and benefits were outlined. Since this research involved only teachers, they were able to provide their own consent and make their own decisions about their continued participation. I ensured that consent was informed and given voluntarily, and reminded participants that they had the opportunity to withdraw from the study at any time. Consent forms detailed the research purpose and process.

Privacy and confidentiality. Interviews were transcribed and later examined for LEDs, which later became anecdotes. In phenomenological writing, anecdotes are used as experiential material to bring the reader closer to the phenomenon and are not typically direct quotations, so this provided additional privacy and confidentiality. I edited the material to ensure that participants were not directly or indirectly identifiable. For example, specific details, such as the

gender of people described in anecdotes as well as specific details that could identify individuals, were changed, which is common in the creation of anecdotes for phenomenological reflection. Computer files were stored on computers that required a passwords for access. All computers used had current anti-virus software.

Potential benefits and risks. Though individual participants may not have found significant, personal benefits from the study, it was hoped that this research would prompt the thoughtful use of technology. This research project posed minimal risk to participants in that the "probability and magnitude of possible harms implied by participation in the research is no greater than those encountered by participants in those aspects of their everyday life that relate to the research" (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, 2014, p. 22).

Conclusion

This chapter explored the methodological approaches I used to explore the question: What is it like for a teacher to receive email outside regular work hours? I began my study with a phenomenology of practice approach which was vital in understanding and exploring the lived experiences of teachers. The sense of openness and questioning fostered through a phenomenological attitude led me to also be open to other ways of understanding the topic. Through the process of exploring, writing, and rewriting, I developed five distinct papers. Each tells a different aspect of the story about email in teachers' lives. The final chapter in the dissertation (Chapter Eight) provides a discussion of the papers in relation to the many learnings found throughout the process.

Chapter Three. From "You've Got Mail" to Email Overload: A Postphenomenological Genealogy of Email (Paper I)

As a cultural artifact, electronic mail belongs in a category somewhere between found art and lucky accidents. (Hafner & Lyon, 1996, p. 189)

Many years ago, when personal computers were still new to the marketplace, a colleague told me about a new tool called email. With great excitement, he described this amazing technology with which I could compose a note to anyone and they could receive it immediately, no matter where they were. Since it was so new, I wondered about to whom I would write or how it could be any more useful than a telephone call or a fax. I began experimenting and became quite enthusiastic about using it. I could not know then that email would not only become one of the most popular digital communications platforms but that I would undertake research on what is now a ubiquitous technology.

My experiences with email have evolved throughout the years. To begin with, I was excited about using this new communication tool, especially as more of my colleagues began to embrace it. I, myself, proselytized about its uses and benefits. Subsequently, email was adopted by my employer as the primary means of communication. A kind of stasis followed where it was a regular staple in my work life but I did not feel it was particularly overused or overwhelming.

The next phase occurred alongside the popularization of the smartphone, where email could be accessed away from desktop or even laptop computers. Email was now arriving on my device that was never far from me, and initially, I thought this was a helpful development. I could answer or send email when I had a few moments to spare, such as waiting for an appointment or waiting in my vehicle while I was picking up my children.

As more and more people began to use smartphones and use their email in similar ways, my feelings gradually began to change. It seemed that people were calling me less and emailing me more, to the point where it was becoming almost impossible to deal with it all during the workday. To compensate, I turned to my smartphone even more frequently in the mornings, evenings, and anytime in between to try to stay caught up. It seemed that answers to email were expected almost instantaneously and I began to seek refuge from the constant barrage of messages. I took up hiking and camping where cell phone reception was not possible. This prompted curiosity about how I got to this place and a wondering about others' experiences.

While understanding our own experiences with technology can be informative, a broader study of a technology's history can reveal not only its journey through time but our relationship to it. Though much has been written about email over the years and a body of research exists, little attention has been paid to how its developments have impacted both human-technology relations and our cultured experiences. In this paper, I traced a genealogy of technology that described the emergence of digital communications technologies through their evanescence. This model may have applications to past, present, or future digital communication.

A Genealogy of Email

Email has been a part of digital culture for many decades. Email dates back to the 1960s when computing took place on mainframe computers and computing scientists began using them to send messages to one another (Jones, 2002). It has been the subject of research over the years, but less frequently over the past decade or so—perhaps researchers are opting to study social media or other more novel digital communications tools. The majority of existing studies take a quantitative approach, examining the types and frequencies of email, with few studies

endeavoring to understand the experience of email. Because email has a long history and has become so ubiquitous, it provides fertile ground for a genealogical inquiry.

Studying the history of a technology can provide insight into both its past and contemporary uses. One example of following the development of a specific technology is Galit Wellner's (2016) research on cell phones. In her study, she traced the origins of cell phones through five historical variations which "assists in the conceptualization of the varied relations between people, technologies, and their environments as they evolve over time" (p. 14). She refers to this approach as genealogical to denote that it is not solely a recitation of history, but an attempt to understand the relations and culture that characterizes each period. A genealogy of email provides insight into how the technology itself has evolved and how it has become implicated with people and their environments.

As with Wellner's (2016) research, this examination of email is situated in postphenomenology as "it examines the changes in relations between humans, technologies and the world" (p. 11). Postphenomenology may be thought of as a branch of philosophy relating to technology. In Don Ihde's (2002) book, *Bodies in Technology*, he discusses how our involvements with technology can be experienced as "body one" and "body two". Body one is "our motile, perceptual and emotive being-in-the-world" (p. xi). It is the way in which we experience the world and meaning is grasped. Our "invariant perspective on the world is reflectively realized by noting the ways in which the world 'points back' to body one" (p. 69). Ihde (1990) also describes the ways in which technology can be experienced as human-technology relations as 1) embodiment, which describes how technology can extend our physical bodies and senses; 2) hermeneutic, or how a technology can be read and interpreted; 3) alterity

relations describe how a technology can be experienced as an "other"; and 4) background, when a technology becomes used in a way that it disappears from our awareness.

Body two is described by Ihde (2002) as our cultural body—one that cannot be separated from the social systems in which we are enmeshed. It is involved with the larger cultural impacts and part of what Ihde (1990) terms "cultural hermeneutics" (p. 29). Body two, therefore, reflects "the ways in which cultures *embed* [emphasis original] technologies" (p. 124). Our embodied experiences are unique to us and yet cannot be separated from the larger environment.

Also important to postphenomenology is the notion of multistability, or how a technology can appear differently to different people or be taken up in different ways. Multistability is often described by Ihde (1990) using a figure called a Necker cube (Figure 2).

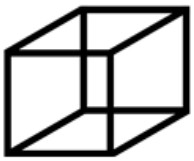

Figure 2. Necker Cube (Public Domain Vectors, 2016)

A Necker cube is commonly used as an optical illusion where different faces of a cube advance to the foreground or recede into the background. Ihde (1990) uses this cube to illustrate how technology can take on different appearances and uses, depending on the context. He recognizes that technology is designed with certain structural elements and for a particular purpose but it may be taken up in an unintended way by individual users and then take on different meanings in the larger culture.

If we use a smartphone as an example, we can see multistability in the way that it functions in multiple dimensions. We can use a smartphone as a telephone, a global positioning system (GPS) device, a magnifying glass, or a word processor. The device may also appear in different ways to different people, depending on their comfort and skill level, which, in turn, influences the ways in which they use it, thus making its phenomenological meaning different (Ihde, 2009). The notion of multistability may be relevant in a discussion of email since it is a technology that is used in many ways for many different purposes by different people. Ihde (1990) is clear that the notion of multistability does not make technology neutral, but rather a technology does not unfold in a singular trajectory.

This article will proceed by outlining five periods, or historical variations, that describe the evolution of email. The first is entitled, "Emergence: Scientist Meet Scientist" which outlines the origins of email and the cultural context during its development. The second is "Propagation: 'You've Got Mail'—The Growth of Email" which describes the migration of email from the scientific community to the mainstream. The third historical variation "Habituation and Commercialization" outlines how email went from a novel tool to one that was handling a large number of messages and being used for many purposes, including commercial interests. The fourth historical variation, "Supersaturation: Email Comes to Our Pockets" describes how mobile technologies impact human-technology relations and culture. The final historical variation is entitled "Evanescence: The Death of Email?" which briefly discusses the downturn in email popularity for some users and speculates on its demise.

Following each period there will be a discussion of the significance of developments using postphenomenological analysis. These periods are not tied strictly to a set of years, but

rather experiences and trends as email evolved. The paper will conclude with an examination of two invariants or threads that run through the historical variations, followed by a discussion section where a genealogical model will be proposed that describes the evolution of email and its potential to describe the use of other digital communications.

Historical Variation 1—Emergence: "Scientist, Meet Scientist"

Email originally referred to anything that transmitted text or graphics electronically, such as faxes or early versions of messaging systems (Coopersmith, 2015; Ganong & Coleman 2014). The origin of email as we think of it today, however, can be traced back to The Advanced Research Projects Agency Network (ARPANET) which was originally an experimental project of the Defense Department of the United States (Crawford, 1982; Freeman, 2009; Schaefermeyer & Sewell, 1988; Sproull & Kiesler, 1993). The goal of ARPANET was to connect computers in laboratories so that resources could be more easily shared (Hafner & Lyon 1996; Jones, 2002). ARPANET was not designed or intended to share individual personal communications, but people working on the project were using it, even in its early days, to send internal messages. The first message considered as email was sent in 1971 by an ARPANET engineer named Ray Tomlinson who had written an early mail program. He used the @ symbol to delineate the recipient's identification from the network identifier. He could not know then that his choice would become an iconic symbol of the online world (Fleishman, 2012; Hafner & Lyon 1996; Jones, 2002; Naughton, 2000).

Further capabilities were discovered serendipitously by a scientist who had a practical problem that he needed to solve. According to Naughton (1996), Len Kleinrock, a computing scientist working on ARPANET, had been overseas at a conference in 1973 when he discovered

that he had left his razor at the hotel. After returning home, he entered a command that revealed who was logged into the network and discovered that one of his colleagues was still at the conference and logged onto the computer system. He used an early program called TALK that permitted split-screen messaging and asked his colleague to bring the razor home. At that time, people using the network were already sending messages back and forth within the project, but this was the first instance that demonstrated the capacity for messages to be sent and received at a distance. In this example, they were using the same system with the same protocols as opposed to interfacing with different systems as email does today. In that same year, 1973, the director of ARPANET ordered a study of the network and discovered that 75% of traffic was email (Hafner & Lyon 1996; Naughton 2000). Users had discovered how to communicate digitally and it was dominating the system.

At that time, email programs were not easy to use. There were two separate programs required: one to read and another to reply to a message (Hafner & Lyon, 1996). In 1975, a programmer named John Vittal created a game-changing program called MSG where users could reply to a message rather than starting from scratch each time (Hafner & Lyon 1996; Jones, 2002; Naughton, 2000). MSG became the backbone of today's email. Although there have been innovations in style and various add-ons, there have been few significant functional alterations to this original program to present-day email (Jones, 2002).

We may consider email overload as more of a contemporary trend, but even in the first historical variation of email, overload was noted. Hafner and Lyon (1996) recount the story of an ARPA director between 1971 and 1975: "[He] hated throwing anything away, [and] was beginning to get frustrated by the volume of e-mail piling up in his in-box" (p. 194). Perhaps he

was the first digital hoarder, overwhelmed by the volume of messages but unsure how to manage them.

It is interesting to note that although the accepted emergence of email as described above is the one most accepted, there is some controversy regarding who invented email. Shiva Ayyadurai was working as a research fellow in the United States when he claims to have created a software system to replace inter-office mail (Reisinger, 2016). His contributions were noted in an article in the Washington Post which credited him as the inventor of email. This story sparked a flurry of refutations of this article including online discussions between members of the Special Interest Group Computers, Information, and Society (SIGCIS), a listserv of academics and internet historians (Reisinger, 2016). The Washington Post later posted a correction that they had subsequently found the claims of Ayyaadurai to be erroneous (Kolawole, 2012). Dr. Ayyadurai's claims are restated on social media and other venues, including part of his platform in his bid for a United States Senate seat in Massachusetts in 2017.

Another claim to the invention of email has been advanced involving Tom Van Vleck and Noel Morris during the Massachusetts Institute of Technology's (MIT) Compatible Time-Sharing System project in 1965 (Van Vleck, 2012). A five-part series appeared in the opinion pages of the New York Times, authored by Errol Morris entitled, "*Did My Brother Invent E-Mail With Tom Van Vleck?*" These articles argued that email originated from these two computing scientists much earlier than was traditionally thought and described how they sent electronic messages (Morris, 2011). These controversies underscore the complexities inherent in the development of technologies since their evolution often spans many development iterations, something that has also been documented in the development of Facebook, for example

(Carlson, 2010).

Analysis of the first historical variation. Email arose from technologies that were not originally designed or intended to be used for widespread digital communication. John Naughton (2000), in his book, *A Brief History of the Future*, proposes that email is "based on the apparently inexhaustible desire of human beings to communicate with each other" (p. 150). The importance of this first historical variation is that it grew out of the need for people to connect. It transcended the fact that computers at that time were not designed for communicating and even so, they began to be used for this purpose. This first historical variation exemplifies the multistable nature of technology since messaging was designed to share research ideas and was quickly taken up as a way for scientists to connect with each other not solely about work, but about personal matters as well.

The first years of email can be considered through the lens of human-technology relations. Email became an extension of human bodies since speech in the form of text could travel across time and space. Ihde (2002) describes the way technologies can be embodied as "a quasi-extension of the here-body" (p. 7). Email is also an example of hermeneutic relations since the technology must be used to read and interpret email messages for meaning. This includes not only the text of the message but how to use the software and navigate the early, complex versions of email.

Viewing early email through a larger cultural lens reveals that its use at the time was limited to those in specific scientific communities. Email exchanges required that users had an understanding of the standards and programs required to make inter-machine communication possible, and as such was somewhat of an exclusive club (Hafner & Lyon, 1996). People outside

the ARPANET and related communities still relied on the telephone and regular mail. As such, the general population felt little effect. The broader impact of email was yet to come.

Historical Variation 2—Propagation: "You've Got Mail"—The Growth of Email

A barrier to the wider adoption of email was that there were many different programs being used such as RD ("read"), MAILSYS, and XMAIL (Hafner & Lyon, 1996, pp. 194–195). The various programs did not always adhere to the same standards. For example, one program used headers in a particular way while another did not. When two people attempted to communicate using different programs, messages might be unintelligible or the systems might crash (Hafner & Lyon, 1996). One scientist described email as something that had to take place "between consenting adults" because a sophisticated understanding of various systems was required (Hafner & Lyon, 1996, p. 199). In 1982, the Simplified Mail Transport Protocol (SMTP) was approved for emailing and a committee designated seven primary domains: com, edu, net, org, gov, mil, and int (Hafner & Lyon, 1996). In the following year, the growing network was called the "internet" and the standards had evolved into the Transmission Control Protocol (TCP) and the Internet Protocol (IP), as the backbone of the infrastructure, which remains in place today (Hafner & Lyon, 1996; Naughton, 2000). Indeed email was the foundation of the internet (Jones, 2002).

There was a growing awareness of the potential of the internet and email, and it developed alongside the popularization of personal computers. The first internet service provider was established in 1989 and was called "the World", followed by other commercial network services such as Compuserve and America Online (AOL) (Ganong & Coleman, 2014). At the same time, user interfaces became more graphic and user-friendly (Naughton, 2000). As

Hafner and Lyon (1996) state:

> By now, the Internet had grown far beyond a research experiment. As more people discovered its utility, it was becoming a household word. The Net promised to be to the twenty-first century what the telephone had been to the twentieth. For many, email had become an indispensable part of life. More and more people by the day were logging on to conduct business or find entertainment on the net. Analysts pronounced the Internet the next great marketing opportunity. (p. 257)

The real boom of email began in the mid-1990s when companies began to offer free accounts. No longer did email accounts have to be dispensed through employers, educational institutions, or internet service providers. They could be created and accessed from anywhere. Netscape and Yahoo were examples of such services and they recouped their costs through advertisements that were found on email web pages and in some cases, advertisements would appear in the body of the email messages themselves (Jones, 2002). At the same time, the development of a variety of standards such as Adobe's Portable Document Format (PDF) made the transmission of files by email easier and more stable (Coopersmith, 2015).

Understanding the rapid growth of email also necessitates an understanding of what many consider its predecessor, the fax. Faxing enabled the sending of memo-like messages around the world in almost real time and was accepted quickly in the business world. Jonathan Coopersmith in his book, *Faxed: The Rise and Fall of the Fax Machine* (2015), describes the origins of the fax machine as dating back far beyond what might be imagined. He recounts that the first facsimile or fax of an image that was transmitted by a machine took place in 1843. These early machines had the components that remained consistent throughout modern iterations including a scanner

with the capacity to send messages, a transmitting medium, and a machine to receive or record what was sent. Coopersmith proposes that the chronology of the fax machine is not only about the technology but about larger issues such as manufacturing, economics, competition, and consumption.

Faxing became one factor in the rise of email and the internet, as people were already familiar with receiving and sending memo-like messages (Coopersmith, 2015). A 1992 *Forbes* article (Gianturco, 1992) argued that compared to fax machines, email was more cumbersome at the time because it was sent through modems that competed with telephones. The author stated, "Electronic mail is largely a tool for computer fans, while the fax is for the masses" and then prophetically added, "All this may change someday" (Gianturco, p. 106). A general acceptance of email seemed to flow somewhat naturally from faxing as it served comparable purposes and was visually similar.

Email came to homes with personal computers that were shrinking in size and growing in memory and speed of operation. There was also increasing access to internet service providers and free email accounts. Email also began appearing in pop culture, such as in the movie *You've Got M@il* with Tom Hanks and Meg Ryan. It demonstrated how relationships could be forged through the use of electronic missives, a retrieval of the letter writing relationships of old (Milne, 2010). This was not the first time love developed through digital communication, however. In the book, *The Victorian Internet* author Tom Standage (1998) states, "Spies and criminals are invariably among the first to take advantage of new modes of communication. But lovers are never far behind" (p. 127). He recounts a number of instances where the telegraph was the tool that developed relationships through the sending of romantic messages. Indeed email had the

capacity to build personal and professional relationships.

Operating systems and email software became more graphic and less text-based in nature during this period. Skeuomorphic design, where the digital is represented as physical and familiar objects, helped novice users become more comfortable (Pogue, 2013). File folders were made to appear like a paper folder and the icon for unwanted files looked like a trash can. Email also appeared visually similar to an old-fashioned office memo. There was a place for the name of the addressee and the subject of the message. The message could be "carbon copied" (cc), a term referring to the old style, layered papers that left an imprint so a duplicate could be made, —before the time of photocopiers. Other parts of an email message were also reminiscent of times gone by such as "attachment", "copy", and "clipboard". These are all references to what we may have done with memos or letters before they became electronic. Skeuomorphic design may have had an impact on the cultural uptake of email as it was easier to use than earlier versions.

In the late 1980s, email discussion groups, sometimes called listservs, emerged and provided another way to communicate that had not been seen before (Collins 1998; Finholt & Sproull, 1990). It was a way for like-minded people to connect online. As their use grew, groups formed on a wide range of topics and online communities were formed (Jones, 2002). Groups arose that were not specific to technology but in fields such as education and literature. By 1986 there were more than 3,000 discussion groups and related materials such as electronic journals (Grier & Campbell, 2000). Programs such as ListServ and Majordomo were created so that messages could be sent automatically to people who subscribed to a particular group (Jones, 2002). At times, email groups became a source of email overload, since replying to a listserv

message is the equivalent of "reply all". For example, when a popular or controversial topic might be raised, it could spawn a flurry of messages that clogged up inboxes (Shea, 1994).

Analysis of the second historical variation. In this period, the primary human-technology relations continued to be embodiment relations and hermeneutic relations. Embodied relations shifted somewhat as computers became smaller and somewhat more mobile. Laptop computers were becoming commercially available and email could be read and responded to, not only on a fixed desktop computer in an office, but now at a kitchen table or a couch. Though hardware was becoming more mobile, it was not yet able to roam past the reach of the computer that was tethered to a telephone socket.

Hermeneutic relations were changing as interfaces moved from being accessible to those with computer programming background or aptitude to being more graphic and skeuomorphic. Improvements to graphic user interfaces (GUI) meant that more of the general public was engaging with email. Even though the user interfaces were more user-friendly, there was continued recognition that rapid messaging, at times, limited the understanding the sender's intended message contained in the text. The interpretation was more than the simple act of reading of data. To assist with interpretation, text-based emoticons, such as the sideways smiley face :-), were more readily recognized by the masses and became the precursor to today's emojis. By 1997, an online emoticon dictionary had amassed over 2,000 entries (Piercy, 2013). Alterity relations, for those new to email, came to the forefront in this variation. Technology may be experienced as an "other" when it is unfamiliar, which it was for most people in the early days of email commercialization.

Multistability was also important during this period as email moved from one-to-one

communication to one-to-many communication, particularly through the development of electronic mailing lists and the user-friendly interface of new email programs where it was easy to copy a message to additional people. What was developed as more of a telephone call between two people now became a party line where many people could eavesdrop and participate in electronic conversations. Transmissions also evolved to become more than just text as the use of attachments made it easier to share materials.

Social bonds were made and strengthened through email, perhaps as the sender of the email is sent, in a sense, along with the message. Such connections may, in part, be built through the lexicon of email which is different from that of a formal letter. Naomi Baron (2003) found that email closely resembles speech. Perhaps this is one factor that creates a sense of familiarity between conversants. In Baron's (2003) research, she found that the style of email is informal, often eschewing salutations and closings, using contractions, and can even be *less* formal than face-to-face speech. She observed that people behave as if messages are ephemeral, so there may be an acceptance that editing is not as important as with other forms of writing. The development of relationships with others via email may be related to alterity relations in that email via a screen can be experienced as a quasi-other. Wellner (2014) describes the screen as a "focal point which draws one's attention and 'promises' to participate in an exchange with the user" (p. 300).

Email groups facilitated the forging relationships across distances and time zones. Such groups added a new dimension to email. It was not only private communication but messages that could be read by all of the people subscribed to the list. Each email group had its own culture and even in their early days, there were disagreements about what was appropriate

content and conduct within each group (Milne, 2010). "Net etiquette" (sometimes called "netiquette") began to be discussed more widely in response to concerns about online behaviour (Jones, 2002). Listserv messages could be archived and read offline and often provided records of topics of interest to the group.

Historical Variation 3: Habituation and Commercialization

As the size of computers shrank, the availability of internet service providers and email grew. Email was thought to be one of the most successful applications ever created and considered to be a "killer app" or one that revolutionizes technology use (Hafner & Lyon, 1996, p. 205). To illustrate its growth, only 2% of the population used email in 1992 in the United States. That figure climbed to 15% in 1997 and to 50% in 2001 (Freeman, 2009). By 2009, there were 1.9 billion email users worldwide and there were 247 billion emails sent each day (Radcati Group, 2009). Email had become a mainstay of both office and personal communication. It blurred corporate hierarchies as email addresses became increasingly available on public websites. A chief executive officer might be as accessible as front office staff (Garton & Wellman, 1995; Tassabehji & Vakola, 2005). Researchers noted that workers were often spending a substantial portion of their workday on email (Whittaker & Sidner, 1996).

As early as the mid-1990s, researchers began to explore the impacts of email. The term "email overload" was thought to be coined by Steve Whittaker and Candace Sidner (1996). They observed that email was being used for many tasks other than just asynchronous communication. It was delivering and archiving documents and delegating and tracking tasks. Their study was designed to explore how this one tool, email, was supporting a multitude of functions. They found that workers viewed email favorably, especially the capacity to send

messages that were not bound by time or distance. They also found that users tended to read and respond quickly to messages that were more direct and had either no action or a simple task associated with it. Conversely, if an email related to a task needed to be completed at a later date, something that required a more detailed reading, or email where the next action was undetermined, users tended not to deal with the email quickly. This led participants to leave email in their inbox to accumulate and caused them to read the same email multiple times. Their research concluded that email itself required redesigning so that it better fit the multiple functions it was performing.

Other challenges arising from the use of email had been seen in the evolution of earlier technologies, such as the fax. As was experienced with the rise of junk faxes as fax machines grew in popularity, junk email, or *spam*, became a major problem. Inboxes became congested with spam as marketers discovered the ability to reach out to large numbers of consumers at the click of the "send" button. In the book *Spam: A Shadow History of the Internet*, (2013), Finn Brunton chronicles the rise of spam during this period. He notes that spam crashed the mail servers of the United States House of Representatives in 1999 and became headline news and part of public consciousness. He also describes the new practice of selling the email addresses of millions of Americans for profit. The practice of "phishing," or using email to trick people into revealing personal information, was also born. To counter, there were anti-spam initiatives such as the non-profit Mail Abuse Prevention System (MAPS) and the development of a variety of commercially developed software programs (Brunton, 2013).

Another important event in this period was the arrival of Gmail by Google in 2004. Harry McCracken (2014), in an article recounting the history of Gmail, explains that the price of

one gigabyte of storage space and free email was the scanning of keywords in messages so advertising could be targeted to each user. Advocacy groups objected to what they believed to be an invasion of privacy, and that if left in place, would let "the proverbial genie out of the bottle" (para. 45). This did not seem to deter users from signing up for the service and by 2016 Google had logged its billionth user (Mogg, 2016). Google's version of email also introduced the idea of threaded emails where messages with a common subject line were grouped together. It was touted as an innovative way to organize email. In response to complaints from users, an option to unthread messages was later implemented (Kindelan, 2010).

Analysis of the third historical variation. As devices became increasingly lightweight and mobile, wireless networks began to appear more frequently in homes and public places and therefore email was also mobile. No longer did the user have to be tethered to a wall outlet; devices could rest on laps or on a table. Email could be composed and received almost anywhere, our embodied selves having fewer restrictions than ever before. Work email could be retrieved in homes and personal email could be accessed at work. As more people entered the online world and programs became more user-friendly, the use of email grew. Would such large volumes of messages be delivered if they still had to be sent on paper? Perhaps its lack of materiality encouraged its unfettered use.

As email became more commonplace and free email services grew, more people began to use email and corporations viewed it as a business opportunity (Hafner & Lyon, 1996). Despite concerns raised about email being surveilled in order to market goods and services, the number of users continued to grow rapidly (McCracken, 2014). Email became a gateway for others to look into our personal correspondence in order to market personalized goods and services

(McCracken, 2014). Perhaps email surveillance is an extension of the classical view of alterity where the user interacts with technology as a quasi-other that has human-like traits such as memory (Ihde, 1990; Wellner, 2014). In this case, companies enact a kind of "reversed alterity" where the email user becomes a quasi-object to be used for business purposes through the medium of technology. The email user has now become a thing—a commodity to be used and monetized by another, in this case, a corporation.

Spam, or junk email, began to clog up inboxes to the point that anti-spam software was developed to help curb the number of messages received. To further combat the barrage of spam, users began to create email addresses separate from their personal and work email accounts to sign up for services. In 2000, the average email user had more than one account and the trend for having multiple email accounts was growing (Lyman, Varian, Dunn, Strygin, & Swearingen, 2000). Large volumes of messages created the need for people to create different "selves" to manage their various email accounts. Perhaps this is a kind of multi-alterity where the user creates multiple selves or multi-"I" beings in the human-technology schema. The versatile and multistable nature of email made it a tool that could be used not just for communicating, but for advertising, surveillance, and predation. This also led to the need for the law to extend its reach into the digital world in order to update and reformulate laws (Winner, 1989).

Email began to transform or even replace many of the tasks previously done in different ways. For example, memos were typically emailed rather than being photocopied or faxed. Email was used to send meeting invitations and reminders. Tickets for vacations or concerts could be delivered electronically, making technology increasingly a mediator and the need to

work through a human for such tasks was reduced. There was a growing acceptance that more and more of our world was becoming digitized and therefore, habituated.

Historical Variation 4: Supersaturation: Email Comes to Our Pockets

The common use of smart devices marks this historical variation even though early versions were present before this period began. For example, in 1996, the Nokia 9000 Communicator was introduced. It had email and web browsing capabilities but was not widely accepted due to its price and complicated operation (Baguley, 2013). Other multi-use devices entered the market in the same period such as the IBM Simon in 1993, the Ericsson R380 smartphone in 2000, and the Palm Treo in 2002 (The Telegraph, 2017).

It was not until Research in Motion introduced the Blackberry in 2002 that the wider use of smart devices for email and web browsing became popular (Reed, 2010). Even in its relatively early adoption, it was noted that Blackberry use could be addictive with implications for professional and personal wellness (Harvey & Bosco, 2011). The term "crackberry" was coined both describing its obsessive use and foreshadowing the rise of other devices to come. With email on mobile devices, the lines between work life and home life became increasingly blurred. Apple launched its iPhone in 2007 which integrated telephone, internet, and multimedia capabilities (Reed, 2010; The Telegraph, 2017). The flat screen interface, as opposed to a keyboard or stylus, made it unique and soon other smartphone companies developed similar technology.

Alongside the widespread adoption of smartphones, wireless networks were becoming widely available, with free connections becoming available in public spaces such as shopping malls and airports, as well as in educational and corporate institutions (Henderson, Kotz, &

Abyzov, 2008). A recent forecast (Radcati Group, 2016b) reported that smartphones account for the majority of mobile devices that are used and it projected that the number of mobile devices will grow from over 11 billion to over 16 billion by 2020. It further predicts that email on mobile devices is expected to increase by 12% annually. This forecast suggests that this growth "mirrors population growth across the world as increasingly users across all regions have access to some form of mobile technology, either phones, or tablets, or both" (p. 3). As mobile devices and wireless networks have multiplied, so has our access to email. One study estimates that "by the end of 2020, the number of email users worldwide will top 3.0 billion" (Radcati Group, 2016a, p. 2)

Analysis of the fourth variation. One only needs to observe people in a public space such as a coffee shop or airport to see how mobile devices are increasingly part of how we go about our daily lives. Smartphones extend our bodies through our email in greater ways. Messages on mobile devices extend our ability to "speak" with each other as we do not have to be at a computer to compose or reply to an email. Of course, email is but one way we communicate with a mobile device. We can also text message or use a variety of apps to connect with others. Wireless networks fade into the background, only calling for our attention when they do not work or are absent. Culturally, email and other electronic communications are embedded and embodied such that we can easily be in two places at once. This is not a new phenomenon, as we have had this experience with other media such as telephones, faxes, and telegraphs. The difference email makes in this variation is that we receive large volumes of messages, each appearing visually similar. They can come from anyone and be about anything and we must sort through all of them to find important email that may be buried under mundane

or unsolicited ones.

This assemblage of computer-email-person contributes to changes in the speed of our writing and editing and even a different style of writing (Baron, 2003; Ihde, 2002). Email's multistable possibilities mean that our interactions with email can spark not just a need to deal with the message itself, but it may remind us of other various tasks. For example, when we read an email, we may be reminded of a meeting that is to take place, which may start a train of thought about tasks to be done related to that meeting. The next message might be from a friend who wants to have dinner and our thoughts may turn to which restaurant to choose. Further down the list of messages may be some that are irrelevant and can be deleted easily. Other messages may signal a complex issue or task that must be completed at a later time. All of these thoughts and actions might be taking place within a few minutes as we process our email while we are waiting for an appointment or sitting in a coffee shop. We are not only in different places at once, we are switching between many different worlds in a short period of time.

Historical Variation 5: Evanescence--The Death of Email?

The evanescence of email has not yet occurred, but the signs of its waning are present. For younger generations, email is a tool they rarely use, with texting, social media, and interacting via apps being much more dominant (Lenhart, Smith, Anderson, Duggan, & Perrin, 2015; Perez, 2016). Alternatives to email are being developed for the workplace such as Slack, a web-based tool that organizes organizational communications into "channels" (Jameel, 2015, para. 6). One company claimed that by using this tool, their email volume was reduced by 70% (Bradbury, 2016). Perhaps as post-millennials enter the workforce, there will be an increasing demand for alternatives to email in the workplace.

Invariants Emerging from the Historical Variations

In a few short decades email has expanded from "a government-initiated, academically-implemented system for sharing research information into an international alternative, and in some cases, a replacement of long distance phone calls, interoffice memos, and face-to-face encounters" (Baron, 1998, p. 134). An examination of each period reveals invariants or "common denominators" of the historical variations (Wellner, 2016, p. 15). As email has evolved in both its experiences for users and in the broader cultural contexts, some aspects transcend each change.

Invariant 1: Email overload—Inbox (2125), spam (84), drafts (51). At the time of this writing, the number of emails in my inbox was 2,125, along with 84 flagged as spam, and 51 drafts of messages that I had started at one time but left without completing them. Because my Gmail account seems to have an unlimited amount of storage space, I rarely delete messages. I will, occasionally, clean out my inbox, but there does not seem to be a compelling reason to do so. One study of email users in the United Kingdom found that 1 in 10 users never delete email, becoming "digital hoarders" (Warman, 2012, para. 1). The trend of overflowing inboxes occasionally receives attention in social media. Figure 3 depicts a 2012 Tweet that went viral (Langer, 2015).

Figure 3. Cluttered inbox Tweet (Langer, 2015).

Though there are many kinds of digital communications, others do not appear to produce the same effect as an overfull inbox. Perhaps it is analogous to having a full mailbox outside a home. Excess mail may spill out of the box and we may fear it could become lost or be misplaced. We may also worry that we may miss an important task or communication. One study by Ramsay and Renaud (2012) reported:

> Many of our participants reported feeling overwhelmed by email. They clearly felt that they were no longer in control, and this made them uneasy because it meant they could not protect themselves from censure should they fail to deal with all incoming emails. The scarcity of their cognitive resources, of which they are very aware, makes them feel inundated when too many emails need to be dealt with. (p. 600)

Though other digital tools such as social media or texting may also be used for work purposes, they do not seem to produce the same kinds of backlog or the same feeling of being overwhelmed as does email. It would be unusual for someone to lament about Twitter, Instagram, or Facebook overload, even though there are functions of each that enable direct

messaging between users.

Invariant 2: The clouding of work life and personal life boundaries. Almost as early as email was used by scientists to communicate for work purposes, it began to be used for personal use. As discussed earlier, a message sent to ask a colleague to retrieve a razor that had been left overseas not only demonstrated the ability for messaging to happen at a distance but that personal and work communication were entangled from the start. It also speaks to the multistable nature of technology, which was intended to be used for information sharing for scientific purposes and quickly became used in unanticipated ways.

People have long brought outstanding work home to complete. The difference that email makes is that in the past, we would have had to purposefully set aside time and space in our homes and sit down to catch up with work, perhaps at a time we felt was most appropriate. Now work does not wait for us to decide when to engage with it. It taps us on our shoulder with a vibration or a ping, or perhaps calls to us silently, as we know that messages may be collecting.

Perhaps part of our need to check is that email is a technology that addresses us personally. It arrives using our specific email address and is therefore designated only for us. It may feel like a personal summons, similar to a phone call. With a phone call, however, we typically answer and complete the conversation in one sitting. Email is often a series of messages that go back and forth many times, often taking even longer than a phone call might have taken. Our home space can quickly turn into a workspace and vice versa. As Wellner (2016) notes, "As information becomes part of a space, that space turns into a place" (p. 70).

Even during weekends or on vacation, email continues to accumulate. The thought of dealing with hundreds of messages upon our return to work may be enough for us to decide to

check it while we are away. Perhaps there is also a fear of missing out on something important. If we make a conscious decision to stop checking email, there may be a distant calling of our work world while we are trying to be present with our families or friends. If we heed the call of email, we may regret checking if a message brings work or worry that we now carry with us throughout the remainder of the break. Email offers freedom from space and time, but perhaps the same affordances now mean we have more flexibility but at the same time are more shackled to our work world. Does working anyplace, anytime leave us in no place, or a mediated third space that is neither here nor there?

Discussion: A Proposed Genealogical Model for describing the Evolution of Digital Technologies

Email emerged as a communication tool that began to propagate once its use was available to the wider public. As it became an everyday tool, it became habituated in our work and personal worlds and alongside its use, businesses became aware of the ability to monetize the tool. Once email came to mobile devices, the volume of email arose and it began to be described in terms such as “tyrannical”. The final and predicted phase of email is evanescence, something that is perhaps slower to happen than with social networking systems (SNS) because of its entrenchment within business communication. Postphenomenological analyses may lead to the development of models such as Ihde’s (1990) human-technology-world. Tracing the journey of email revealed a number of stages. Figure 4 describes the evolution of email and may be applicable to other digital communications tools.

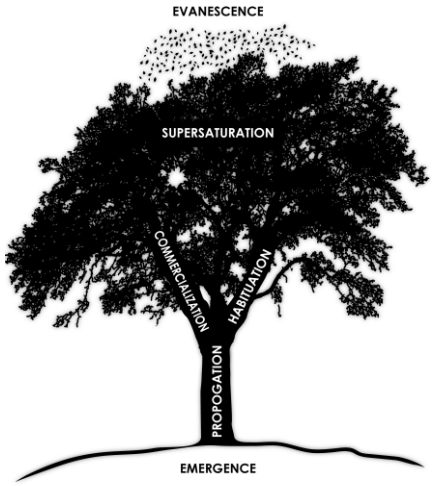

Figure 4. A genealogical model of the evolution digital communication tools.

A tree may be used to describe a family genealogy, and likewise, the metaphor of a tree may be used to describe the evolution of digital technologies. Unlike a history which is typically traced using a linear model, such as a timeline, a tree is able to show how different aspects of email branched at a particular point in time (Davis, 2014). The model depicts the emergence of a new tool followed by its propagation. Next, widespread adoption becomes habitual alongside the monetization of the tool for commercial interests. The digital communications tool reaches a point of supersaturation for a variety of reasons, including that other similar and perhaps improved technologies are adopted. Finally, there is an evanescence or a fading away of the medium.

A model somewhat similar to this was proposed in Cannarella and Spechler's (2014) study that used epidemiological modeling to understand the dynamics of SNS. To describe these changing systems, they use a theory known as the SIR (susceptible, infected, recovered) model

of disease. They identified three phases from the adoption of a SNS to infection and finally, its ultimate abandonment. They believe the "infection" gradually wanes as users lose interest and recover after developing a kind of immunity to the continued spread of the social network.

Using the contemporary example of MySpace, a similar genealogy may be traced. According to Wilkinson and Thelwall (2010), MySpace began in 2003 and began to propagate with personal MySpace sites. Over time, it became a site for music promotion and commercialization as advertisers targeted users such that the site became cluttered with ads (Garrahan, 2009; Wilkinson & Thelwall, 2010). MySpace users began to leave the platform for other emerging SNS including Facebook (Garrahan, 2009).

Reflecting on the proposed model and contemporary SNS, Facebook may be considered to be at the point of saturation. Though it remains popular, it may be moving towards evanescence as younger generations move to other SNS (Lenhart, Smith, Anderson, Duggan, & Perrin, 2015). Instagram could be placed at the intersection of propagation and commercialization as it has grown as the second most popular SNS after Facebook (Statistia, 2017). Alongside its popularization, it has become increasingly commercialized and monetized. A recent article noted that Instagram influencers with 50,000 or more followers can earn thousands of dollars per post. One popular couple who document their travels earn up to $9,000 per post (Morrell, 2017). Though it may not have reached the point of supersaturation, we might anticipate that it will eventually reach evanescence as novel tools continue to be developed.

Concluding Thoughts

The future of email continues to be written. For example, as email becomes available on more devices and in more places, our relationship to it continues to evolve. Consider the Apple

Watch. When an email arrives, it delivers a physical tap to the wrist. Even if we turn off the vibration, there may be a temptation to look—the device is right *on* our body, perhaps becoming part of our body. How might human-technology relations evolve as email is more frequently found in our cars or on our fitness devices? How might it be experienced when technology is attached directly to our bodies, such as with e-skin being developed by researchers in Japan so our bodies *become* the device (Santarelli, 2016)?

An examination of historical variations can help to identify ways in which email mediates a world for the user and how this has changed over time. When any technology is created or placed into different settings, there is a certain ambiguity that follows. What a technology was originally designed for may not be what or how the technology is used in the future (Ihde, 1990). The examination of these variations has also led to a proposed model for the evolution of digital communications tools. Further study of existing and future tools may help to confirm or modify this genealogical prototype.

Email has grown over time from a scientific community hack to a digital communication tool that has become commonplace and even overused. Despite the rise in the use of social media and texting, email remains the most heavily used digital communications tool and continues to grow worldwide (Radcati Group, 2016a). The speed, ease of use, and ubiquitousness of email makes it a tool of convenience and one that we rarely pause to consider. Additionally, the multistable nature of any technology means that it appears differently in different contexts and over time can have unintended consequences. Experiences with email can be contradictory—it can bring people together and keep them apart. It can create a freedom from time and place, it can also feel like we are shackled to it. As Ihde (1990) points out, we must be

mindful of whether technology is controlling us or vice versa. Even with an established technology such as email, we must continually ask ourselves if its use is adding to or taking away from our relationships—and ourselves.

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Chapter Four. Availability and the Ethics of Care:

A Phenomenology of Email in Teachers' Lives (Paper II)

I check my email at lunch and see two emails that arrived during the morning from a parent who has developed the habit of emailing me several times a day. The last one says, "You haven't replied to my email and I have noticed that your computer is on all day. Don't you hear it beeping when an email comes in?" I can't email her while I'm teaching students but she doesn't seem to understand this. I wonder if my quick replies have been encouraging her to email more.[2]

Much of today's communication, including within Grades K to 12 settings, has moved to the digital world and its convenience is undeniable. A message can be sent no matter the time or place, provided there is access to a device and a network. To explore this topic, this paper focuses on one digital communications tool, email, and asks, "What is it like for a teacher to receive email outside regular work hours?" Understanding the lived experience of teachers can lend insight into this often taken-for-granted experience.

The opening anecdote suggests one area of difficulty that others outside the school system may not consider—that for a teacher, processing email is a task that typically is done before teaching begins, during designated breaks, or at the end of the teaching day. A teacher typically spends very little time at their desk as they engage with students during the day, unable to address email that accumulates. Using a phenomenology of practice approach, this research

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[2] Anecdotes gathered from study participants are noted in italicized font.

explores experiences of teachers as caring professionals in a digital world.

Background

Email as a medium of communication has become pervasive around the world, with 215.3 billion emails sent each day (Radcati Group, 2016). The proliferation of email and mobile devices bring the demands of complex working lives into our personal lives (Duxbury, Lyons, & Higgins, 2008), and teachers are not immune to this. Messages from colleagues, friends, parents, or students may collect during the day when a teacher may not be able to respond to them.

At first glance, the challenges that teachers may experience answering email outside regular work hours seems like a problem that is simple to remedy. Teachers could simply stop checking email outside regular work hours or if they do see a message, they can decide to defer the reply until the next school day. For some, this solution may be difficult to enact—there is an entanglement of care and a teacher's professional identity. Research exploring teacher identity reveals that caring for students is an important part of what it means to be a teacher (Acker, 1995; Forrester, 2005; Isenbarger & Zembylas, 2006; O'Connor, 2008).

Having a culture of care with a warm environment and positive relationships is important for student learning (Nias, 1999; Noddings, 1992, 1995) and teacher identity has been shown to be closely interrelated with the relationships teachers have with their students (Hebson, Earnshaw, & Marchington, 2007). The more obvious form of care can be described as *in loco parentis* where "teachers have statutory duties of care for pupils that are reinforced by the conditions of their contract of employment" (Forrester, 2005, p. 281). In addition to these legal duties, teachers care about students and demonstrate this through attention to pedagogical relationships (Goldstein & Lake, 2000; Isenbarger & Zembylas, 2006; Nash, 2003). Caring also

involves not only learning but looking after the physical, emotional, and other aspects of student well-being (Forrester, 2005; Goldstein & Lake, 2000; Isenbarger & Zembylas, 2006; Vogt, 2002). Beyond these aspects of care, a teacher's attitude towards their students is often one of love and affection (Forrester, 2005; Nias, 1999) and at times the lines are blurred between the labour and love of teaching (Acker, 1995; Isenbarger & Zembylas, 2006).

These deep feelings of care, however, may also result in stress as caring for students is difficult to turn off at the end of a day (Goldstein & Lake, 2000; Isenbarger & Zembylas, 2006). This strong emotional pull has been described as "care-as-worry" by van Manen (2000, 2002, 2015) where it is a "response to vulnerability in others" (van Manen, 2000, p. 319). So if care for students is a quality of what it means to be a teacher, what does it mean to be a caring professional in an environment where teachers can be available via technology 24 hours a day, seven days a week (24/7)?

Inquiring Phenomenologically

To study the everyday experiences of email in a teacher's life, I use a phenomenological approach. The specific methodology employed is based in a school of philosophy, phenomenology, and pedagogy called "phenomenology of practice" (van Manen, 2014). This well-established approach expresses a preoccupation for understanding lived experiences to cultivate insightful practice. This is different than other methodologies that might attempt to objectify the nature of email by counting the number or kinds of email teachers receive. What this research offers is a way to describe the lived reality of email in a teacher's life through "an experience-based and text-oriented approach to the study of the lifeworld" (Adams & van Manen, 2017, p. 781).

Experiences were collected from interviews as a way to gather experiential accounts and to thereby draw closer to the phenomenon as lived. In this study, interviews focused on the question, "What is it like for a teacher to receive email outside regular work hours?" The researcher guided participants, 24 K-12 teachers, to recall experiences as they were *lived through*, rather than gathering their opinions about email. Questions to help participants recall specific moments included: 1) Can you think of a specific instance when an email arrived after hours? 2) What were you doing and where were you when this happened? 3) Who said what in the email? 4) Can you describe the experience from the "inside," including your mood, feelings, and emotions? 5) What is most vivid about the experience? (van Manen, 2014, pp. 314–316).

Review of the interview transcripts revealed experiential moments that spoke to invariant aspects of using email. Recounted moments were subsequently crafted into anecdotes to serve as possible email experiences and then used as the basis for phenomenological reflection (van Manen, 2014). Two of the main elements of this method involve opposing moves: 1) the epoché, which aims to push away any assumptions, theories, or previous understandings brought to a research question, and 2) the reduction, which is a drawing nearer towards achieving a direct contact with a phenomenon (Adams & van Manen, 2017). What is important about this methodology is that a research question grounded in phenomenological wonder is not a problem for which the research will render an answer but instead becomes an inceptual search for understanding lived experiences (Adams & van Manen, 2017).

The experience of email as an appeal and a response. *I get in the door after school and I see an email from a parent that has just one sentence, "How was Liam's day?" He is on some new medication that the doctors are trying to regulate, so we email almost every evening. I send*

a quick response that he had a really good day and she responds while I am still looking at my phone. I open up her new email and it's just a happy face. I'm glad that we can share information quickly so he can get back on an even keel again.

Email can help teachers and parents gain insight into a student's world at home and in the classroom. Communication can be sent in almost real time and not be reliant on being able to find a particular time to talk on the phone or in person. Even though this teacher had just arrived home and may have had their own family to attend to, they made themselves available to the parent. Though the exchange was brief, there was more than just information shared—there was also care. We can imagine the parent's relief in hearing that their child had a good day at school and the immediate knowledge that the medication seemed to be working as intended.

If the teacher was unavailable at that moment, the parent might have wondered or worried about their child: Were they able to engage with others today? Were they able to learn? Were they comfortable? Were they happy? Of course, the parent could have asked such questions of a child, but the child may not have been able to offer an objective assessment. The teacher might have felt a sense of satisfaction that the email not only put the parent at ease but that the ongoing communication was helping to regulate a student who needed support.

Perhaps such rapid appeals and responses can be likened to the Greek God, Hermes. Known as the messenger of the gods, Hermes is often depicted with a winged hat and sandals to underscore the swiftness of his deliveries (Bulfinch, 1959). Messages were sent between the heavens and the earth, perhaps similar to the travel of email messages through cyberspace. Likewise, quick email messages can convey important information about the well-being of a child.

In this moment, the teacher made themselves available to the parent in support of the child. This kind of availability is more than our typical conception of availability—that something or someone has the capacity of being used ("Availability", 1993). For example, if I see a seat on a bus that is available, it is ready as a place for me to sit. If I encounter a friendly shopkeeper, they are available to help me find an item in the store. French philosopher Gabriel Marcel discusses availability in many of his works and uses the word, *disponibilité*. As with all texts that undergo translation, the word *availability* does not fully capture what Marcel means by *disponibilité*. For him, availability is not limited to being accessible, but rather can be described as an attitude (McCown, 1978). A useful image to understand availability is proposed by Marcel scholar, Joe McCown (1978). He suggests Marcel's availability is like an open door. He proposes that the gesture of opening a door is a positive action that presumes directionality towards the other. So for Marcel, the attitude of availability is an opening of ourselves to another.

Marcel (1950/1964) offers examples of availability as appeals and responses which are active, not passive. He suggests that, for example, bringing a person into our home is not only a welcoming into a physical place but to ourselves. In the anecdote above, the gesture of opening email was also a welcoming of the parent and concern for the child into the teacher's home, even though the exchange was brief and the parent didn't physically enter the teacher's house. Marcel (1951/1970) suggests that in being available, we are committing ourselves to being at the disposal of the other. He further states that "this pledge affects not only *what I have* but also *what I am*" [emphasis in original] (p. 87). Being at the disposal of others may be linked to teacher identity as teachers care for the well-being of children and their families.

We may wonder, however, about the impacts on a teacher of being reachable by email if the teacher's availability is given every night, every weekend, or during vacations. What would it be like if a parent came over each night and knocked on the door of a teacher's home? Or what would it be like to receive a telephone call every day during a vacation? Email may be considered to be less intrusive since there is the assumption that responding is optional, which it may be. Appeals that speak to a student need may be difficult for a teacher to ignore, however, because of the caring they feel for their students and availability that make take a toll.

The call of email as moment of deciding to whom to be available. *I hear my phone sound an alert while I am eating lunch in the staff room and I know from the sound that an email has arrived. I want to look and it is hard not to. I have promised myself to only look at email before school starts and after classes are done so I can be in the halls, in classrooms, and present for colleagues and students. It takes real effort to not look to see what the message is, but I am determined not to. I am frustrated that this means that most of my emailing now is deferred until the evening, but that's the choice I have to make. I've told my colleagues that if they really need me during the day they have to come and see me or call me because I don't always look at email right away.*

The staff room is a place where teachers reunite. There is a gathering together to talk about the day's events or perhaps a way to connect with colleagues on a personal level. It may be like gathering around the kitchen table where family members meet at the end of a day to be in each other's presence. Whether at a staff room table or a kitchen table, an email alert may be an intruder into this intimate space. If a teacher engages with the message, they may no longer be available to those around them, thus changing the staffroom from a place to commune with

colleagues to being a place where teachers are drawn back into classroom or other concerns.

The notion of availability for Marcel (1950/1964) is intertwined with the body. The direction we point our body and the way we turn our faces may indicate that we are available to the other. For example, when we meet with someone and begin a conversation, we may turn our body and face toward them. Our gaze may help us to listen more carefully as we watch for body language that may help us understand what others are attempting to articulate. Our presence as well as the gesture of turning to the other is a gift that can be given and received. But what does it mean to be available or unavailable in a digital world when we may not be able to experience such subtle gestures of invitation?

When we receive a text-based message digitally, we cannot see the face of the other nor turn physically toward them. Of course, we turn toward the screen where the message is contained and perhaps even conjure up an image of the sender. We can read and decide to respond immediately. A return email answer can indicate that we have made ourselves available to the appeal of the other. Alternately, we can receive a message from someone and choose not to respond, making ourselves unavailable to the sender in the moment.

The sound of such an incoming message may be a moment of deciding whether to be available to the sender of the message or not. If a teacher checks for a message while in the physical presence of others, they may be unavailable in that moment to those around them. It may be as if a student or parent came to the staff room door and pulled the teacher away from their colleagues. The teacher would not be available until they returned to the staff room. In such moments, the teacher must decide to whom they will be available—to the people around them or to the other who is summoning them through their device.

Relational norms in a digital age have changed and have seen and unseen effects. One study by Misra, Cheng, Genevie, and Yuan (2014) found that availability may be impacted not only by the use of technological devices, but by their mere presence. Researchers studied conversations that took place where a phone was held or placed on a table, but never touched, versus those where phones were not visible. When a mobile device was observable, conversation quality was rated as significantly less fulfilling than when a device was not present. Conversely, when mobile devices were not visible, conversation quality was rated "significantly superior" even when the effects of age, gender, ethnicity, and mood were accounted for. The researchers posit that people may be less willing to engage in an in-depth topic if they believe the other person may be interrupted in the middle of revealing something important or personal (Misra et al., 2014). In the anecdote above, the teacher made a choice to make themselves available to those in the staff room and purposefully excluded the possibility of being available digitally in that moment. Perhaps a signal of availability to people in our physical presence begins with putting mobile devices out of sight.

Email as a moment of being available and yet unavailable. *I am sitting in my living room on the couch in front of the fireplace, laptop on my lap, doing my school email. My husband comes and sits beside me and turns on the baseball game. I notice an email from a student who needs to meet with me when my husband starts chatting. I think, "Please don't talk to me. I can't talk to you and think of what I need to write at the same time!"*

We might think of a living room as an intimate place. A couple sits together in front of a fireplace at the end of a long day. The space lends itself to conversation, or perhaps just being physically close while doing something else like watching a movie together. The couple may be

available to one another by their physical presence and the potential for interaction and conversation. Introducing a laptop into this setting also makes the teacher available to students, parents, staff, and others.

In this situation, when the husband begins to talk, the teacher feels conflicted between wanting to be present for their partner and wanting to be available for the student who needs help. Now, the space of the couch has become more than just a place of togetherness for the couple—the gesture of opening email has invited others to join. It would be peculiar to think of this particular occurrence happening without the use of technology. A teacher would not invite a student into their home during the evening and encourage them to sit between them and their partner to ask a question. Or perhaps in this moment, the teacher only partially listens to their partner and partially attends to the student's request.

The tension surrounding availability in the world of the digital is quite starkly illustrated in the collection entitled "Removed" by American photographer Eric Pickersgill (2016). The inspiration for his collection came when he was sitting in a café and noticed a family sitting at a table nearby. A father and two daughters were engrossed in their phones while the mother stared out the window. He noted that periodically the father would talk about something he had found on his phone but no one responded or interacted with one another. After a period of time, the mother also took her phone out and all four sat at the table without talking (Pickersgill, 2016).

Pickersgill (2016) began to observe similar moments in public places and in his own world. He noted the posture of phone-holders and the focus on the palm of their hands. He began shooting portraits representing everyday scenes of people using their devices. During the sessions, he had participants assume a typical position of smartphone use and then had them hold

their posture while he removed the device. Removed does not only refer to the taking away of devices from the hands of subjects but also to the distancing of people from one another. The word "removed" comes from the root "meue", which means "to push away" ("Removed," 2017). In his pictures, the absence of the device emphasizes the ways that we may be distancing ourselves from others.

Figure 5. Pickersgill, E. (2014). Lindsay and Louis, 2014 ©Eric Pickersgill, 2017/Courtesy of Rick Wester Fine Art, NY.

In Figure 5 the woman is engrossed in her device while sitting on the couch with a person who we may assume to be her partner. They are in the same room and even sharing the same piece of furniture in what might be considered an intimate position. Though their bodies are touching one another, the woman does not seem to be available to her partner in that moment. The man peers over her leg toward the mobile device, perhaps attempting to understand exactly

where his partner might be. Is she reading a message directed towards her from an email or social media messaging? Is she researching a trip that they might take together or shopping online? In any case, she is not fully available to him in that moment.

Such an experience might have happened even long ago when partners were together in a room but occupied in their own worlds, perhaps while reading a book or composing a letter. Dutch painter Gabriel Metsu's painting entitled "The Letter Writer Surprised" (Figure 6) depicts such a moment. A woman is engrossed in writing and, similar to Pickersgill's photo, a man is trying to peer over her shoulder to see what she is composing. The space of her desk has become a place where she is engaging with the other to whom she is writing. The woman may be caught up in her thoughts, perhaps making her unavailable.

Figure 6. Metsu (1629–1667). The Letter Writer Surprised ©The Wallace Collection.

With digital devices, the difference is that we can become pulled towards not only one

addressee, but many different people and situations within a few moments. We can be reading an email, clicking links, and jumping between tasks and people all at the same time, making ourselves available to many people and tasks while still occupying the same physical space. This quick switching between people, places, and things was not possible during the time of Metsu's painting. So though the notion of being available and yet unavailable is not new, it is magnified and more of an everyday experience than it once was.

So in a moment such as the one described by this participant, the directionality of availability is toward the email sender. When a teacher's identity is entangled with care and concern for students, it may be difficult to leave a message from a pupil unanswered. In reading the request for help, the teacher created room for the student in their home. In this instance, the teacher may have been available for the student and yet unavailable to their loved ones.

Email as a moment of deciding to be unavailable. *I am travelling from school late Friday night and I can hear email beeping on my phone on the drive home. I am really tired after a long week. The district gave me this phone and sometimes I feel like I'm supposed to be reachable all the time, but I think, "No. They don't get me this weekend".*

A different way to explore the meaning of availability or *disponibilité* is to explore its opposite, *indisponibilité*, or unavailability. Marcel (1984) describes unavailability as a kind of alienation or a lack of feeling for the other. Unavailability is seen to be different than mere absence, since unavailability may happen even while two people are in each other's presence. Marcel further suggests that unavailability may be a result of being occupied with self-interests. He suggests, for example, if we know of a person who experiences misfortune, we may understand that we should feel sympathetic, but in fact, we really feel nothing at all. In this case,

the other is merely an example of someone who is unfortunate, rather than an individual for whom we feel responsibility (Marcel, 1984).

In the example described above, the teacher has chosen not to check for messages at all, sensing that time is required to rest after a busy week. Does this lack of response mean the teacher is unavailable? Marcel's (1984) conception of unavailability implies a kind of alienation. In this case, the teacher is not necessarily estranged from students, parents, or colleagues, but recognizes that a break is needed from the constant call of electronic communication. The teacher may still ruminate on students or school issues as they go about their weekend or while they are planning lessons for the next week while never touching their device. The lack of a return email may not necessarily mean that a teacher has not already admitted the presence of the other and indeed may still be available for students, parents, and colleagues as they think about students during the weekend or while they engage in activities such as marking or planning.

The pinging of a device can be like a doorbell ringing. Is anybody home? Is anyone there? There may be instances where we choose not to answer a doorbell. We may be occupied such that we cannot get to the door. Or we may be ill and determine that we do not feel well enough to let someone in. In this example, the teacher may have been overwhelmed with the demands of work and perhaps felt that they needed time without work matters to recharge. Complicating the decision of whether or not to respond was the fact that the school jurisdiction issued a phone and there may have been a feeling of responsibility to be on call. This pressure has been noted by those studying workload for school administrators, in particular, who often feel they must be available at all times (Pollock, 2016).

Email as a moment of suddenly feeling alone. *I decide to head to the staff room for a*

break and get some advice about a situation with a student. No one is there. Still, my phone keeps pinging with email from colleagues who I know are only a few steps away. I wish they would just come and talk to me instead of emailing.

Teaching is different than other professions where it may be easy to collaborate with colleagues during the day. A teacher may feel isolation at times since work with groups of students in individual classrooms comprises most of their day (Flinders, 1988; Ostovar-Nameghi & Sheikhahmadi, 2016). The time to seek advice is often limited to before or after classes or during designated breaks. This anecdote reflects a new reality in that the increase of digital communication means that teachers may choose to stay in their classrooms to catch up on electronic messages rather than engage in dialogue with their colleagues.

One of the places where people in a school typically gather is in a staff room. Stories and resources may be shared informally in this place of respite and intimacy. What happens when a teacher encounters an empty staffroom in a moment such as this? Besides the empty chairs and perhaps an empty coffee pot, a teacher may feel disappointment that colleagues are unavailable to them. There may also be a sense of loss of the togetherness that typically happens in a place such as this. Email's ability to connect people across distance and time can paradoxically and simultaneously create a feeling of disconnection.

Heidegger (1971) describes a "thing" as a "gathering" (p. 174) or, in other words, things, such as technologies, can impact human interactions. Albert Borgmann (1984) illustrates this point by using the example of a hearth as a thing that used to gather people in both responsibilities and conversation. With the invention of central heating in homes, a hearth is no longer a central place for coming together. Perhaps it used to be that the promise of a cup of

coffee or a table around which to eat lunch together were things that created a gathering in a staff room. Digital communications such as email create different points of gathering. This happens most frequently with each person, alone on their device. Teachers may now be choosing to stay in their classrooms in order to deal with the barrage of messages instead of taking a break to rest and reconnect with colleagues. Gathering in a staff room may be replaced by huddling over individual devices.

Teaching has an ethic of care—not just for students but also for colleagues. Part of what brings people together is conversation. Some may argue that email may also become a conversation, though not as rich as when people are together in the same room. A conversation is more than a mere exchange of words; it is also the felt presence of the other. Words on a screen may create a sense of caring and availability, but we may not be able to sense other things that may be unspoken. Unspoken things could be noticing that a colleague looks more tired than usual or there is a certain tone to the conversation that may feel different. When we look at another person, we also see their face (Levinas, 1961/1969) and therefore in a face-to-face conversation we *see* each other in a way that is not possible in email.

Email may also supplant face-to-face conversations that may have occurred in hallways, during lunchtime, or breaks. If the medium is the message (McLuhan & Fiore, 1967), then what message might email send? Could it convey a sense that we are too busy for face-to-face conversations or we would prefer not to engage others in an in-person dialogue? Sherry Turkle (2011) relates a story about a professor who describes feeling so pressured for time that she will make appointments by email but does not pick up the phone to call the person with whom she needs to meet. Organizing her time in this way makes her feel that she has "taken care of that

person" or that she has "crossed someone off a to-do list" (p. 189). Turkle observes, "This is where technology has brought them. They subscribe to a new etiquette, claiming the need for efficiency in a realm where efficiency is costly" (p. 189). So for a teacher, the quest for staying current with email, and perhaps having a sense of efficiency, may render them unavailable to colleagues.

Email as a moment of intimacy and communion. *I have been working with a student on getting her university application together and I see an email in the evening from her. It has one line and says, "That's exactly what I needed. A little push." I'm happy to hear her say this because she doesn't have any support from her parents and I'm glad I was able to help her. We email back and forth a bit and it's playful banter—almost like text messaging. I don't know if she could have revealed her feelings face-to-face but I'm glad she could tell me in an email.*

Marcel (1950) describes an aspect of availability that he calls *communion* which is a kind of surrendering to the other. A moment of communion between two people is something so intimate as to be a kind of spiritual connection. When a student shares their feelings with their teacher, it may be experienced as a moment of pedagogical intimacy. Email messages may become almost like text messages and may be experienced as a sense of closeness. While both people are focused on their email at the same time, short messages go back-and-forth, devoid of greetings, closings, and other formalities. Playful banter may occur in almost real time. In the example above, repartee took place between a teacher and a student who had developed a close and trusting relationship. The informal back-and-forth may not happen between two people who do not have the same level of familiarity.

Teaching is a relational endeavour. Without the relationship between teacher and

student, teaching could not exist. A teacher endeavors to hear what each child is saying and even more so, be able to understand what may be unspoken. A teacher may be able to sense when a child has not had enough sleep or has not eaten. One glance at a student walking in the classroom door might be enough to see whether or not a child has had necessary medication that day. To be open to such relationships, a teacher makes themselves available and moments of revealing may occur.

Van Manen (2015) describes intimacy as "when one person shares a unique aspect of his or her interiority with another" (p. 178). In the anecdote above the teacher experiences the student as a unique individual through a relationship that has been built over time. It may be that this student had placed a claim on the teacher and the teacher felt "'called' by the child's vulnerability, or by the child's need for our self-forgetful attentiveness" (van Manen, 2015, p. 121). Marcel (1950/1964) describes such moments as communion where "a felt unity . . . takes shape" between two people (p. 37). In this instance, the teacher had become sensitive to the child's needs and understood the need for support and encouragement. Even more than just concern, there was a sense of caring and fellowship that had developed where both the student and teacher *saw* each other.

We may wonder if there is a difference between intimacy in face-to-face encounters and similar exchanges via digital technologies. Van Manen (2015) notes:

> Textual intimacy may benefit from a certain reflectiveness regarding my thoughts that would not be likely when we are in the immediate presence of the other. In writing to the other I can weigh my words, taste their tonalities, feel their evocations with a subtlety and a sense of emotional intimacy that face-to-face contact would not achieve precisely

> because of the pathic power of the linguistic intimacy of written textual contact. The conversational nature of writing may sometimes draw the person closer to the point toward, which the conversation is oriented. (p. 177)

In this anecdote, there was a revealing by the student. The student may not have been able to meet the teacher's gaze in person as she expressed her gratitude, perhaps finding it difficult to reveal her own vulnerabilities and even to see the teacher's love and care reflected back. There was a moment of communion via a digital medium.

Concluding Thoughts

Caring is part of what it means to be a teacher, whether it takes place within a classroom or extends to online interactions. In this research, I asked what it is like for a teacher to receive email outside regular work hours. Part of exploring this question was understanding that for teachers, the majority of email is not received until the teaching day is done. The experiential moments shared by teachers highlight the benefits and challenges of being available through digital communications technologies. Stories presented suggest that, at times, email can provide an additional means with which to build and maintain pedagogical relationships. In other cases, email may be experienced as a relentless demand for a teacher's time.

Some experiences that were related were specific to teaching, but others extend to other professionals. For example, colleagues who communicate via email rather than connecting in person may be more universal. Also, the experience of the teacher at home with their partner while being immersed in work matters is an experience so recognizable that Pickersgill (2016) created a collection of photographs that depict this modern concern.

Whether experiences involve teachers or other professionals, it is important to be

thoughtful users of technology, rather than letting technology use us. We may want to set boundaries around the times we will be available in order to be present for our loved ones and have time to be self-reflective. As more and more communication takes place through technological tools, we must continue to be mindful of our availability in a hyper-connected world.

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Chapter Five. Instructional Leader or Emailer-in-Chief?

The "Always On" School Administrator (Paper III)

I'm waiting for an appointment after school and mindlessly scroll through my email. Maybe I can get through a few while I'm waiting. An email has been forwarded to me by a teacher. A parent in her classroom is very upset about an interaction with her child and the child thinks that the teacher is needlessly picking on him. The teacher has written quite a lengthy explanation at the top of the forwarded message and I can tell she is upset. I email her back quickly and remind her, "Please don't email this parent back. This is definitely a conversation that needs to happen in person or on the phone. Let's talk tomorrow so we can make a plan." I hope that's enough to ease her mind a little bit.

This opening anecdote illustrates one experience of an administrator who engaged with school concerns in an unusual setting. Whereas at an earlier time they may have been waiting for their appointment while flipping through an old magazine or reflecting on their day, now they are thrust into the situation of coaching a teacher through a difficult situation via email. School leaders have always had the unique responsibility of caring for everyone within a school community including all students, staff, and parents. This research focuses on how digital communications may be reshaping the responsibilities of those who lead today's schools and focuses on email as a critical example.

Email has become so ingrained in our lives that reading and responding may be a task we perform mindlessly many times throughout the day. For a school administrator, some messages can be urgent, such as the unplanned absence of a staff member or a pressing matter with a student. There may also be messages such as the anecdote at the beginning of this chapter from

teachers, parents, or students who need help with a particular situation. Mixed in with urgent and important requests can be junk mail and other items that can wait until the administrator arrives at the school building. We may wonder about the impact of email on a school administrator who feels they must constantly check digital communications.

More traditional conceptions of school administrators used to view school leaders as managers. Principals were viewed as focusing on running the school similar to a business—organizing, coordinating, making decisions, and human relations (Bossert, Rowan, & Lee, 1982). Today's school administrator is much more than a manager of a school. They are instructional leaders, key in determining success for students by creating a climate of safety, innovation, learning, and achievement (DiPaola & Tschannen-Moran, 2004; Ediger, 2004; Halawah, 2005; Hallinger, 2003). There have been many studies in the last few decades that discuss the importance of administrators in improving outcomes for students, but far fewer that discuss what this means for leaders in a climate of increasing accountability, greater complexity, and digital communication (Pollock, Wang, & Cameron Hauseman, 2015; West, Peck, & Reitzug, 2010).

Administrators perceive that their role is increasingly under stress because of the many demands placed upon them (Goodwin & Cunningham, 2003). Recent studies have found that to meet these many demands, administrators are working longer hours and doing different kinds of work (Alberta Teachers' Association, 2014a, 2014b). It is not surprising that the stress of being a school leader has increased alongside a corresponding lack of staff aspiring to these roles. "People are reluctant to aspire to a position that sounds impossible to perform" (DiPaola & Tschannen-Moran, 2004, p. 46). Understanding factors that lead to pressure and overload, therefore, is of critical importance.

A notable influence on the rise of such stress is the use of digital communications. The "always on" nature of technology tools, including email, has affected how administrators communicate with the school community (Haughey, 2006; Pollock, 2016; Pollock, Wang, & Cameron Hauseman, 2015; West, Peck, & Reitzug, 2010). A study of principals in Ontario, Canada by Pollock (2016) found that some of the feeling of obligation to respond to electronic messages arose because central office paid for and issued smartphones to their administrators with an unspoken expectation that they were "on call" (p. 63). Pollock says further that technology:

> has blurred the work and home boundary to the point that as long as there is an internet connection and a 'smart' device, administrators can potentially work from anywhere at any time. More than this, though, there is an expectation that they do so. (p. 65)

For other workers who are required to be on call, there is generally some form of financial compensation alongside a recognition that being available 24/7 has negative impacts on health and well-being (Nicol & Botterill, 2004). Such considerations may not be given to school leaders.

There are a limited number of studies that specifically examine email in the life of a school administrator, though the topic of email has arisen during other studies of the principalship. In one study examining workload, 54% of principals indicated that the use of email made communication easier while, paradoxically perhaps, in the same study, 59% of respondents said that technology had increased their workload (Pollock, 2016). Other studies mention email as one of the pressures in an increasingly complex role (Alberta Teachers' Association, 2014a; DiPaola & Tschannen-Moran, 2004; Haughey, 2006; Leithwood & Azah,

2014). A recent national study done in Canada investigated both email and instant messaging use by school principals (Lanctôt & Duxbury, 2017). It was found that principals spend an average of 17 hours per week on email, which was approximately one-third of their working hours. A majority of those surveyed (60%) reported high levels of perceived email overload served as a predictor of absenteeism, stress, and potential job turnover (Lanctôt & Duxbury, 2017).

There are a limited number of studies that focus specifically on school administrators and email. Diokno (2015) researched email's impact on leaders in elementary and secondary schools in Arizona. It was found that school leaders consider email an essential tool for communication, spending between one and two hours per day on email. Two-thirds of participants reported that they checked email on three devices: work computers, home-based devices, and mobile devices. The greatest volume of email was received from staff, followed by district personnel, and finally, families and students.

A second study looked at the impact of email on the relationships of high school principals and teachers in Michigan (Berthiaume, 2015). Principals noted that when they were out of the building, email volume increased. Participants felt that reading and responding to email took time away from other responsibilities such as instructional support, supervision, and evaluation. Principals were very aware of the potential for content or tone to be misunderstood and thought of email as only one part of a communication process. They also used email as a way to broadcast information to staff, such as an outline of the upcoming week, which teachers received favorably. Another frequently stated reason for using email was that it could provide a documentation trail should an issue be raised in the future. The impacts of email in the life of K-

12 school administrators is under-researched and an area that requires further study.

A Phenomenological Inquiry

As a phenomenological inquiry, this research examined teachers' experiences of email outside regular work hours. This study took place in Alberta, Canada, where administrators are also certificated teachers and therefore, out of 24 participants 10 in the study also had administrative roles. Once phenomenological interviews took place and data began to be analyzed, it was apparent that there were experiences of email for administrators that were different than the experiences of teachers and therefore this paper examines the lived experience of email from the perspective of a school leader.

Phenomenology is a qualitative research approach that studies "how things are given, or present themselves to us in prereflective or lived experience" (van Manen & van Manen, 2014, p. 610). Specifically, this study uses a "phenomenology of practice," an approach developed by Max van Manen (2014). It combines philosophical methods found in traditional phenomenology along with human science and philological methods. It is particularly adept at developing sensitivity towards professional issues and has become increasingly used to research professions of care such as medicine and education (Dowling, 2007). As within continental philosophy, this branch of phenomenology explores everyday human experiences before they can be reflected upon, externalized or rationalized (van Manen, 2014). It is a practical methodology for exploring the lived experience of individuals in order to gain insight into a phenomenon.

To learn about the experience of email, interviews were conducted. Participants were asked to describe particular email encounters as they were lived through—how the moment began, what specifically happened, their mood, and what sensations were experienced.

Interviews were transcribed and examined for lived experience descriptions (LEDs) or instances of receiving email as it was lived, moment-by-moment. LEDs were crafted into anecdotes which are short narratives reflecting different aspects of the experience. Themes arose from reflections and provided insight into what it was like for administrators to engage with email outside regular work hours. This paper will proceed by outlining email moments via anecdotes as described by school administrators. Each anecdote is followed by phenomenological reflections regarding each experience. The paper will conclude with considerations and further questions that emerge from the research.

Email as a moment of information exchange. *I see an email early in the morning from the chairperson of our school council. She has started the agenda for our next meeting. I have a quick look and add a couple of items. I'm glad we were able to do this over email rather than having to set up a meeting because I have no time this week.*

On the one hand, email can be experienced as a quick exchange of information which may be helpful for a busy administrator. Since messages are asynchronous, they can arrive at any time and may be experienced as a support to getting a day or a week organized. Administrators must stay in touch with many groups—students, parents, staff, central office, government officials, and community members, to name a few. Rather than designating time for a meeting or a telephone call, information can be passed along through email, thereby creating a feeling of efficiency. If the nature of the email is straightforward, this may indeed be an effective way to communicate. An email experience such as this may be like exchanging telephone numbers with an acquaintance or business associate. A phone number is an important piece of information but there may not be anything that needs to be done with it in the moment.

It is simply filed away to be used at a later time.

On the other hand, we may wonder if nuances may be lost with a medium that is devoid of tone and body language. All text appears similar and therefore all of the items on the agenda appear with the same importance. Without a face-to-face conversation, there may not be the opportunity to hear a hesitation in the parent's voice about an item for discussion or understand necessary background information. Though email may be thought of in some cases as transactional, they are not always as straightforward as they may seem because of the limitations of text-based tools.

Email as a moment of intervention. *I'm at my kitchen table and I see an early morning email from one of my teachers. She is quite distressed about a message she received from a parent who seems to have unreasonable expectations. This isn't the first such email and the aggressive tone seems to be escalating. I write, "Please don't respond to this email because I will call her to set up a time when we can all meet." I wonder if that parent would say those things to the teacher in person.*

A teacher may forward an email when they are unclear about how to handle a situation as a way to ask for support or guidance. One of the benefits and difficulties with email is that it may provide a screen for the sender. A sender may write things in an email that they may not otherwise say in person, whether positive or negative. Unlike a face-to-face or telephone conversation, the recipient cannot stop and ask for clarification or halt the dialogue. Instead, the message is delivered as a whole, in this case leaving the recipient to read a message they perceive to be angry without an opportunity to ask questions and more fully understand the situation.

Here, the administrator instructed the teacher to not respond in the moment but to wait until a face-to-face meeting could be arranged. Wanting to avoid having the situation escalate, this experience was a moment of deciding to intervene. The school administrator is a leader in the school for students, parents, and teachers. The word lead comes from lædan, an old English term that means "to go before as a guide, accompany and show the way" ("Lead," 1993). As the instructional leader, the administrator determined it important to guide the way through a difficult situation.

A moment like this may be similar to encountering an argument between two people. At times stepping in between and separating them allows cooler heads to prevail. Because of the speed and immediacy of email, an administrator may realize it could be tempting for a teacher to compose an impulsive email in return. If a hasty reply is sent it may worsen an already tense situation. Perhaps a new role for today's administrator is to coach teachers about how to handle digital communication.

Email as a moment of feeling caught in the middle. *I see an email late in the evening that appears to be an exchange that has been taking place between two colleagues and there is an issue with a course they are both teaching. I have been carbon copied (cc-ed) on this latest message and now I'm not sure what to do with it. Is this just for information? Is there something that I should be doing? I feel like I'm in the middle now.*

Email may reveal conflicts, not only between teachers and parents but between staff members as well. Messages may be copied to an administrator and this may occur in the middle of an email "conversation" between two people, in this case, teachers. When this kind of email arrives outside regular work hours, an administrator may be unsure about what to do if it is not

specified. The email could be pointing to a problem in which a teacher may want the administrator to become involved, or it could be a documentation trail to keep an administrator informed of a situation that is evolving.

This experience may be like when we step midway into a tense conversation between two people. There may be uneasiness in not knowing what has *happened* before or what was *said* between the two people beforehand. There may be a sense that we have intruded into a tense and personal space. There may be little context to understand what is being said and so there are subsequent choices to be made. Do we attempt to understand the context and weigh into the discussion or do we make a hasty exit?

Using digital communication in a case such as this may pose a similar dilemma. Does the administrator exit the conversation by not engaging in it or do they reply? With an email such as this, the administrator was privy to a situation whose origins may have been unclear and any follow up remained undefined. It may have created a sense of discomfort knowing that there was an issue between two colleagues. The administrator may have wondered or worried until they had an opportunity to meet with the teachers. If all parties had this conversation face-to-face, there may have been an opportunity to come to a mutually agreed upon solution. In an email exchange, it is difficult to mediate a situation and help to resolve it, potentially leaving all parties feeling unsettled or even upset during the evening.

Email as a sorting through an endless rabble of voices. *It's Friday after work and I have a look through my email to see what I can clear off before the weekend starts. I notice a flurry of email from various senders that include announcements, professional development sessions, and memos from government officials. I wish people would be a bit more selective*

about what they send. I feel like the gatekeeper for everything.

Email may be experienced by an administrator as a delegation of tasks from other people. It may even follow a pattern, such as when others may be trying to sort through their own inboxes at the end of a day or a week. In this way, email is sent to a school leader who may serve as a gatekeeper. Administrators may receive email from many different sources including students, staff, parents, other senior-level administrators, and professional development providers. Email addresses are frequently posted to school web pages, giving anyone access to school leaders, whereas few would have an administrator's home phone number. People may think that it is quickest or easiest to simply email the head of a school but this may create an unmanageable volume of messages for the administrator. For an administrator, it may be like standing in the middle of a room with many people shouting for attention and being unclear about what needs to be attended to first.

A school leader may become the gatekeeper who receives and sorts messages from many different sources. In Nordic mythology, Heimdall is the gatekeeper to the Norse world. It is said that he was so gifted that he needed less sleep than a bird, could see for hundreds of kilometers and had hearing so acute that he could hear the grass grow (Merriam-Webster, 2005). The school administrator may seemingly need superpowers to be able to manage the messages coming from multiple sources. Email programs have been designed to filter out spam so that users are dealing with fewer messages that are commercial in nature, but there are no reliable programs to help an administrator understand what should be dealt with first. There may even be an assumption that the administrator is the best person to deal with many inquiries; however, there is a limit to what one person is able to process while still being able to perform the other

functions of their role.

Email as an experience of transcendent time. *6:15 a.m. I get a cup of coffee, sit down at the kitchen table, and review my email. I go through my messages that have accumulated overnight because if I don't, I won't have a chance to see what is there before the end of the day. I see an email from a parent that I met with yesterday so I look to see what she is emailing about. Her daughter has been having some issues with other students and we are working to resolve the problem. Her email is long— it must be two pages— and she has thought of additional things to tell me following our meeting. She has some actions she would like me to attend to today. I hesitate for a moment because I don't like to respond to such complex issues in an email but I want her to know that I will be looking into the situation today. I respond with a few items and tell her I will call her later. I look up at the clock again and it's 6:45 a.m. Oh no. I only have a few minutes left to go through the 33 new messages that have arrived since last night before I have to leave for school.*

Checking email has become a routine activity in many people's lives. The practice of sitting down with a cup of coffee and opening email is perhaps as normal as brushing our teeth or combing our hair. Yet this routine experience is also without routine—exceeding the time that we might allot to it or at other times coming up empty. Clearly, there are mornings when we may check our email only to find it empty or void of meaningful messages. Other times, we may be overwhelmed by all too important email messages needing responses. Perhaps the only routine we have is checking the email because to read or respond to email is not unlike receiving mail itself. It can also exceed or diminish our expectations. And so we may wonder, is there a time of email or does emailing in some way transcend time?

When a complicated situation is encountered in an email, an administrator may search for just the right words or perhaps read and rewrite several drafts in an attempt to communicate clearly. In this example, the administrator may have been swept away by the concern raised in the email and in deciding how best to respond. In an instance such as this, it may feel that it has taken only a short time to read through and reply to an email but more time may have elapsed than was anticipated or even experienced—a moment of fleeting time.

A moment such as this is different than other experiences we may have of fleeting time. When we are engaged in an interesting conversation or an enjoyable activity, we may glance at a clock and realize that much more time has elapsed than we had thought. "Time flies when you are having fun" is a common expression that can describe this experience. We do not typically think of composing a difficult email as pleasant but nevertheless, intent focus on a task such responding to email may take more time than is anticipated or felt. It may also foreshadow an issue that may take up a significant portion of time in the administrator's school day that is yet to begin.

For an administrator, engaging with email in their home before their workday might be the only uninterrupted time they have. Email volume may be such that it may be impossible to get to all messages during the school day and the best time to get a head start may be in the morning, perhaps even before they arrive at school. Such email sessions may trigger a list of tasks that are added to the day's work that is yet to come.

Email as a moment of feeling overloaded. *Things are quieting down after school, most of the staff have left, and I finally have a chance to look at my email. I don't like to spend too much time in my office because it's important to be out with the students and teachers, but it*

comes at a price and I am dreading it. I see 50 new emails in my inbox and I immediately feel a huge weight. I scan through the list and some are easy. Soliciting—delete. Information for a particular department—forward. But I have to look at every one in case I miss something important. I start making notes of what I need to do for the messages that require action. It looks like I am going to have another half day's work just to deal with all of the email that has arrived while I was doing what I think is my real work.

In this example, the job of responding to email was relegated to the end of a long day and it may have taken a great deal of time to decide what to do with the backlog of email that had collected, perhaps while the administrator had been available to staff and students in the school building. There may be an assumption by parents or others that an administrator spends the majority of their time in their office during the day, but that often is not the case. One study found that administrators spent 54% of their time during the school day in their own office, however, that was inclusive of using the space for meetings with others, not simply as a time to complete administrative tasks (Horng, Klasik, & Loeb, 2010).

An administrator may scan through a list of email, perhaps searching for what should be dealt with first. Doing large volumes of email in this way was described by one participant as "triage." What can be deleted? What must be dealt with immediately? What should be deferred? "Triage" derives from a French word that means "to sort" or "pick" ("Triage," 1993). It was first used in World War I as a way to sort wounded people according to the severity of their injuries (Radcati Group, 2017). The administrator must choose which email is going to be the most important and then remember to deal with others at a later time, which may cause a sense of stress as they attempt not to forget a task. Could the notion of doing email as triage be

because a large amount of incoming email can feel like an assault? Indeed, one participant described email as a battle that can't be won.

In today's complex schools, an administrator may feel that they must choose between doing email and being available and visible during the day. If they choose to be physically present with people in the building, they may not have the opportunity to process email until after the school day is done. There may be a feeling of dread in anticipation of a full inbox that is waiting. The first glance at a long list of unprocessed email may create a sense of being weighed down or drowning in a sea of email. An administrator may find some messages quicker to deal with than others, but may also be afraid to delete too quickly, in case something important might have been added to a forwarded message or if a message could be time-sensitive.

Email may add to the sense that administrators are bogged down and carrying the weight of school concerns on their shoulders. In Greek mythology, Atlas rebelled against his father and brother and fought against the Olympians. As punishment, Zeus condemned him to hold up the heavens on his shoulders (Bulfinch, 1959). In modern art, Atlas is often depicted as having the world on his shoulders, even though this departs from the myth. Nevertheless, the image of a person lifting and balancing a heavy world on their shoulders may be an apt description of how the volume of work may weigh on administrators, with email now being a large part of what they must balance.

Email as a moment of interrupted sleep. *I wake up in the middle of the night after restlessly sleeping for a while. The first thought I have is the email I received from an irate parent just before I went to bed. I could feel her anger and I wonder how I'm going to resolve*

this issue.

The space of a bed is a place for quiet respite. We may listen to music, read, or perhaps watch television to unwind before sleeping. Maeda (1996) proposes that when falling asleep there is a withdrawal from the world, though our body still remains within it. "It is a temporary refuge from the threatening world, awareness of being caught by the world is all the greater upon awakening" (Maeda, p. 50). An email where the sender is angry can cause feelings of upset or worry for an administrator and later result in a restless sleep or a mid-night awakening. As van den Berg (1980) notes, "The sleeping person is not isolated; the world is condensed within him. He 'forgets' about it, he makes the world wait for him, he puts everything 'between brackets'" (p. 62). Dealing with a difficult situation may make it difficult to withdraw from the world or bracket a situation. Or perhaps we do and it comes back to us suddenly in moments of awakening, even while still inhabiting the bed. When an email is read late in the evening, it cannot be unread and therefore an administrator may continue to think about it, perhaps even receiving it again, in a sense, in the middle of the night.

Having encounters with an angry parent is not a new experience for an administrator and dealing with many personalities means that not every situation will be resolved amicably. Before email was so pervasive, such an encounter may have happened in person or over the telephone, but it would likely have taken place before it was time to retire for the evening. Because of the pervasiveness of email for administrators, such situations may occur far more frequently and we may wonder about the toll this might take on wellbeing.

Email as a moment of deciding whether to respond or to relate. *As I'm going through my email I see a question from a teacher about an issue she is having. It's not a huge one, but*

she is asking for help. I know I should probably go and see her or ask her to meet with me, but I have to leave the school in a few minutes and I have a meeting away from the office all day tomorrow. I feel guilty about replying to her concern in an email but it seems like the only thing I can do to manage my time right now.

An administrator understands the importance of connecting with staff, students, and parents and there is a multitude of tasks calling for their attention. Taking time for face-to-face meetings may require intention and effort. Many studies underscore the importance of relationship building, not only with teachers, but also with students and parents (Hindman, Rozzelle, Ball, & Fahey, 2015; Rieg & Marcoline, 2008; Witmer, 2005). Deciding what to do with a large volume of email may reveal the tension between what an administrator values and keeping up with digital communication. Administrators understand the importance of their role not only in building and maintaining relationships but with the importance of being an instructional leader. Both roles require that an administrator be out in the school and not behind a closed office door, but choosing to defer email may mean that an administrator must then respond to messages in the mornings or in the evenings.

In the anecdote above, the administrator feels a sense of guilt about using email to assist a teacher with a problem. They may have the tacit understanding that sitting and looking into the eyes of a person who is having difficulty may be the best way to help them. The administrator decides to retreat to email messaging because they believe there is insufficient time to deal with the issue in person. In this way, an administrator may feel chained to their email because of the volume of messages they receive. Though an obvious reference to imprisonment, perhaps being a slave to email is an apt metaphor. When many messages go back and forth it can create a

seemingly unending chain of appeals and replies, or what Baudrillard (1990) describes as an "integrated circuit of perpetual solicitation" (p. 163). Even a short reply of "thank you" can create yet another message to read and delete. The more we use email, the more we receive, making it more and more difficult to escape the use of this digital medium.

Sherry Turkle (2015) likens contemporary offices to being in a cockpit. A collection of technologies are available with which an administrator may surround themselves, such as a desktop computer, laptop computer, tablet, smartphone, and a wired telephone. There may be a sense that inhabiting this space makes one efficient by getting through messages and tasks. There may even be a retreat to the cockpit as a means of avoiding "real-time commitments" such as phone calls and face-to-face conversations (Turkle, p. 29). Turkle suggests that though people may perceive real-time encounters as more time consuming, a number of studies reveal that face-to-face conversations actually increase efficiency. "The more you talk . . . the greater your productivity," she states (Turkle, p. 264). So although an administrator may feel that dealing with email in their office cockpit may be efficient, telephone calls or face-to-face conversations may be more effective.

Email as a distancing from relationships. *It's 9:00 at night and I need to get to my email. Report cards have just gone out and my phone has been buzzing. I feel like I have hardly spent any time with my husband over the past few weeks so I open up my laptop on the kitchen table rather than go to my home office. At least he'll feel like I'm around.*

Mobile devices make it easier to engage with messages in spaces that were traditionally used for other purposes, such as relaxing or socializing. A school administrator may be spending time with loved ones in the evening when the buzzing of a device reminds them of work that

must be attended to at a later time. Before email was a part of modern work, an administrator may have chosen to do work in their home to catch up on tasks or to plan for upcoming activities. They may have even received phone calls, but such calls would not be a typical part of every evening. Email delivers a steady stream of information, inquiries, and issues directly into the home and an administrator may be pulled back into school affairs by email. In this anecdote, the kitchen became an office as the administrator attended to work matters.

Using Heidegger's (1953/1996) examination of tools, we can view email in two different ways: as ready-to-hand and present-at-hand. A digital device fades into the background as it sits ready-to-hand or ready for our use. Even as we compose an email, we focus on the message we want to communicate, not on the email program itself. It is, in a sense, an extension of our lived body as our words transcend time and space to be received by another. Email also remains ready-to-hand or ready to be read until it becomes present-at-hand as devices ping and vibrate with reminders of incoming messages. Even if an administrator turns off all notifications, they may still wonder what messages are collecting and what might be waiting for them the next day. What would it be like if we imagined that a parent or staff member called an administrator's home every time they wanted to deliver a message? It would possibly be considered too intrusive to continuously call an administrator throughout the evening. Emailing seems to have no similar boundaries and may create distance within personal relationships, even in the home.

Final Thoughts and Further Questions

Email is clearly an indispensable communication tool for school administrators today. It can assist in sharing information with students, staff, and parents. It can help connect people if meetings cannot be arranged during the day. It can also be a tool for those who may be unable or

uncomfortable in expressing themselves in person. The volume of email that administrators are fielding, however, has become a source of stress. If messages cannot be responded to during the day, it may be a task that must be done in the morning, in the evenings, or during stolen moments in between. Because of the relentless volume of email received by an administrator, it could be possible to do nothing but email behind a closed office door in order to keep up.

Adding to the complexities of digital communication is that email is not the only tool administrators use. Social media, web applications, and mobile applications are also used for a variety of purposes such as communication, attendance, and grading. Some advocates call on school administrators to lead the way in using innovative technology tools. A simple Google search for school administrators and specific digital technologies reveals headlines such as "Three Reasons Every School Principal Should Be Blogging" (Ferriter, 2014), "3 Reasons Why the School Principal Needs to Tweet" (Guay, 2014), and "Four Social Media Strategies for Principals" (Williamson & Blackburn, 2015). We may wonder what pressures an administrator might feel to be both a "21st century administrator" and one who has time to develop relationships with those for whom they are responsible.

Mobile devices have created a means for an administrator to be on call 24/7. But even if the school jurisdiction issues and pays for a smartphone, is it reasonable to expect that an administrator is available every evening, every weekend, and during the holidays? In what other professions is this level of contact typical? We cannot email a doctor, pharmacist, or therapist in the evening and expect an immediate answer, and furthermore, their email is not typically available to patients.

If the primary role of an administrator is to be an instructional leader and not emailer-in-

chief, then leading by example must be the focus. If a school leader wants staff to be visible and available to students, then the principal must model this behaviour. If they believe teachers should spend time together in order to share their practices and to create strong relationships, then administrators must do the same. The complexities brought about by digital communications are not only issues of which a school administrator must be aware, but they must lead the way in promoting effective communication as well as personal and professional wellbeing.

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Chapter Six. Teaching Beyond The Classroom:

On The Pedagogy Of Email (Paper IV)

I put my children to bed and glance at my phone. I see an email has arrived from a parent and I click to open it up. She explains that her father—my student Luke's grandfather—is in palliative care with numbered days and that Luke is having a hard time handling it. I quickly send a note back with my sympathies and thank her for letting me know. I'm really glad she did because now I can keep an eye on Luke and give him a little extra care and attention in class.

Those teaching in today's schools may find this scenario familiar—a parent sends an electronic missive to a teacher to provide context that may explain how their child may be responding in the classroom. In Kindergarten to Grade 12 (K-12) schools, a wide array of digital tools are being employed to allow teachers, students, and parents to communicate with each other, not only during the school day, but 24 hours a day, seven days a week. These technologies include student information systems, electronic newsletters, blogs, social media, apps, and text messaging. Email is certainly not the newest of these technologies but remains heavily used as a communication tool (Radcati Group, 2016).

Research on digital technologies in K-12 settings has spanned many years and a wide range of topics. There has been a great deal written about teaching *with* technology, but much less about the ways in which digital technologies are *experienced* (Selwyn, Nemorin, & Johnson, 2016; Turkle, 2004). This study examines experiences of K-12 teachers in one Canadian province as they engage with email outside regular school hours as pedagogical communication.

Broadening the Notion of Pedagogy

When the term *pedagogy* is used, it often refers to the ways in which teachers conceptualize, analyze, or theorize teaching and learning. For example, in the Canadian province where this study took place, the governmental ministry of education refers to pedagogy as "the art and science of teaching, and refers to the styles and methods of instruction used in the teaching profession, including grading practices, assessment, and instructional strategies" (Alberta Education, 2016, para. 1). Indeed, a common understanding of pedagogy has been a longstanding topic of debate, and its definition continues to vary alongside the changing goals of the education system at large (Murphy, 1996).

Educational researcher Max van Manen (2015) offers a different perspective. He describes pedagogy not in terms of techniques or achieving specific learning outcomes, but as an ethical concern and responsibility in caring for children. He states:

> the goal of pedagogical action is not a predetermined outcome but the caring action itself—and this action is in service of the best interest of the child or these children. Pedagogical action that is motivated by the external setting of learning outcomes and achievement goals inevitably turns into instrumental action—action in the service of calculative ends. It may seem provocative to say this, but pedagogy does not need externally-motivated goals and objectives. (p. 43)

Further to the discussion of pedagogy, a pedagogue is often thought of as someone who has a formal teaching role. Van Manen (2015), however, believes that a pedagogue can be thought of as any adult who cares for and has the best interest of a child in mind, in either a personal or professional capacity, which would include teachers, parents, and other caregivers.

Using van Manen's (2015) definition, pedagogical relationships can be thought of as more than solely a focus on interactions with students. It is also inclusive of all interactions involving the adults who care for a child. He describes the practices of acting, deferring, and responding to a child in ethically sensitive and thoughtful ways as "pedagogical tact" (van Manen, 2015, p. 78). For him,

> pedagogical tact does what is right or good for the child . . . [it] preserves a child's space, protects what is vulnerable, prevents hurt, makes whole what is broken, strengthens what is good, enhances what is unique and sponsors personal growth. (p. 79)

If pedagogy can be thought of as both interactions with students *and* the ways in which adults work together for the good of a child, how might email be examined as an example of a digital pedagogical tool? This paper will proceed by reviewing the literature on parent-teacher and student-teacher communication via email, outlining of the methodology used in this study, and finally, exploring phenomenologically the notion of pedagogy as experienced through email.

Email as Parent-Teacher Communication

Studying email as parent-teacher communication is important to pedagogical concerns since it has to do with the wellbeing of a child. Email has changed the way that teachers and parents communicate with and about students, school, and classroom matters (Thompson, 2008, 2009; Tobolka, 2006). Some studies note that email communication between parents and teachers in K-12 has grown and is now routine (Olmstead, 2013; Tobolka, 2006).

This trend may be attributed to the proliferation of email and smartphones (Olmstead, 2013; Thompson, Mazer, & Flood Grady, 2015). Research suggests that parental involvement in education may increase achievement (Chen & Chang, 2007; Henderson & Mapp, 2002; Lewis,

2003; Rodriguez, 2002) and email may be a way to increase opportunities for parents to be involved by removing barriers to communication (Bouffard, 2008; Dubis & Bernadowski, 2015; Hernandez & Leung, 2004; Olmstead, 2013; Thompson, 2008). In one study, parents cited time as the biggest barrier to face-to-face discussions with teachers (Dubis & Bernadowski, 2015). Not all parents are able to meet a teacher at school because of their work schedules, transportation, or other commitments. The asynchronous nature of email means that parents and teachers can inquire, provide information, or respond at their convenience.

Thompson (2008) studied parent-teacher communication via email and found that the most frequent topic was student grades (57% of emails obtained), followed by scheduling issues or reminders (13.78%), and health issues (9.97%). He observed that "e-mail has begun to supplant traditional forms of parent-teacher communication" (p. 218). Other research notes that parents and teachers tend to use email for brief, more factual exchanges as opposed to more sensitive issues (Hernandez & Leung, 2004; Olmstead, 2013; Thompson, 2008, 2009; Tobolka, 2006). Both parents and teachers indicate support for email as a communication tool (Dubis & Bernadowski, 2015; Olmstead, 2013; Tabolka, 2006).

Email as Student-Teacher Communication

Just as email is a convenient way for teachers to connect with parents, it is also routinely used for student and teacher communication. Prior to the many technological options available today, students and teachers would typically communicate face-to-face in a classroom, during a designated meeting time, by telephone, or through paper-based feedback such as assignments or tests. Today, numerous options may support student-teacher interactions including streaming video applications, course management systems, apps, texting, and, of course, email. The

literature on student-teacher communication through email was found primarily pertaining to post-secondary settings. One exception was a study by Selwyn, Nemorin, and Johnson (2016) that explored the impact of technology on high school teachers in Australia. They noted that email was used to communicate with students and that this may alter a teacher's school and home life boundaries. This "'blurring' often involved the perceived obligation to respond quickly to student queries. Some teachers saw this as necessary pastoral care and had therefore given students their cell phone numbers and personal email addresses" (p. 9). Though teachers in this study felt it was important to be available to students, email created work intensification. The study also noted that the use of email was not seen as a simple binary or positive or negative, but rather a technology that was both empowering and exhausting at the same time.

In post-secondary environments, students value communicating face-to-face with their teachers (Waycott, Bennett, Kennedy, Dalgarno, & Gray, 2010) and they recognize that augmenting communication through technology tools improves accessibility to teachers by removing the barriers such as time and space (Bolkan & Holmgren, 2012; Hassini, 2006; Waldeck, Kearney, & Plax, 2001; Waycott et al., 2010). This accessibility has benefits that can strengthen pedagogical relationships. Baron (1998) posits that the informal and asynchronous nature of email makes it an effective relationship-building tool. Additionally, communication with teachers may create a feeling of care (Young, Kelsey, & Lancaster, 2011).

The frequency of contact with the teacher may impact post-secondary students' satisfaction with a class—for some, the more frequent the communication, the more likely a student would describe a class as enjoyable (Waldeck & Kearney, 2001; Young et al., 2011). There are a variety of reasons students may wish to contact their teachers, including the sharing

and gathering of information, seeking feedback, and even making excuses (Bolkan & Holmgren, 2012; Salajan, Schönwetter, & Cleghorn, 2010; Waldeck et al., 2001; Waycott et al., 2010). Email may also afford an avenue of communication for students who may be unwilling or unable to communicate face-to-face because of a fear of speaking in class, a fear of speaking directly to the teacher, or because of perceived oral language capabilities (Bloch, 2002; Hassini, 2006; Waldeck et al., 2001; Weinstock, 2004; Young et al., 2011).

Sherry Turkle (2015) found that many students preferred to email their professors because they could edit their ideas and were able to articulate what they wanted to say in the "right" way (p. 54). Students may also want to avoid the spontaneity that is possible in a face-to-face or telephone conversation where they may feel put on the spot. Turkle posits that when students interact in this way, it is a transactional view of communication and what is missed is the ability for both professor and student to understand each other and form an "intellectual friendship" (p. 248). What also may be missing is the importance of learning how to negotiate a face-to-face conversation during young adulthood.

Other impacts have been noted in post-secondary settings. Email can dramatically increase a teacher's workload, particularly if there are a large number of students in a class (Albert, 2002; Elbeck & Song, 2011; Waycott et al., 2010; Weinstock, 2004). Some studies note that the increased speed of email seems to bring with it an expectation of an immediate response (Albert, 2002; Elbeck & Song, 2011; Hassini, 2006; Russo, Fallon, Zhang, & Acevedo, 2014; Weinstock, 2004). Informality may lead to a writing style that can be interpreted as abrupt or rude and can lead to miscommunication (Block, 2002; Hassini, 2006; Weinstock, 2004). Related to both speed and informality, students may view electronic communication as ephemeral and

therefore not be concerned about the future consequences of sending a message that may not be appropriate (Bloch, 2002; Weinstock, 2004). So while email provides many benefits in post-secondary settings, it may also have negative consequences.

Study Methodology

This research asked: What is it like for a teacher to receive email outside regular work hours? To respond to this question, I employed a qualitative methodology called a "phenomenology of practice" (van Manen, 2014). This approach to inquiry was chosen because it expresses a concern for studying professional issues in context and therefore allows for the examination of the complexities of teaching in today's schools. Phenomenology explores pre-reflective experiences rather than asking for opinions from research participants or by applying concepts or theories. The aim is to *show* and reflect on the nature of a phenomenon rather than *telling* or theorizing about it (van Manen, 2014). This research looks at how pedagogical moments inhere and are found in the everyday lived experiences of teachers in order to observe pedagogical tact and what it does in a specific situation or moment (van Manen, 2015). As with other methods of qualitative research, phenomenology relies heavily on writing and rewriting reflective materials in order to create a vocative text that brings the reader close to the phenomenon of interest (van Manen, 2014).

Phenomenological data for this paper was gathered as an aspect of a larger study on email in teachers' lives conducted in Alberta, Canada in 2016–17. The study used in-depth interviews as its data collection method. Phenomenological interviewing has a specific goal—to generate and gather concrete, experiential descriptions in order to gain insight into the particularities of an experience (van Manen, 2014). Participants comprised 24 teachers working in the K-12 school

system and were recruited through snowball sampling. Interview transcripts were reviewed for lived experience descriptions (LEDs) which were lived-through moments of email as recollected by teachers. LEDs have particular significance in phenomenological research. As Merleau-Ponty (1947/2002) observed, "The world is not what I think, but what I live through" (xviii). In other words, such experiences have the ability to transcend the constraints of how we conceptualize, generalize, or form opinions (van Manen, 1990). LEDs became the data of this phenomenological research as it facilitated the investigation of possible experiences of email from the perspective of teachers. Subsequently, LEDs were crafted into anecdotes which are meant to serve as vocative, lived-through examples of the phenomenon (van Manen, 2014).

Two contrasting but complementary actions are used to engage in phenomenological inquiry. The first is the epoché, or bracketing of how we commonly think of or conceptualize a particular experience (van Manen, 2014). At the same time as our everyday understandings are laid aside, the reduction is used to create a sense of wonder and openness to the uniqueness of the phenomenon. These two moves assist the researcher in "achiev[ing] a direct and primitive contact with the world as we experience it or [as it] shows itself" (van Manen, 2014, p. 220). The term "reduction" does not mean to *reduce* a phenomenon in the sense of boiling something down to a few themes. This is a common misunderstanding. Rather the reduction is the attempt to restore experiences in their original lived-through form. Adams (2016) uses an example of a medical procedure to illustrate the aim of the reduction. When a bone is broken, a doctor will reset the bone through a technique called a "reduction". The aim is not to reduce the bone but to restore it to its completely original unbroken form (an impossible task). Similarly, the phenomenologist aims to represent the world as experienced in its originality in text. And yet

the world as we experience it is always unavailable in its entirety reflection. There are always aspects to experience that escape explication.

Interviews conducted during this study revealed a variety of pedagogical moments involving both parents and students where a teacher considered the complexities and subtleties of doing what was in the best interest of a child (van Manen, 2015). The email experiences discussed by participants centered on the increased availability of teachers in a digital world and the felt responsibility for the students and their families. In this chapter, I discuss the notions of response-ability and responsibility as they relate to email. I also discuss several subthemes that emerged from the research, not as generalizations but rather to help explore possible meanings of specific email experiences.

Email as a call to pedagogical response-ability and responsibility. *While standing in the grocery store line-up, I scroll through my email and see a note from a concerned parent. Her daughter seems to be doing well in class but as soon as it comes to tests, she doesn't seem to be able to produce the same work under pressure. I'm glad she raised this concern with me. I think we can come up with some strategies to help her. I send a quick note back to tell her that I will talk to her daughter tomorrow. While I wait in line, I start thinking about resources that I have on my computer about alleviating test anxiety.*

A parent may use email as a way to share information about a child that a teacher might otherwise not know. Such a communiqué may be experienced by the teacher as an appeal for help and one that demands a thoughtful response. Van Manen (2015) describes this as response-ability or the ability to respond to another (p. 37). Email enables response-ability, no matter the time or place. Messages may arrive on a mobile device while a teacher is away from the

classroom, providing them with the capacity to read and reply. Response-ability at a distance may be a different experience when a pedagogical message is received in a place such as a grocery store as opposed to a classroom. When in the classroom, resources and information are at a teacher's fingertips. They may have information at the ready or a colleague down the hallway with whom they can consult. When faced with an inquiry outside the classroom, the teacher may not be able to respond fully, and therefore may continue to think about the issue throughout the evening until they are able to obtain to the necessary information at a later time.

Email may also enable response-ability for parents. It may be easier for parents to reach out in an email rather than a telephone call or face-to-face meeting. For some parents, their hours of work or other obligations might prohibit a meeting or a phone call. Once a parent has had an opportunity to hear about their child's day, they may send an email to the teacher to follow up on an issue or question. Before email was used in K-12 settings, similar information may have been sent in a note, phone call, or in-person meeting but the teacher would not receive it until the following school day. Email provides the immediacy of being able to send a question or concern as it is discussed in the home and be delivered to the teacher in almost real time. Similar to a telephone call, the parent and the teacher do not have to be in the same location in order to share information. Different from a telephone call, which requires both parties to be available to speak to each other at the same time, email is without temporal boundaries. The message is received as soon as the teacher is able to open the email. It may be sent at a time when it would be unusual to telephone a teacher, such as late at night or on the weekend.

A teacher might have a similar experience while encountering a parent in the aisle of a grocery store. Pleasantries might be exchanged and the parent might mention the issue of exam

anxiety to the teacher. The teacher might be able to ask a few questions to clarify and understand the context. Is this anxiety happening in a particular subject or does it happen in all subjects? Have any strategies been tried so far? With email, the teacher may be left to puzzle through the situation until more information can be gathered.

To be a teacher is to have thoughts about students and teaching, even when outside the classroom. A newspaper article at the kitchen table might prompt an idea about a strategy for a particular student. A television documentary might become fodder for an upcoming teaching unit. However, once a school day is done thoughts about teaching fall into the background. A teacher running errands after work may be focused on their own family. They may be thinking what they will cook for dinner or what might need to be done that evening. Any ideas about teaching or particular students that surface would be prompted by their own thoughts and experiences.

When email arrives on a mobile device, pedagogical concerns can arrive from someone else and be placed in a teacher's hand, often outside the confines of the school. When a message such as this is received outside of regular work hours, the sense of responsibility for students may spring to the foreground. The speed and immediacy of email may also create a sense of pressure such that a teacher feels they must reply immediately. Similar to parenting, the sense responsibility for students does not end when the school bell rings and the teacher leaves at the end of the day. Teaching is not the same as parenting, of course, but "the fact that so many family responsibilities have been delegated to the school seems to be an implicit affirmation of the close links between the pedagogy of teaching and the pedagogy of parenting" (van Manen, 2015, p. 121).

What might prompt a teacher to check email while in the grocery store line in the first place? The curiosity evoked by a pinging or vibrating mobile device might beckon a glance. Or the teacher may have a window of time when they mindlessly pull out their device, see the message, and decide to reply. They may wonder, "What if a student, parent, or colleague needs my help?" So not only is there a response-ability, but a sense of responsibility in a message such as this one. Here the parent has taken up their role as a pedagogue, perhaps after a conversation about the child's day at school. The email may create a convening in cyberspace between the parent and teacher that focuses on what's best for the child.

Email as an invitation to worry together. *I open my email after supper and find a message from a parent. She asks, "Can you please keep an eye on Matthew over the next while? His dad and I have recently separated and I'm worried about how it might impact him." I send her a quick reply to tell her that I will. I think about his behaviour over the last few weeks and it makes more sense. I've been worried about him and at least now I know what's going on.*

A parent may be uncomfortable in discussing particular life happenings such as a separation in person or even on the telephone. Being able to compose such a message behind the screen can protect the sender from revealing emotions that may be very close to the surface. In this instance, a parent became vulnerable in revealing personal information and the teacher wanted to bring reassurance in this moment. The parent's concerns about their child may have been taken up by the teacher and it may have been experienced as an invitation to worry together. The teacher may have immediately begun to think about ways to support the child and join in a parent's worry about their child's well-being. Van Manen (2014) describes examples such as this as "care-as-worry," where being concerned about the vulnerability of those we love

or are in a position of responsibility for becomes something that we carry with us because of the strong feelings we have for the child.

Before email was used daily, as it is now, a teacher might have certain concerns about a student that they carried with them once the school day was done. In a quiet moment, perhaps on the drive home, a teacher might reflect on a student who looked tired or sad that day and wonder what might be going on in their lives. If the concern was strong, a teacher could still call a parent in the evening to ask, but otherwise, they would not be made aware of new issues or information. Being sensitive and available to students and parents necessarily means knowing about their personal lives and such email moments may provide a glimpse into a child's world. Because of the immediacy of email, a teacher may learn something they would not have otherwise known outside regular working hours that may provoke additional worry that lingers.

When email is used to reveal an important life event, such as in this message, it tends to be transactional—an informational exchange (Turkle, 2015). In this example, the teacher received the information about the separation of two parents without any context. The teacher was not able to see the pain in a parent's eyes or note the tone with which this information was shared. Nuances of body language could not be seen, nor could a quick check for understanding or clarification happen in the moment. A teacher may also feel a sense of responsibility toward the parent since the wellbeing of the child is also dependent on the wellbeing of their caregivers.

In this anecdote, a parent used email to ask that a teacher keep a watchful eye on the child. The notion of "keeping an eye" on someone can be recognized as one of caring and protection. The idea of a benevolent, all-seeing eye is found in various mythological stories. For example, the eye of Horus derives from Egyptian mythology and is represented by a "stylized

hawk eye" (Potts, 2015, p. 17). It is thought to be a representation of the myth where Horus loses an eye in a battle as he seeks to avenge his father, Osiris. The Horus eye, therefore, is associated with sacrifice and protection. A teacher's help may be sought to watch over a child and a sense of protectiveness might arise in the teacher as a result.

Van Manen (2014) posits that a teacher is oriented to students in a way that is both similar and different than a parent. He describes that teachers and parents are both concerned about a child's growth and learning. Both know the student well and may be aware when a child's responses to situations seem out of character—both teachers and parents are pedagogues. Van Manen describes that a teacher, however, has a certain distance that a parent may not have, where they are able to also observe the student in learning situations and bring their knowledge to bear on the development of a child. So although a parent's worry may be taken up by the teacher in that moment, it is somewhat different than that of a parent. Nevertheless, a teacher may also begin to think about strategies or perhaps even compose an email to another professional who can support the child through a difficult time.

Email as an appeal for help with school work. *I sit down at my kitchen table for my usual routine of answering email after my own kids are in bed. Some of the students I teach attend my class through video conferencing and when they have questions, they email me. I open an email from one of the students and it says, "Hey, Mrs. S! I'm having trouble with the factoring polynomials homework. Can you help me out?" I type out a short response and attach a handout that I have on my computer that might help. I also send him a link to a video that other students have found useful. I tell him that we can video chat or talk on the phone tomorrow. I'm glad that students feel that they can ask for help when things don't make sense.*

Email facilitates a connection between teachers and students outside school hours. Once a student has finished class and begins to work on assignments, they may have questions about their work and email can be used as a way to signal that they need assistance. A student may not realize that they are in need of assistance until they begin working through a task on their own. This example may be closer to what we may typically think of as a pedagogical interaction.

Being able to send an email in such moments may mean a student can receive help immediately and not have to struggle all evening, or it may mean that the student is sufficiently reassured that they will receive help the next day. Before communicating electronically was possible, the student would have had to persist on their own, become frustrated or perhaps even sleepless, knowing that they were unable to complete the task. Since email has many functions, the teacher may be able to find material that explains a concept differently and be able to forward or attach them immediately. Other resources can be hyperlinked within the body of an email. Such items might help to jog a memory of what was taught in class, or perhaps provide an approach that is different and helps the student with their problem.

If this same interaction happened in a classroom, the teacher would be there to respond immediately. They would likely sit with the student and re-teach a concept and perhaps watch as they attempted to work through a question. The help received through email can provide assistance, but it is different—it is not the same as a "sitting beside" coaching experience. Over email, the teacher cannot see exactly where the student is becoming confused and provide specific feedback. In this instance, all the teacher can do is speculate where the student may have become confused and provide some general ideas. In a moment such as is described in this example, a teacher may feel the need to respond because of their duty and sense of caring for a

child (van Manen, 2014).

Receiving a seemingly casual request for help via email may present a choice to the teacher. They can choose to reply in that moment or wait until the next day to help the student when they are able to describe their problem in more detail. But is it easier to defer a response when a teacher is not staring into a child's questioning face? When a teacher is asked for help by a student in class, they encounter the face of the other. They can see the colour of their eyes and the shape of their face, mouth, and brows. Levinas (1998) suggests that when viewing a face, we can see "all the weakness, all the mortality, all the naked and disarmed mortality of the other can be read from it" (p. 232). Seeing the face of the other would seem to demand an ethical response. In a classroom, a teacher may see fatigue, confusion, or frustration. The teacher might have also been able to observe how long or how intently a child had been working on a problem. It may be instinctual to respond in such a moment, unless, perhaps, a teacher might believe it is in the best interest of the child to have them linger over a problem on their own for a bit longer. In any case, it would be unusual for a teacher to let a class conclude without addressing the child's question.

Does the screen of a device become a kind of a barrier between the teacher and the face of a student? In this case, the student does not physically *face* the teacher. Still, receiving an email from a student would bring that student to mind for the teacher, and the teacher would be able to understand and perhaps even visualize the student. They may also be able to bring their understanding of the child to bear somewhat in a response to the email. Nevertheless, the nuances of a question that can be understood in a classroom situation are not available to the teacher in a question posed via email. A teacher may feel that they should respond to the query,

even if they are unable to provide the exact support that is needed. If they choose to defer a response, there may still be a nagging thought to remember to connect with the student the next day to check in and provide the necessary help.

Email as a moment of decision-making. *I see an email after supper from a student who has anxiety issues. He wants some help with an assignment and I know he will have a much better evening if I help him now. It's late, but I respond, knowing that I can take this worry off his plate.*

An email from a student may be experienced as a plea for reassurance. Deciding how to respond or even *if* they should respond may not be a simple choice for a teacher. It may be a matter of knowing individual students and what might be best for them in that moment. In this instance, the teacher had unique insights into what this student needed and understood that responding quickly meant that anxiety would not rule the student's evening. Van Manen (2015) refers to this type of pedagogical interaction where a teacher is able to have sensitive insights into each student as *child sense*. "Child sense means sensing or knowing how young people experience things, what they think about, how they think, how they look at the world, how they act, and most importantly, how each child is a unique person (van Manen, 2015, p. 77).

The teacher, as a professional, has a different relationship with students than a doctor or psychologist might have with their patient. Teachers typically see their students every day and get to know them extremely well. Because of the time spent and the relationships built, they may be able to provide help to students in a nuanced way, perhaps not unlike a parent. A parent knows that what might be best for one child may not be best for a sibling. In this instance, the teacher made a decision that a response in the moment would lessen the anxiety for the student.

I check my phone first thing in the morning and see an email from a student that was sent at about 3:00 am. He tends to be very anxious and thinks of things in the middle of the night and emails me. I start to reply but then I think, "It's getting closer to the end of the year. Should I delay my reply? There isn't going to be anyone at a university who will be responding so quickly."

Here, a similar appeal from a different student, but to the same teacher, elicits a different response. The teacher could have chosen to send a quick reply that would offer help, which would be received immediately and the exchange would be complete. She hesitated because she considered if it was in the student's best interests that she reply as quickly as she had in the past. The asynchronous nature of email means that this teacher could pause to consider the request before immediately answering. If the student had asked for help in the middle of class, it would be difficult to pause and consider a response. In the bustling world of a classroom, there is little time to consider such decisions. A response is given in the moment, with thoughtfulness, of course, but without the time to mull over what might be in a student's best interests over the long term.

Levinas (1961/1969) reminds us that "To be in oneself is to express oneself, that is, already to serve the other. The ground of expression is goodness" (p. 183). Here, the teacher paused the conversation to be sensitive in her service to the other, her student. Might the ethical response, at times, be to defer a response, or perhaps not to respond at all via email? Weinstock (2004) posits that we must be pedagogically thoughtful about the complexities and appropriateness of using digital tools with students of all ages. He states that in this age of speed and immediacy, we should consider a "pedagogy of patience [that] both exercises and teaches

patience. In a world of collapsing time, it may well be that among the most valuable things we can teach our students is when and how to wait" (p. 366).

In moments such as this, a teacher may be challenged to discern the nuances of how best to deal with a pedagogical situation. Being able to offer help after hours can alleviate stress for a student, but the question remains as to whether or not this is always in their best interest. Is it part of a child's learning that they find themselves perplexed and be unable to complete their assignment? What kinds of learning and growth happen when students are uncertain or unable to move past a certain point? Do they ask their parents, a sibling, or a friend to help? Do they keep trying or do they give up?

These questions may be difficult to reflect upon in the moment because of the immediacy of email and the sense of caring responsibility towards students. A teacher may feel a need to be available to students outside regular work hours. Gabriel Marcel (1963) uses the term *disponibilité*. It is typically translated as "availability" in English to describe the ethics of openness—that as humans, we should remain available to each other. Separating caring, availability, and personal obligations may be difficult for a teacher who wants to provide help to a student in the moment of an email request. Being a pedagogue via email is more complex and in some ways more limited than if a teacher is helping a student within the classroom.

Closing Thoughts

Digital technologies have transformed and reformed the ways that teachers interact with students and parents. Teachers have always felt a sense of caring towards students and parents and spent time outside regular school hours working on teaching activities. Email, however, extends the ability to communicate which can have many positive effects. Notes of support,

reassurance, or comfort can be sent in a moment and can foster the deepening of relationships. Topics that may be difficult to discuss in person or on the phone for a variety of reasons can be broached via email. Questions may be answered quickly and may relieve both students and parents. The asynchronicity of email also affords the ability for parents and students to connect with teachers outside school hours and also offers the time for a teacher to consider a response before sending or to defer a reply.

Extending pedagogical responsibilities may create options to communicate but also comes with a cost. It may reduce the time teachers have to spend with their loved ones or to recharge for the next day. It may take time away from other teacherly tasks that are typically done outside of regular work hours such as assessing student work, gathering materials, and planning upcoming lessons. Caring may also become a worry that a teacher carries with them until a situation of which they have become aware can be resolved.

In today's environment, there are no one-size-fits-all solutions for the complexities brought about by digital communication. One teacher might check email only during certain hours. Another might choose not to check email in the evenings entirely. Another might also designate certain evenings or weekends as "email free". Adding complexity to such choices is the reality that email is but one digital communication tool that teachers use. Increasingly, schools are requiring teachers to use student information systems and social media to communicate with the school community. We must begin to ask: Is there a limit to the number of ways and amount of time teachers are expected to engage in communication?

An important question remains: Is email, or are other digital communications tools, the most effective way to communicate about pedagogical matters? Such tools may lead to over-

involvement of parents where they intervene in a situation that might have led to important learning for their child. Students may rely on getting a quick answer rather than lingering over or even struggling with a problem. These complicated issues may also create questions for a teacher in these moments: "Did I make the right decision? Is this the right media for this conversation?" As van Manen (2014) observes, "Pedagogy is this questioning, this doubting" (p. 19). Knowing how to respond to an email, or even *if* there should be a response at all, takes thoughtfulness, sensitivity, and tact for each student and each situation.

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Chapter Seven. If Email Could Speak, What Would It Say?

Interviewing Objects In A Digital World (Paper V)

Email is just as "everyday" as coffee pots and doorknobs, but most people don't fantasize about throwing their espresso machine into a black hole or sawing the knobs off all their doors. (Pavlus, 2015, para. 2)

A quick glance at a phone or computer may provoke a visceral response. Hearts may race or stomachs may turn as we notice an influx of new email messages. The psychosocial effects of e-mail is an important, contemporary topic. Email is a digital tool that we have come to rely upon and use for a multitude of tasks at home and at work, and perhaps as a result, it has also become a technology for which we have a love/hate relationship. A quick internet search reveals titles such as "Email: Is it time just to ban it?" (Barkus, 2016) and "I hate email again" (Epstein, 2015). John Pavlus' (2015) article "How email became the most reviled experience ever" describes how people have been dealing with email overload. Pavlus interviews Don Norman, author of *The Design of Everyday Things* (2013), who characterizes email as, "the office memo turned cancerous, extended to home and everyday life" (para. 3). Pavlus describes email as a reinvention of the fax machine, but in our pockets, and used like a telephone that constantly interrupts us. We feel compelled to continually check email, always worried that we might miss an all-important or interesting message. How did we get to the place where a digital tool intended to make our lives easier can create such complexities in our lives?

The research literature on email tends to address three main workplace issues and offer several possible solutions. First, email consumes significant time for employees and people must be trained to deal with it more effectively (Jackson, Burgess, & Edwards, 2006; Soucek &

Moser, 2010; Tassabehji & Vakola, 2005; Taylor, Fieldman, & Altman, 2008). Second, email reduces employee productivity, and more robust email programs should be developed to help increase efficiency (Bellotti, Ducheneaut, Howard, Smith, & Grinter, 2005; Schuff, Turetken, D'Arcy, & Croson, 2007; Szóstek, 2011; Whittaker & Sidner, 1996). A third position suggests a combination of the first two approaches—that both employee training and improved software are required to solve issues created by email (Dabbish & Kraut, 2006; Demirdjian, 2005; Denning, 1982; Whittaker, Bellotti, & Gwizdka, 2007). Some proposed solutions for dealing with email include having users create or implement a flagging system for email as it comes in (Szóstek, 2011), having a rule-based software program to pre-sort messages (Schuff et al., 2007), or simply reducing the amount of time spent on email during the day (Mark, Iqbal, Czerwinski, Johns, & Sano, 2016).

The challenges of email in and outside of the workplace are difficult to escape because employees are often required to use email for communication as a condition of their employment since most communication takes place using this medium (Garton & Wellman, 1995). Attention to email overload has been a current topic in the news. For example, a recent Canadian article declared email a "national epidemic" (Kozicka, 2016, para. 26). It describes how, in France, a new law provides workers the right to disconnect from electronic communication. This will make it illegal for employers to email employees on the weekends or during vacation and the author muses whether Canada should follow suit. Other countries have implemented measures to deal with email overload. For example, the German labour ministry has banned managers from emailing employees outside their regular shifts. Companies such as Volkswagen have used technology itself to help resolve email overuse by shutting down email server access after regular

business hours (Vasagar, 2013).

The literature tends not to address the *experience* of receiving work-related email outside of work hours. What is it like to be drawn back into work matters when we ought to be taking a break to recharge? How does having mobile devices near us all day blur the boundaries between work and personal life? Philosophers of technology and media scholars have long held that technology neutrality is an illusion and instead suggest that technology influences our everyday lives in manifold ways (Heidegger, 1977; McLuhan & McLuhan, 1988; Strate, 2012). One approach to uncovering a technology's influences and effects is to "interview" it. Catherine Adams and Terrie Lynn Thompson (2016) propose a set of heuristics based on phenomenology, Actor-Network Theory (ANT), and media studies to help qualitative researchers interview digital objects. We do not typically experience email as a subject of its own. We employ it as a digital tool in service of the completion of a particular task without considering how it may also act upon us and our environments. In this paper, I consider email as the object of inquiry and draw on three of Adams and Thompson's heuristics to ask in what ways email is reforming and transforming our work and personal lives. How has this taken-for-granted digital technology changed our way of being with each other and ourselves?

Speaking with Things

In their book, *Researching a Posthuman World: Interviews with Digital Objects* (2016), Adams and Thompson propose a set of exploratory techniques that can stimulate posthuman inquiry designed to help researchers "speak with things" (p. 6). Although these methods may be used with objects of any kind, the focus of this book is primarily on digital technologies as they appear and are used in everyday practice. Some of the heuristics are intended to help researchers

become attuned to what things may be saying or producing (p. 21) and others are designed to help analyze the data gathered. Adams and Thompson describe the nature of the heuristics not as a lock-step methodology but rather as a "sensitivity for recovering nonhuman contributions" (p. 20). The heuristics may be used selectively, and in some cases, overlap.

To interview a digital tool, the posthuman researcher must think about the word "interview" differently than we commonly do in qualitative research. Adams and Thompson (2016) trace the etymological roots of the word "interview" (or "inter + "view") and note that:

> to interview means "to see each other, visit each other briefly, have a glimpse of." To inter-view an object or thing is, therefore, to catch insightful glimpses of it in action, as it performs and mediates the gestures and understandings of its human employer, and as it associates with others. (pp. 17–18)

This form of posthuman inquiry is aimed at helping the researcher describe and analyze the variety of impacts of digital technologies on our lives.

In researching email, I employed three heuristics—collecting anecdotes, listening to the invitational quality of things, and applying the laws of media. These same heuristics have been used to understand more about digital tools in other settings. For example, Adams (2006) used them to observe the influences of PowerPoint software on teaching and learning in a university setting. Likewise, Goble, Austin, Larsen, Kreitzer, and Brintnell (2012) adopted the same heuristics as they turned their attention to nVivo, a type of qualitative data analysis software, to determine its impacts on social science researchers. Interviewing objects or "speaking with things" (Thompson & Adams, 2016, p. 3) is a type of inquiry that allows the researcher to catch glimpses of a specific technology "in action" as it discloses itself to its user(s) within specific

environments.

Heuristic: Gathering Anecdotes—Examples of Email Experiences

An anecdote is a methodological device that aims to provide glimpses into how digital technologies support and shape our everyday lives (Adams & Thompson, 2016). Anecdotes may be generated through traditional qualitative research activities such as interviews or autobiographical or other observations and are commonly found in both phenomenological and postphenomenological texts. The word "anecdote" is derived from the Greek word *ἀνέκδοτα* meaning "things unpublished" and can be defined as a narrative of "a single event, told as being in itself interesting or striking" (Anecdote, 1993). In his book *Phenomenology of Practice: Meaning-Giving Methods in Phenomenological Research and Writing*, Max van Manen (2014) describes anecdotes as methodological devices that allow researchers to *show* rather than *tell* about concrete, lived-through events in order to "discover what is exemplary and singular about a phenomenon" (p. 258). Anecdotes provide one way to reveal "layers of meaning of the concrete by tilling and turning the soil of daily existence (van Manen, 1989, p. 245).

Other socio-material approaches also employ anecdotes as a means of documenting and understanding our everyday interactions with technologies. For example, Bruno Latour (2005) suggests that objects "offer descriptions of themselves, to produce scripts of what they are making others—humans or nonhumans—do" (p. 79). Such scripts can be observed in action and then crafted into anecdotes. Postphenomenologist Don Ihde (1983, 1990) often develops anecdotes from his personal experiences to uncover human-technology relations. For example, he provides an anecdote about his experiences with receiving a heart stent to show his experience of the surgery as it was lived through (Ihde, n.d.). In his book, *Inventive Methods: The*

Happening of the Social (2012), Mike Michael examines cross-disciplinary approaches that consider the complexities of researching within social and cultural contexts. Michael (2012) describes anecdotes as a means to chronicle how specific happenings can be understood. Anecdotes allow us to explore complex relations in context, documenting the seemingly ordinary. They can help us to reach further than the incident itself and publicize that which is typically kept personal. Michael argues that anecdotes may also, through their retelling, influence people and/or events.

Adams and Thompson (2016) use the following prompts to begin to gather anecdotes for interviewing an object: "Describe how the object or thing appeared, showed up, or was given in professional practice or everyday life. What happened?" (p. 24). They underscore the importance of anecdotes in understanding digital objects: "To anecdote is to attempt to reassemble and resemble the concrete, lived-through particulars of the eventing lifeworld, and thereby prepare a space to reflectively grasp and analyze our own prereflective conversations with (digital) things" (p. 30). They describe how by collecting examples of how a thing appears to others and ourselves in everyday life, they may "show how human and nonhuman doings and undoings are woven into, entangled with, and implicated in ordinary as well as extraordinary life happenings" (pp. 25–26).

Even a brief anecdotal recollection about email can illustrate what it may be doing as well as undoing:

> *I roll out of bed. I grab my phone off my bedside stand and unplug it from the charging cord. Before I even turn on the bathroom light, I start reading my email. I wonder how my day is going to be.*

The ability to check email on devices that are almost always nearby may produce routines that would have seemed impossible only a few years ago. Email messages silently collect on our devices that lay next to us, doubling as alarm clocks, while we sleep. Our cell phone use may be so ingrained that we may, without thinking, pick it up and start reading messages even before we can turn on the light or even be fully awake.

Waking up without looking at our email as soon as our eyes are open may be a different experience. We may remember a dream or wonder about what the day might bring. We might begin running through our list of tasks that will be important for the day, but these thoughts would be our own. They would not be interrupted with tasks or issues that developed since we last checked our messages. This anecdote demonstrates that email may produce a script that influences how we act, even unconsciously, in the middle of our morning routine. We may, without thinking, mindlessly check our devices many times during the day, sending our thoughts and actions in unanticipated directions. Email may also influence how we feel about our day, which has, as yet, barely started.

Heuristic: Listening to the Invitational Quality of Things—The Gestures of Email

Adams and Thompson (2016) explain that we converse with things in a manifold of unspoken, tacit ways. They describe how technology may invite or incite certain actions, thoughts, or perceptions while discouraging or constraining others. They ask: "[W]hat is a particular technology inviting me (or its user) to do? What is it implicitly or explicitly discouraging or even prohibiting me (or its user) from knowing, doing or thinking" (p. 43)? I recall an instance of checking my own email:

I am working on writing an article and I hear the tone signaling the arrival of a new

email. A pop-up appears in the corner of my screen. I see it's from my colleague, who is also a close friend. The first few words suggest she wants to meet for dinner. I click to read the full message. "We're on," I type, adding the date to my calendar. I notice another message in my inbox from a colleague regarding an upcoming meeting. She needs some information from me. I click to read through the message. As I prepare my reply I remember to cc my boss so he knows that I have passed along the information. Then, I remember I need to send an email to the meeting organizer. "Oh wait," I think, "I was supposed to be finishing that article.

New email may announce its arrival to us in different ways, across multiple devices, regardless of what we are doing. We may feel a vibration from our smartphone in our pocket, hear the sound of an email *ping*, or notice a popup with a name and subject. The vibration may be akin to a tap on the shoulder from someone, and thus it may be difficult to resist looking to see what and who it is. A popup may feel like a flag being waved: "Over here! Look over here." I do not have to heed this call immediately, though once it has garnered my attention, it may be hard to resist. I may be waiting for an important email and the signal of a new message may have a different quality than if I am not. At other times, even though I may be engrossed in a task, a pop-up for an alert may be enough to make me stop what I am doing to look at the incoming message. What if it is important? What if it is interesting? And, especially, what if it is more interesting or important than what I am doing now? While considering these questions, I may have forgotten the task in which I was originally immersed.

Reading and responding to one email seems, too, to invite further emailing. My response to the dinner invitation may be followed with information about a time and a place. Even an e-

mail that is simply a recognition of an e-mail, such as a 'thank you' that would be typical in a face-to-face conversation, becomes, with e-mail, yet another message to open and delete.

I can click to reply or compose a new message and be presented with a form that could be construed as "fill-in-the-blank." I can also see that the template resembles a traditional office memo, with the spaces designated for "to," "cc" (carbon copy), and "bcc" (blind carbon copy). On the one hand, this can simply be viewed as skeuomorphic design—mimicking the appearance of something that is familiar to us (Cornish, 2012; Pogue, 2013). Folders, where I save my digital files, look like paper folders, the icon for saving looks like an old floppy disk and to delete a file I drag it to a garbage can (Cornish, 2012). On the other hand, we may wonder whether email invites not simply to write just one message but rather become engaged in the activity of messaging: message after message where the person is subject to the demands of email. Messages may, in turn, lose their singularity, as it is possible to copy and paste a message or simply blind copy the message to someone else, so that the receiver in part becomes in part anonymous. Is there a temptation to copy a message to others simply because I can or because the empty space may beckon me to fill it in rather than leave it empty? Is our care for the accuracy of a message relegated to the email programme, since spelling and grammar can be checked for us? There are many actions and decisions that take place when using email, some more conscious than others. The gestures of email may be producing actions in our lives without us always being conscious of them. Using the laws of media can help to further understand what email may be doing as well as undoing.

Heuristic: Applying the Four Laws of Media—An Email Tetrad

The "laws of media" proposed by Marshall McLuhan and his son Eric (McLuhan &

McLuhan, 1988, p. 128) provides a way to uncover the effects of media that we often take for granted. They propose that four questions to be asked of any artifact:

- What does [the medium] enhance or intensify?
- What does it render obsolete or displace?
- What does it retrieve that was previously obsolesced?
- What does it produce or become when pressed to an extreme? (p. 7)

Applying these questions, a tetrad is composed to illustrate the dynamics brought about by a specific technology. These effects are not sequential but simultaneous and are the direct result of a specific technology being adopted (McLuhan & McLuhan, 1988). There is a give and take ecology between what technology affords and simultaneously dims. As Adams and Thompson (2016) point out, "the tetrad is not intended as an end in itself but rather a process of discovery and analysis" (p. 72) and further that "the tetrad always depicts a specific human-nonhuman hybrid (i.e., an extension or "'lived technology')" (p. 74).

Figure 7 illustrates how the ecology and impacts of email may be described using the McLuhans' (1988) tetrad. The laws of media: enhancement, obsolescence, retrieval, and reversal, illuminate how email is not just a tool but an environment—"every lived technology, is profoundly ecological: dilating and contracting, infecting and infusing human perception, action, and understanding, with potentially far-reaching implications and reverberations in our personal, social, cultural and political lives" (Adams & Thompson, 2016, p. 66). The questions help to uncover the dynamics and tensionalities brought about by a particular technology.

Enhance/intensify?	**Reverses into?**
Speed and volume of communication Manipulability One-to-one and one-to-many communication (scale) Memory (a record of communication) Forwarding Community	Spam Brevity/shallowness of discourse Work mail becomes home mail Being in two places at once/ The sender is sent, the recipient is received
Availability	**Leash/Shackles/Anxiety**
"The Pocket Fax"	**Unavailability**
Correspondence Conventions (albeit new ones) Sending "packages" (photos, documents, videos) The cc and the bcc The epistle	Some face-to-face conversations Handwritten letters and notes, thank you cards Paper memos, faxes, some printing of material Some phone conversations Paper newsletters/posters Graciousness, formalities, pleasantries Stamps, envelopes, writing paper
Retrieves?	**Obsolesces?**

Figure 7. Email tetrad

Interviewing Email

In the next sections, I employ these three heuristics—using anecdotes, exploring the invitational quality of things, and using the laws of media—to reveal several thematic or eidetic aspects of email. Each theme, illustrated by an anecdote, is meant to exemplify tendencies or tensionalities, not to make a definitive declaration that would stand for every experience. In order to reveal the utterances of email, all three heuristics are used to some degree, as it is impossible to discuss them as separate entities. With this in mind, the following anecdotes and discussions are intended to reveal what email may be saying and producing in our everyday

lives.

It only takes a moment for me to send a message. *I feel my phone vibrate and I pull it out of my purse to see what has arrived. It's an email from a colleague who is away at a conference and she has forwarded an advertisement for a resource that she knows might be of interest. I cc my response to another one of our colleagues because I think she might be interested in the book too. I mark the email as unread because I want to remember to see if it is in our library or if I need to order it. I'm glad she forwarded it to me because if it came to me I probably would have just deleted it, thinking it was another piece of junk mail.*

Email makes connecting with others, no matter the place or time, quick and easy. And as recipients are added to messages, community itself may be created. People are connected with a 'Reply All' until the e-mail chain ends, and possibly beyond. Messages are delivered quickly, efficiently and almost in real time. It may, in some ways, retrieve letter writing, albeit in a different form. There is no need any longer to carry a letter around for a period of time because there are no stamps in the home or because a mailbox cannot be found. With a click of a mouse or a tap of the finger, the letter whooshes away into cyberspace, delivered to the recipient's inbox. It also creates the possibility of sending the same letter out to multiple people by simply adding their names to the cc or bcc text boxes. Prior to email's arrival, we would have had to make copies, address additional envelopes, and then send to designated people. The electronic mailing of letters, notes, and memos can help to build and maintain networks of colleagues and friends as messages can be exchanged rapidly.

The word email is derived from two words: "electronic" which means "pertaining to electrons" and "mail" which derives from old French meaning "travelling bag" (Email, 1993).

We rarely consider email as an "electronic travel bag", yet as such a travel bag it carries its contents in the realm of the virtual, traversing barriers of place to hold its contents in waiting for the recipient the next time they check their email. From the perspective of the recipient, email also enhances their availability because mail can reach them at any place and time. Of course, the recipient needs to be able to access their email, but this is overcome with the advent of mobile devices.

Returning to Pavlus' (2015) observation, email can function as a pocket-fax since email has, in a sense, retrieved this machine. When fax machines were used in their earliest versions, transmissions were sent through a telephone line similar to early types of computer modems. Letters and documents could be sent and received around the world. Today, many documents that used to be faxed, such as official correspondence and legal documents, are now sent as email attachments. Often we do not have to wait to have correspondence mailed as documents can be easily scanned and emailed.

I can forward this to someone else. *I check my inbox, and I see yet another email from one of our consultants. She seems to forward every announcement, every professional development session, every resource that she receives, or at least it feels that way. I sigh and click "delete". I don't even open email from her anymore.*

With only a few keystrokes and clicks, we may release any encumbrance associated with a message and simply forward email, documents, images or links to one or more people. Before communication became digital, we may have seen information such as a memo or poster that might have been of interest to our colleagues, however, it would take time to decide to whom we might want to send it. Then we would have had to photocopy it, hand deliver it, put it in the

inter-office mail or send by fax. Now it only takes a moment to click the "Forward" button and populate the "To" field with any number of colleagues' names whose addresses may even self-populate as the first few letters of their names are typed. The sender does not have to get up from their seat.

For a person who habitually forwards email, the old adage "for someone with a hammer, everything looks like a nail" may apply. The structure of the email fields may create a sense of wondering because the empty field may beckon and ask, "Is this something that should be forwarded to someone else?" It may indeed only take a moment for someone to scan through their email and delete a message if they deem it to be irrelevant. But when the number of such emails grows, it can clog up an inbox and take a person much time to weed through the unimportant messages. As the recipient in the anecdote notes, if a person makes this kind of forwarding a habit, it may decrease the perceived importance of other communication from them, whether or not it falls into the same category. A parallel might be drawn using the story of Echo, from Greek mythology. As the story goes, Echo came across a beautiful man named Narcissus and followed him into the woods. Narcissus became separated from the people he had been travelling with and shouted, "Is anybody there?" Echo, hearing him, called back, repeating his words, "Is anybody there?" Narcissus continued to call and Echo continued to repeat back to him until they met, where Narcissus eventually rejected her (Bulfinch, 1959). When a person over-forwards email, their messages may be perceived as a "hollow echo." In a sense, we may reject not only the message but the sender.

Answer me now. *I get an email first thing in the morning from a colleague that says, "Where is the book I loaned you? I need it today." I know she is probably in a hurry but that*

seems a bit abrupt. I wonder if she is upset.

In email, we may sometimes eschew the respectful greetings and pleasantries that are typically found in face-to-face meetings, telephone conversations or even letters. There may be no "Dear…" or "Hello…" or another sort of greeting where one's name is mentioned (Baron, 1998). The message may have no apparent closure either, leaving the recipient wondering if the brevity of the message was because the sender was rushed or if they may be upset about something. Social content in email may be more important than is often considered. In a study of predicting whether emails would prompt a reply or not, Dabbish, Kraut, Fussell, and Kiesler (2004) found that email that contained social content, such as a greeting or personal message, was more likely to receive a response than a message without it.

Studies of the linguistics of email note that its lexicon is more casual and informal than that of paper memos or letters (Baron, 1998; Weinstock, 2004). It is also typically less carefully edited and assumes a familiarity between the writer and recipient, whether this would extend to personal relations or not (Baron, 1998). Andrew Weinstock (2004) contends, "When compared with traditional or formal writing, e-mail evidences a disregard for both English grammar and polite discourse" (p. 367).

Besides the sometimes curt or abrupt tone that can emerge, there is the unspoken expectation of an immediate answer. It is not unusual to see an email and then get an inquiry a short time later from the same sender asking, "Did you get my email?" The speed at which email can be sent means that messages can be sent back and forth in near-real time, something that may be neither synchronous nor asynchronous. In some cases, this may replace what would have typically been discussed in a telephone conversation (Friedman & Currall, 2003; Markus,

1994; Renaud et al., 2006; Schaefermeyer & Sewell, 1988). Though this rapid text-based back-and-forth may potentially provide information quickly, it may be a series of one-way statements where it may be difficult to come to a shared understanding without the negotiation of words, tone, and body language that would be present in a face-to-face conversation or telephone call (Friedman & Currall, 2003). Douglas Rushkoff (2013) attributes this increase in speed as our inclination to turn asynchronous technology into a "falsely synchronous" one, having our devices emit a sound or vibration each time we are summoned (p. 99).

I can help you be in more than one place at once. *I'm in the middle of a staff meeting. I glance around and see that nearly everyone is on their devices. I notice a pop-up notification on my phone from a colleague sitting across the room, sending me an email about an event next week. I glance over at him and it looks like he is taking notes. I wonder who else is not listening.*

Email enables a non-presence in our immediate locale. We may be sitting with others physically present for a meeting yet still receiving and sending email to others. If we were to enact this same practice in a face-to-face conversation, it might look something like this: two people exchange ideas and one steps out of the room, mid-sentence to talk to someone else and then return, carrying on the same conversation. Some of the content and contexts may have been missed, even if stepping out only took a few seconds. This might repeat itself several times over. We might wonder what the consequences of such actions might be. The other person might feel annoyed or unimportant. They might wonder if their intended meaning was heard and understood. They might even leave the room themselves in frustration. Still, this is a scenario that happens frequently in the workplace when we are absorbed in email while being present

with others.

Although email affords us the convenience of working anywhere and anytime, it may simultaneously shackle us to our devices. James Gleick, author of *Faster: The Acceleration of Just About Everything* (1999), suggests that our use of technology tools is similar to changing television channels. We move quickly between different topics and people, often staying on each one only for a moment, looking for something more interesting or important. It may also be creating a feeling of skittishness and accelerating time. Norman (2013) submits:

> People are not machines. Machines don't have to deal with continual interruptions. People are subjected to continual interruption. As a result, we are often bouncing back and forth between tasks, having to recover our place, what we were doing, and what we were thinking when we return to a previous task. No wonder we sometimes forget our place when we return to the original task, either skipping or repeating a step, or imprecisely retaining the information we were about to enter. (p. 68)

This tendency to be in more than one "place" at a time may also disrupt person-to-person interaction or gatherings that we may have once had. Ironically, this medium that provides us a way to connect with anyone, anytime, may be isolating us from each other (Turkle, 2011).

Is this conversation complete? *I get an email from my boss, asking me a question about an upcoming meeting. We exchanged some short emails in very quick succession. She sent the last email but now I'm wondering if she is going to email again. Is this conversation over?*

From the receiving, responding and sending of emails, a conversation may be created. And like any conversation, there may be a particular tone, a sense of intimacy or distance between conversants. The pace of these conversations may be tempered by silences lasting

seconds, minutes, days, weeks or longer. Yet where is the time and place of this conversation? What conditions its opening and closing?

In a telephone or in-person conversation, there is an ongoing cadence. There may be greetings and pleasantries exchanged at the beginning, with the substance or purpose of the discussion happening in the middle of it. The tone of someone's voice gives us information about what the other person is feeling as meanings are negotiated through a back-and-forth dialogue. Finally, the conversation concludes and usually ends with "goodbye," "see you later" or other such words that indicate that a conversation is over. After all, a telephone conversation is limited by the duration of a phone call and an in-person meeting is limited by physical distance. Of course, a second call could be made, similar to a follow-up email, however, a similar rhythm of conversation may be present in each call that signals a beginning and an end. In an email exchange, it may be difficult to determine if an exchange has concluded. We may wonder whether "conversation" is even the correct word to apply to email exchanges that never really end, but instead are just composed of the uneven flow of chatter.

How would an email exchange appear if its cyber-reality were made tangible? Perhaps we can imagine one person standing among a group of others in a non-place. The space is nothing but chatter yet also has moments of meaningful chatter. Though there is a sense of disembodiment since the conversants are also not present in this non-place, it does not mean that there cannot be a sense of intimacy and presence (Milne, 2010). Email continually stands at the ready, in case there is more to the conversation, or in the event that a new conversation begins. Could this understanding make it tempting to message others whether or not it is important or even one that needs to be sent at all?

I will keep collecting messages until you come back. *I was away for a few days and didn't open my email at all. I like to stay on top of it so I don't usually leave it for this long and now I'm dreading opening it up first thing on a Monday morning. I turn on my computer, click to open my email and see there are more than 100 unread emails in my inbox. My heart starts to pound and a feeling of anxiousness rises. I am overwhelmed and I haven't even started my day.*

Email continues to collect, even if we make a conscious choice to take a break from checking it. Knowing this, we may feel reluctant to look at it when we have been away from our work, even for a short time. Seeing many messages that need our attention all at once can cause a physical response. Heart rates may rise, breathing may quicken and there may be a sense of dread or anxiety. It may be difficult to know where to begin. Should I tackle my most recent messages and work down the list, or should I start at the older message and work up? One research participant recalls, "I scan through a long list of incoming emails to see which I might be able to answer fairly quickly so I can get them off my plate right away. I mark the ones that are going to need more time as unread."

Having communication and information so easily available may bring convenience, but this may mean that we also become a resource that is just as easily available. This sense of constant availability was observed long before the arrival of email. McLuhan and Fiore (1967) note, "Electric circuitry has overthrown the regime of 'time' and 'space' and pours upon us instantly and continuously the concerns of all other men" (p. 16). Some participants referred to email as a flood or a mass, and variously described their response to messages as "firing back" or "shooting off" email, language that may denote the difficulties in managing many messages that may cause us to have to switch between diverse tasks and kinds of thinking. If we choose to take

a break from our technology or if we forget our mobile devices or they suddenly do not work, a different kind of anxiety can take over. Being without a networked device can be described as a feeling of memory loss, panic at being cut off from the online world or feeling adrift (Turkle, 2011).

Concluding Thoughts

> *There is no inevitability where there is a willingness to pay attention.* (McLuhan & McLuhan, 1988, p. 128)

Interviewing objects provides a window into who we are as human beings in relation to the other-than-human world that we inhabit. Interviewing email reveals some of the ways that gathering anecdotes, listening for the invitational quality of things, and applying the laws of media helps us to recognize email as deeply ecological as it touches and infects our professional and personal lives. By focusing on the larger environment created by a technology rather than solely on the technology itself, it becomes possible to discern its manifold impacts (Adams & Thompson, 2011). Email's invitational appeal lies in the easy 24/7, asynchronous, text-based communications it affords. Email facilitates connecting to people, no matter where they are in the world. Simultaneously, it attenuates face-to-face conversations, even when we are physically in the same location. Email has retrieved a more convenient and portable fax machine that we can use in so many different ways that perhaps it leads to overuse.

Our complicated relationship with email is likely to continue as it remains the most used communications technology, a trend forecasted to continue into the foreseeable future (Radcati Group, 2015). New versions of email continue to be created with the intent to improve the user's experience. Google's attempt to streamline conversations by nesting messages has been

controversial, many describing it as more confusing than helpful (Cassavoy, 2010; Kricfalusi, 2016). New apps such as Google's Boomerang take email from an inbox and return it to the user at a more convenient time. It can also defer the sending of an email to a recipient at a chosen time in the future. Artificial intelligence solutions are entering the email market through programs such as Knowmail (2016), designed to learn email habits and provide automatic sorting and feedback based on individual use. This personalized artificial intelligence promises to reduce e-mail overload by using algorithms to 'recognize an individual's state of mind and messaging consumption habits […] while predicting what the next ideal actions are for an employee' (Alspach, 2015, para. 2). If these technology-based solutions continue to evolve, might humans no longer be communicating with each other at all, our responses being generated by proxy through machines?

Sherry Turkle (2011) observes, "It is hard to maintain a sense of what matters in the din of constant communication" (p. 166). To resist this tendency, perhaps we can be more observant about how technologies influence our actions and be more mindful of how and when we use digital communication. We can create boundaries or conditions for when and how we allow reading and responding to email. As Adams and Thompson (2016) state, "We are simultaneously augmented and diminished by the technical. Both trajectories must be accounted for" (p. 69). We do not have to blindly accept what email creates, both positively and negatively. By paying attention to what email is saying, we can begin to use it in more thoughtful ways.

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Chapter Eight. Denouement—Gathering The Threads

"Technology is a texture, a feeling or surface that is knit into how we live and what we do."

(Irwin, 2016)

Our use of and experiences with technology do not have a beginning or an end, but rather are continuously unfolding. Both the technologies and the environments they create are constantly changing our experiences, often in new and unanticipated ways. I chose the title "denouement" for this chapter in part because I was in France as I wrote parts of this manuscript, but more so because of its meaning. The word is commonly thought of as a literary term to describe the resolution to a story, but I was drawn to it because of its etymology. Denouement comes from the French word *dénouement,* which means to untie—its Latin root being *nodus* or *knot* ("Dénouement," 1993).

The metaphor of knots or threads is found in phenomenology as well as in some forms of postphenomenology, and especially those influenced by Actor-Network Theory (ANT). For example, Merleau-Ponty (1962) describes the attitude which must be taken up in phenomenological research as one that "slackens the intentional threads which attach us to the world and thus bring them to our notice" (p. xv). Echoing Merleau-Ponty (1962), postphenomenologist Ihde (1990) suggested that "a serious reflection can only begin by gaining precisely enough distance from our mundane involvements that some sense of their uniqueness—even peculiarity—can be grasped" (p. 3). Ihde (1990) makes reference to fabric in his description of technology's involvements in our lives as he states that our world is "technologically textured" (p. 3). Ingold (2007) describes the interconnectedness of things as "meshwork" (p. 437). The metaphors of unknotting, gathering, and weaving all are apt

metaphors for the journey on which I have been.

In this study, I began by studying the particularities of email for K-12 teachers, focusing on the concreteness of their experiences. In exploring what was unique about email for teachers, I began to discover that many of the experiences described were familiar to other professionals, and indeed to anyone who regularly used email. I also found that digital communications tools are not easily separated from the larger environment. Participant experiences were inexorably interlaced into the fabric within which my research question was situated. Perhaps this entanglement was inevitable in an interconnected, digital world that also extends to K-12 settings. However, by maintaining an openness to the contexts as well as individual participant descriptions, I was able to both explore email experiences that were unique to teachers and to understand how some experiences may be more universally resonant. These explorations led to the creation of this dissertation that gathers five papers, each discussing a unique aspect of the research topic.

Gathering Themes

My primary research question was, "What is it like for a teacher to receive email outside regular work hours?" Participants described a wide range of experiences, from email as an experience of receiving information to finding themselves in the middle of a difficult situation with the arrival of an email. An examination of all five papers reveals four interrelated themes that criss-cross each: the dynamic digital communications mediascape, the changing nature of availability, the pharmakon of email, and technological somnambulism. These over-riding themes speak not only to what was significant in teachers' experiences of email but may also extend to the experiences of people outside the profession within today's technology-textured

environment.

The dynamic digital communications landscape. In the past, traditional K-12 teacher communications vehicles included face-to-face conversations, notes, phone calls, report cards, and parent-teacher conferences. Today, these strategies still exist and extend to tools such as online student information systems (SIS), social media, electronic newsletters, apps, websites, and texting. One study of digital tools used by teachers in K-12 found that they are even overtaking face-to-face interactions (Thompson, 2008). An aspect that emerged from my research was that various technologies connect to and are used alongside email, which can contribute to a sense of email overload. For example, SIS can create an email alert when a teacher updates student marks in an online grade book. In Paper III, one administrator recalled that when digital report cards were released to parents, it spawned a large volume of email. The integrated nature of a variety of technologies may increase the volume of communications that a teacher must manage.

Another aspect of the ever-changing technosphere was uncovered in Paper I through the historical variations. Email has shifted from large mainframe computers to desktop computers and now to mobile devices. Shrinking devices and increasing speed of communications has brought more email and other digital communications into the lives of teachers. In the past, a teacher had to be sitting at a desktop computer, ready to engage in teacherly tasks before they were able to see email that might pull them back into classroom matters. Now the reminders of classroom responsibilities can arrive anytime and anywhere on a mobile device.

This evolution will continue to have impacts on teachers as well as all email users. To illustrate, a *Forbes* article predicts that by 2020, the wearable device market will be worth CAD

$34 billion with smart watches leading in sales but also including eyewear, tokens, jewelry, and hearables (Lamkin, 2016). This evolution raises many questions. How might the experience of email transform when it is not just calling from a purse or pocket but is literally in front of our eyes? Furthermore, what might it be like if it became a part of our body? In an article entitled, "The Next Wearable Technology Could Be Your Skin" (Santarelli, 2016), a new technology called e-skin, is described. Thin silicone strips equipped with sensors are applied to the back of a hand or an arm, creating a touchscreen surface. How might email be experienced if it became part of our arm or hand—when *we* are a part of the media and the message? Perhaps the phrase "always on" will have a different meaning.

As digital communications tools and devices continue to evolve, we must continue to be mindful of how they impact our lives. As was discussed in Paper I, digital communications tools may follow a similar path over time. As predicted using the model proposed in Paper I, email will likely disappear, being replaced by newer technologies. No matter how efficient or effective the next versions of technologies may be, they all come with both benefits and challenges.

The pharmakon of email: Cure and poison. Whenever a technology is developed, it has beneficial aspects but also comes with risks. This coupling of effects has been described as pharmakon, derived from the word *pharmacy* which is related to both medicine and poison (Pharmacy, 1993). Adams (2017) describes the dual nature of technologies in the following way:

> every technology is always a flickering mirror play of both poison and cure, interior and exterior, recipe and spell, white magic and dark sorcery, life-giving potion and dangerous intoxicant. Every pharmacological prescription is remedial only in its carefully measured

application. Too little and it does not work. Too much and it acts as a poison.

Moreover, we are all ferocious users of this potent drug called technology. (p. 231)

Email is a prime example of technology as pharmakon. On the one hand, the invention of email remedied the problem of the materiality of letters that had to physically travel to the location of the recipient. On the other hand, the proliferation of messages can lead to email overuse and overload. The following sections describe the pharmakon of email that may apply to both teachers and to technology users more broadly. The use of the double-sided arrow between the descriptors indicates that experiences may flow back and forth between these opposite effects.

Connection←→ Isolation. During this study, I learned that email has contradictory effects for teachers. There were instances where email was an invaluable tool. For example, in Paper IV, two of the anecdotes described family situations that were important for the teacher to know about and might have been difficult for a parent to explain in person. A different example demonstrated how email was used to communicate about some new medication that a student was taking and provided a means for a teacher and the child's parents to check in regularly (Paper III). In this way, email provided a means for teachers and parents to connect quickly on important issues. Conversely, some teacher accounts spoke to less positive effects. One account in Paper II described a moment where a teacher wanted to connect with colleagues in the staff room but found it empty. Although their colleagues were nearby, they felt it important to stay in their classrooms to get caught up with email rather than connecting in person. In Paper IV, administrators described sitting down to do email in the morning or after school as a burden and an activity that created anxiety.

Technology has the capacity to bring people together but may also create a sense of

isolation or loneliness. Sherry Turkle's (2011) book, *Alone Together*, argues that despite being hyper-connected, there is also an emotional isolation that can take place. Van Manen (2010) echoes Turkle's observations and states, "In online communication, we may feel close even though we are physically distant. We may also feel distant even though we are physically near. Ambiguously, closeness is not the same as nearness" (p. 1028). Email as a digital tool can both connect and separate people, sometimes simultaneously.

Reveals ←→ Screens. The anecdotes gathered in this study demonstrate that email can both reveal and obfuscate. For example, a teacher described receiving an email from a student who they were helping get a university application submitted. Words of appreciation that would have been difficult for the student to say in person were revealed during an online exchange. In another example, a parent was able to disclose personal information about their family that may have been difficult to discuss in person because of its emotional nature (Paper IV).

Other experiences related by teachers showed how email may sometimes act as a barrier to understanding meaning or intent. In Paper IV, an administrator had been forwarded a message from a parent because the teacher was unsure how to respond. The administrator observed that behind the screen the parent said things they may not have said in a face-to-face interaction. In a different anecdote, a teacher received an email that seemed abrupt (Paper V). Without the benefit of body language or vocal tone, the teacher was unable to determine if this was intentional or not. In the same paper, a teacher found themselves unsure about whether or not an email exchange had concluded or if there was more to come, which would have been obvious if they had been meeting face-to-face.

Frees ←→ Shackles. On the one hand, email apparently provides a freedom from time

and place. A parent, student, or colleague does not have to wait to have a face-to-face or telephone conversation with a teacher. An account in Paper IV described how email was used as a quick information exchange between an administrator and the chair of a school council. This freed both the administrator and council chair from having to meet in person and allowed them to make plans for the meeting at a place and time that was convenient for them. As such, email can be a useful tool for those involved in K-12 education.

On the other hand, some participants' experiences revealed their sense of being shackled to email, particularly in the accounts given by teacher administrators. From rising early to do email before going into school, to reading and responding to email in the evenings, to waking up in the middle of the night worried about a late-night email interaction, administrators' email appears to exact a heavy toll on their personal lives. Further, administrators may interpret the receipt of smart devices from their school jurisdiction as an unspoken understanding that they will be "on call" for parents, students and staff (Paper III).

For people working outside teaching, digital communications tools such as email enable the freedom to do work outside of traditional boundaries. A Gallup poll noted that telecommuting grew from 9% of workers in 1995 to 37% in 2015 (Jones, 2015). Working remotely instead of having to be at a place of employment can provide flexibility to support parents with young children or those who might not be able to travel to a workplace. However, this flexibility of access can also tether people to their work. Devices may be checked even more frequently than people think, even during times that are designated for breaks. One survey of 1,500 adults indicated that more than one-third of respondents checked email at least once on non-working days for which they were unpaid (Samanage, 2016). Another study found that

email users checked incoming messages within six seconds of arrival (Jackson, Dawson, & Wilson, 2002). The authors calculated that if an email program is set to check email every five minutes, users could conceivably be interrupted 96 times during a workday. We might wonder at the cost of being constantly connected to digital devices.

The changing nature of availability. Paper II focuses specifically on availability but it is a thread that is common in the last four papers of this work. Availability is more than just being physically present; it is an attitude of being open to others. This is particularly relevant for teachers because of their deep affection and concern for their students. Being available to others via digital technologies can present a dilemma for teachers. One account in Paper II related an experience where a teacher chose to purposefully ignore a pinging phone in order to be available to colleagues in a staff room. Administrators' experiences highlighted the choice that they often had to make between doing email in their offices and being present in the hallways and classrooms for instructional leadership. Other accounts described teachers' availability to teaching concerns, which made them unavailable to their loved ones at home, even if they happened to be sharing a couch. Eric Pickersgill's (2016) photo collection entitled "Removed" was a stark, visual portrayal of how devices can make people available to tasks or people via a mobile device but removed from those around them (Paper II).

Such accounts are not only specific to teachers but speak to a wider societal issue of digital distraction. An unexpected narrative on the impacts of technology came from Pope Francis' (2015) encyclical "Laudato Si'" or "On Care for Our Common Home". Though the encyclical was primarily a global challenge on taking care of the environment, Pope Francis offered these thoughts on the use of technology:

> when media and the digital world become omnipresent, their influence can stop people from learning how to live wisely, to think deeply and to love generously. In this context, the great sages of the past run the risk of going unheard amid the noise and distractions of an information overload. Efforts need to be made to help these media become sources of new cultural progress for humanity and not a threat to our deepest riches . . . . Real relationships with others, with all the challenges they entail, now tend to be replaced by a type of internet communication which enables us to choose or eliminate relationships at whim, thus giving rise to a new type of contrived emotion which has more to do with devices and displays than with other people and with nature. Today's media enables us to communicate and to share our knowledge and affections. Yet at times they also shield us from direct contact with the pain, the fears and the joys of others and the complexity of their personal experiences. For this reason, we should be concerned that, alongside the exciting possibilities offered by these media, a deep and melancholic dissatisfaction with interpersonal relations, or a harmful sense of isolation, can also arise. (pp. 32–33)

These words could have just as easily been spoken by a media scholar such as Marshall McLuhan (1967) or Neil Postman (1992). Pope Francis observes that while technologies afford easy communication, they may also mediate relationships and potentially isolate us from one another. His encyclical speaks to the need for us to rise above the din of technology and maintain a sense of who we are and who we want to become.

Technological somnambulism. In Langdon Winner's (1989) *The Whale and the Reactor: A Search for Limits in an Age of High Technology* questions were raised that transcended the technology of the day. He asserted that use of any technology can never be

thought of in simple, binary terms, such as positive or negative ways. He believed that the larger issue is being aware of how technology "provides structure for human activity" (p. 6). In other words, email is not merely a neutral tool but also a force that shapes our world. He believed that when we notice patterns in our world, it is important that we stop to examine them. In this way, we can avoid what he calls "technological somnambulism," our willingness to "sleepwalk through the process of reconstituting the conditions of human existence" (p. 10).

In many of the accounts related by teachers, there was a sense that responding to the call of email was something that occurred out of habit. One of the anecdotes I found most striking was related in Paper V and was an account of a participant reading email on the way to the bathroom in the morning before the lights were on and before they were even fully awake. Several other anecdotes began with the pinging or vibrating of a mobile device to which a teacher responded. Others recounted engagement with email in places where teachers would not typically be responding to work matters, such as in the grocery store, on the couch with their partner, and while waiting for an appointment. This kind of mindless technology use is certainly not specific to teachers but is perhaps a commentary on modern life.

In a *New York Times* article, Chuck Klosterman (2010) compares email to a zombie attack. He posits that like zombies, email never stops coming, no matter what we do. The more we read and reply, the more email gets generated, and we somehow feel that "as long as we keep deleting whatever's directly in front of us, we survive" (para. 15). While Kosterman's (2010) metaphor for email as a zombie attack resonates in some ways, we might ask ourselves who the zombies are in this scenario. If, as he suggests, a zombie is an organism that does not talk or think and its sole motive is consumption, then perhaps *we* are the zombies. We can fall into a

zombie-like trance as we spend hours each day answering email. We may not stop to question why we feel we must perform this task or if there might be a better way to communicate with the people whose faceless names reside in our inbox.

Being asleep or numb to our technology use is not a new idea for those in fields that explore technology and philosophy. Marshall McLuhan and Quentin Fiore's (1967) iconic book was originally entitled, *The Medium is the Message*, but when the book came back from being typeset, it was spelled "massage" rather than "message" (McLuhan, 2017). McLuhan decided to leave the typographic error because he thought that it was apt as he believed that technology massages us into a numbed state (McLuhan, 2017, para. 1). McLuhan and Fiore (1967) state, "Environments are invisible. Their ground rules, pervasive structures, and overall patterns elude easy perception" (pp. 84–85). They suggest further that while we may think that we use technology, technology also uses us. We must guard against sleepwalking during our use of digital communications technologies.

Complex Elucidations for Complex Problems

Viewing email through the everyday experiences of teachers reveals some of the complexities brought about by a technology that is so commonly used. This study uniquely contributes to better understanding teachers' everyday experiences of a digital communications technology. The next sections discuss considerations arising from my research. For example, can technology itself be used to help to solve problems? Or is it up to teachers to consider how and when they engage with email and other communications technologies?

Is there always an app for that? When we become awake to our email use, we may begin to wonder if we should find ways to better manage it. Technology designers recognize

problems with email and have developed new apps, features, or programs to help deal with overload. For example, a Google add-on for email is the recently launched Respondable (Google, n.d.a), that analyzes the effectiveness of your email composition in real time. Another is Google's (n.d.b) Boomerang for Gmail which provides a Chrome extension that allows users to defer the sending of an email or to "boomerang" it back to a user at a future time. Progress meters that track factors such as word count, reading level, and politeness aggregate into a meter that describes how likely it will be that a missive will receive a response. Another add-on for Gmail is the newly launched Inbox Pause (Google, 2017) which holds email and only delivers it to an inbox at times the user specifies.

The familiar refrain "there's an app for that" is part of today's digital culture. Digging deeper, this phrase appears to promote the notion that for any problem or concern, there is or can be a technological solution. If there was an easy remedy to email overload, we might imagine that email overload would have been solved long ago. That there is no one clear solution speaks to the complexity of the problem—none of the programs described above have been able to tame inbox overload for everyone. A technological problem may not always be solvable through the addition of more technology.

If more technology is not necessarily the answer, could a non-technological solution be the answer to email overload? One proposed solution is to limit all email to three sentences in order to minimize the amount of time spent emailing. This limitation may also encourage brief responses (Orlin, 2010). Another suggestion is to create a "calm" email inbox where messages are only checked during designated times during the day (Morgan, 2014). A signature line is inserted into in each email that states, "This is a Calm Inbox: email is checked once in the AM

and once in the PM" (para. 3). The author further suggested that the specific hours that email will be processed should be detailed in the automatic reply (Morgan, 2014).

Another solution was proposed by Gallo (2012) who recommended that users delete or respond immediately if incoming messages can be dealt with in less than 1 minute, and to use a filing system for those that cannot. Her article also suggests an "email sabbatical" (para. 13) —a deliberate break from technology during quieter periods at work as a way to avoid burnout. A more radical solution is a suggestion to declare "email bankruptcy" when the number of emails in an inbox becomes impossible to answer given the time available. All email is deleted in order to provide a clean slate and the inbox owner can send a blanket email asking for any outstanding issues to be resent (Hyatt, 2014).

What can teachers do? There are different approaches that may be taken to manage email, such as the creation and application of school policies and the use of professional judgment. The strategic enactment of policies may be one way to help mediate the challenges created by email. One research participant stated that their informal school board policy was to answer email within 24 hours on workdays. They felt this was a helpful strategy, particularly with messages received late on Fridays. In this case, a teacher could avoid checking email over the weekend or at least deferring a response until Monday. A hunt for policies regarding email as communication within K-12 schools yielded no results, despite using internet searching, Google Scholar, library resources, and even a question posted via my Twitter network.

Perhaps the only aspect a teacher can control is the use of their professional judgment to determine how and when they may be available to others. Email features themselves could help to create boundaries. For example, a teacher could leave on an automatic reply stating, "I am in

class with students and have school duties between 8:30 am and 4:00 pm. I will respond as soon as possible". A message such as this may serve as a reminder that teachers cannot easily respond to email until after classes, thereby tempering the expectation of an immediate response (School in the City, 2016). Complicating decisions about how best to handle email is a teacher's care and concern for students. Connecting with students is a part of what makes teaching satisfying and being available is at the heart of what it means to be a teacher. As Marcel (1984) notes, availability transcends being physically present. It is about being open and gifting ourselves to the other. Being available, however, is not only important for a teacher's students, but also for a teacher's loved ones and for themselves.

It starts with the conversation. My research does not claim to provide definitive answers. Rather, it speaks to the importance of questioning our everyday practices with digital technologies, and most especially with those that, like email, are now intimately woven into many aspects our personal and professional lives. Teaching responsibilities have always bled into the personal lives of teachers. Working in the evenings, on the weekends, and over vacation time is not new. What is novel, however, is the ability for students, parents, and colleagues to reach teachers 24/7 with a real or felt expectation that they should respond immediately.

How can teachers understand and manage the demands of being a caring professional in a digital world? It is important for teachers to engage in open-ended, professional conversations about the use digital communications tools. Gone are the days when technology can be dismissed as "just a tool". We are becoming more conscious of its impacts and, as Sherry Turkle (2015) states, "We are ready to re-consider the too-simple enthusiasm of 'the more connected we are, the better off we are'" (p. 17). Having face-to-face conversations about the use of digital

communications is an important first step.

Additional research may assist in continuing important discussion. Adams (2017) suggests that "tomorrow's educational researchers and pedagogues must also be pharmacologists of the Digital, seeking to uncover the prereflective meanings but also the perceptual influences [and the actional and cognitive possibilities and diminishments] of its engineered environments on human or better – posthuman – becoming" (p. 238). Future studies could examine the experiences of students and parents as they engage in digital communications with teachers. It may also be interesting to study the experiences of digital communications by teachers and administrators in their early years of practice. I would also recommend the exploration of seldom-used approaches to understanding technology in K-12 contexts, including postphenomenology. The practice of researching educational contexts using both phenomenology of practice and postphenomenology has been explicated by Adams and Turville (2018) and may be useful in exploring these and other complex topics (Aagaard, 2015; Adams & Turville, 2018). Additionally, understanding lived experiences of technologies is not a common approach and it would be interesting to explore other digital communications tools such as social media and text messaging in K-12 settings.

Closing Thoughts

I had not set out to do a paper-based dissertation, nor had I planned to use multiple methodologies. My original plan was to use a phenomenology of practice approach to understand teachers' lived experiences. Along the way, I discovered that postphenomenology and posthumanistic approaches provided additional methodological heuristics to help address the larger technology-textured world we are currently living in. Being able to explore my topic in

these different but related ways had a twofold impact. On the one hand, I may not have been able to gain as deep an understanding of phenomenology as I would have had I chosen to pursue a phenomenology of practice alone. On the other hand, my exploration led me to understand and appreciate different research approaches. Now that I am at the end of my journey, I am satisfied with the choices I have made and feel that I have been able to reveal different things about digital communications and society while exploring the situation for teachers.

This study grew out of a personal and professional interest regarding the impact that digital communications technology may be having on the lives of teachers. Through the multiple qualitative approaches used, I have endeavoured to create a cohesive set of rich, textual documents that aim to uncover aspects of experience that teachers may rarely consider in their everyday use of a ubiquitous technology. Gadamer (1989) asserts that "the essence of the question is to open up possibilities and keep them open" (p. 299). This is what I aimed to do during the course of my research. This study also speaks to Winner's (1989) question, "What kind of world are we making" (p. 17) by asking, what kind of classrooms and schools are we making? What kind of students are we making? And what kind of personal and professional lives are teachers making?

In the end, whether policies for email exist or not, it is up to the individual user to determine what works best for them. In the words of Michael Foucault (1988), "One must become the doctor of oneself" (p. 31). It is important for teachers to determine which digital communications practices add to their professional worlds and personal lives and take steps to manage them when they become more of a burden than a benefit. It is my hope is that this research awakens teachers and others to be more circumspect in their use of digital tools so they

may be in a better position to observe how technology is shaping their everyday lives.

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APPENDIX A: INTERVIEW PROTOCOL

Study Title: A Phenomenology of Email in Teachers' Lives

Preliminary Activities:

- Review informed consent form
- Obtain two signed copies—one for the researcher and one for the participant
- Ask for and record basic information:
    - Name
    - Number of years of teaching
    - Role (e.g. teacher, administrator, consultant)
    - Age

Interview Intent:

In this interview, the purpose is to try to help you recall specific instances of what it was like for you to receive email outside your regular teaching hours. I am interested in both everyday and unusual experiences that you may have had. The intent of the interview is to "jog your memory", and then have you describe in as much detail as possible, specific moments that you may have had. I am interested in your specific experience rather than your opinion about it or any judgments you may make about it. The interview will be relatively unstructured and emergent as we explore your particular experiences. The questions below are merely guidelines to help your recollection.

Preliminary Question

This question is intended to have you think about the most recent email in order to recollect their experience with email.

1. What was the last email you received?

Interview Questions:

1. Think back to your teaching experiences. Can you recall a particular instance when you received email after regular hours?
2. Once a moment is recalled, one or more of the following questions may be asked to assist you in recalling details (adapted from van Manen, 2014, p. 316):
    - What happened?
    - Who was the email from?
    - When exactly did this email arrive?
    - Where were you when it arrived? What did you notice about your environment before, during and after the email?
    - How long was this event? Did you notice anything related to time, such as it being faster or slower than usual?
    - Who said what?
    - What happened next?
    - What made this vivid?
    - How did your body feel, how did things smell, how did things sound, etc.?
3. You may also write a lived experience description about email you receive outside regular hours.

APPENDIX B: WRITING LIVED EXPERIENCE DESCRIPTIONS

Following the interview, you may recall additional events that you would like to share with the researcher. If you wish, these may be written and submitted to the researcher using the following prompts derived from *Phenomenology of Practice*, van Manen, (2014):

- Describe the experience as much as possible as you live(d) through it. Avoid causal explanations, generalizations, or abstract interpretations;
- Describe the experience from the inside, as it were—almost like a state of mind: the feelings, the mood, the emotions, and so on;
- Focus on a particular example or incident of the object of experience: describe specific event… a happening, a particular experience;
- Try to focus on an example of the experience that stands out for its vividness, or as it was the first or last time;
- Attend to how the body feels, how things smell(ed), how they sound(ed) and so on;
- Avoid trying to beautify your account with fancy phrases or flowery terminology. (p. 314)

APPENDIX C: PARTICIPANT INFORMATION LETTER

Study Title: A Phenomenology of Email in Teachers' Lives

Research Investigator:
Joni Turville
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780-293-4017

Supervisor:
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(780) 492-3674

Invitation to Participate in a Research Study

My name is Joni Turville and I am a doctoral student at the University of Alberta. I am conducting research into the phenomenon of email in K-12 schools in a study entitled "A Phenomenology of Email in Teachers' Lives". The results of this study will be used to support my doctoral dissertation project as part of the requirements for the completion of my Ph.D. program and the results may be used in future publications and presentations.

Background

You are being invited to participate in this study because you are a teacher with experience in the K-12 school system in Alberta. This information letter is being shared with you with the permission of your school board. I am contacting you because I am hoping to interview you about your experiences of using email as an example of what it is like to be drawn back into school concerns outside regular hours.

Purpose

The purpose of this research is to collect and analyze teachers' everyday experiences of receiving email outside regular hours. Using a phenomenological methodology, this study explores how this specific kind of electronic communication is experienced from the perspective of a teacher. It may also reveal its impacts on teacher wellness, work/life balance and pedagogical relationships.

Study Procedures

If you agree to participate in this study, I request that you forward your name and contact information to my email, mcbethtu@ualberta.ca. From there, I will contact you to arrange a convenient date and time to interview you. During the interview process, you will be asked questions about your experiences of receiving email outside regular hours. I estimate that the initial interview will last for approximately one hour. After the initial interview is completed, I will look for smaller texts that are examples of this experience as you lived through it. These will be crafted into anecdotes, smaller narrative pieces that will serve as an example of this experience. Anecdotes will be shared with you to verify that they accurately represent what the specific experience was like. If revisions are required, they will be completed and sent back to you for verification. A follow-up interview may be scheduled for an additional hour, if desired. I will also leave an information sheet if you would like to add any additional accounts in writing, following the interview.

Benefits

Your contribution will help to address a current gap in the studies of email in teachers' lives, as little has been researched in this area. I hope to be able to offer insight into this experience from the perspective of teachers. No costs are associated with being involved in this research and participants will not receive compensation or reimbursement for their participation.

Risk

The risks of participating in this study are minimal and are no greater than the risks of everyday life. Some of the questions may focus on problems that are encountered, which potentially could increase stress for some participants, therefore, during the interview process, you are not required to discuss anything that causes discomfort.

Voluntary Participation

Participation in this study is voluntary and you are under no obligation. Even if you agree to participate, you may change your mind, decline to answer specific questions and/or to withdraw your participation at any time. This can be done provided this withdrawal takes place within one month of the completed interview as specified by the date on the Participant Informed Consent Form. You may choose to withdraw any or all of the data that has been collected. We will not continue to use withdrawn data, as it will be destroyed permanently.

Confidentiality & Anonymity

The data generated from this study (audio recordings, transcribed interviews, written accounts, and notes) will be used for research purposes only. Dissemination of the research results includes research articles for publications and/or academic and professional presentations. You will not be identified in any of publications, as any details that could potentially identify you will be changed. The data will be kept confidential, only the researcher and any transcribers—who all have signed a confidentiality agreement—will have access to them. Data will be kept in a secure, locked place for a minimum of five years following the completion of the research project, and all digital data will be password-protected/encrypted. After that time, data will be destroyed. Participants may receive a copy of the research findings by indicating this to the researcher. The data obtained from this study may be used in future research, but this must first be approved by a research ethics board.

Further Information

If you require further information, please contact the researcher, Joni Turville at mcbethtu@ualberta.ca.

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

APPENDIX D: CONSENT FORM

Study Title: A Phenomenology of Email in Teachers' Lives

Research Investigator:
Joni Turville
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780-293-4017

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551 Education South
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caadams@ualberta.ca
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I have read and understand the information letter for the above-named study and give my consent to participate in this study. More specifically, I understand

	Yes	No
that my participation in all aspects of this study is voluntary.	☐	☐
that I am free to withdraw from the study, to refuse to answer specific questions, and/or to otherwise withdraw my participation at any time, provided this withdrawal takes place within one month of the completed interview (date indicated below).	☐	☐
that the information I provide will be kept anonymous by not referring to me by my name, but by using a pseudonym.	☐	☐
that the information I provide may be used in research presentations, professional presentations reports or other manuscripts for publication.	☐	☐
that the interview will be audio-recorded and the researcher will take written notes.	☐	☐
that after the interview the researcher may ask me to write a short description related to the study.	☐	☐
that the researcher involved in this study will have access to the content of the audiotape, transcripts, notes, or the written accounts shared by me; anyone that has access to this data will sign a confidentiality agreement.	☐	☐
I acknowledge that the research procedures have been adequately described and that any questions I have asked have been answered to my satisfaction and I may contact the researcher Joni Turville (mcbethtu@ualberta.ca, phone 780-293-4017), if I have further questions either now or in the future.	☐	☐

_____ _____
Participant's Name (printed) and Signature of Participant Date

_____ _____
Name (printed) and Signature of Person Obtaining Consent Date