Review Article

When at home: a phenomenological study of zoom class experience during the COVID-19 pandemic

Abstract

In a preliminary study conducted during the early phase of the COVID-19 pandemic, i.e., the spring 2021 semester, this paper explores the integration of Zoom into online learning while in-person teaching was paused. This pilot study aims to offer initial insights to improve inclusivity and accessibility in teaching and learning. While more robust empirical research has since been conducted to enhance Zoom-based learning environments, the findings from this study remain foundational and complementary to ongoing and future pedagogical research in online education and digital pedagogy. During a one-month ethnographic study involving five participants, including college students and professors, Maurice Merleau-Ponty's phenomenological concepts were applied to investigate how students and educators navigate temporal and spatial challenges in Zoom meetings and the strategies they use to overcome these obstacles. Additionally, an experiential autoethnography was employed to document personal experiences beyond the Zoom classroom, providing insight into participants' daily lives. By capturing a snapshot of the initial transition to remote education, particularly through Zoom meetings, this study offers valuable information for improving the online learning experience for both students and educators.

Keywords: digital pedagogy, online ethnography, phenomenology, experiential autoethnography, home technology, affordance, zoom class

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Introduction

Since many schools and universities adopted remote-class delivery in response to the COVID-19 pandemic, Zoom class has become the new norm among students and educators. Compared to previous remote class experiences, such as online class and online degree programs, the current Zoom class has two different features. For one thing, it is a temporary strategy to have Zoom class and other video-meeting technologies to practice social distancing in order to eliminate the negative consequences of the current pandemic. For another, isolation and potentially difficult environment become evident stressors due to the influence of the pandemic. Therefore, this paper seeks to answer what characterizes people's online teaching and learning experience during the COVID-19 pandemic in the United States. I conducted a one-month long ethnographic study of five informants using Merleau-Ponty's phenomenological concepts to examine how current working and studying conditions challenge both students as well as educators' temporal and spatial sensations and what strategies they take to cope with these challenges during their Zoom meetings. Additionally, I employed the autoethnographic method to fill in the gap where participation with informants' daily life was unreachable by documenting my personal experience within and beyond the Zoom class. Through a small sample of the target population, this paper captures a snapshot of people's initial adjustment to remote educational channels, particularly via Zoom meetings, and provides helpful information in terms of creating resources and improving Zoom class experience for students and educators.

Literature review

There is an increasing application of phenomenology in exploring human-technology relationships in recent years. For example, Richardson and Keogh's[1] ethnographic study focuses on how users intimately interact with mobile devices through touchable screens in their daily lives. Pink et al.,[2] examine users' experience of mobile media through users' hands with the help of video ethnographies and address the significance of tactile aspects in mapping people's digital worlds. Pink and Mackley[3] reevaluate the role of media under the household settings and draw a picture of how our daily routines of media use affect our perceptions of how our homes function.

Although the phenomenological analysis of people's interaction with technologies plays an importance role in exploring people's digital worlds and embodiment through remote educational channels, examining the infrastructure features is necessary as well. A successful and effective Zoom class is indebted to "necessary software and hardware infrastructures, high-speed and accessible Internet, purposeful educational design, as well as empowering, motivating, and encouraging faculty members to participate in such educational programs".[4] The attendance of Zoom class, in this way, not only needs student's commitment to show up during the class time but also requires accessible technological support to help them finish class without major disconnections. Apart from the constraints of various devices, the affordance of software enables a different experience for Zoom users compared to their previous in-class experience.

The affordance, on the one hand, influences users' acquisition and adjustment to the new tools: "Webinar technology has many benefits in the area of online learning, allowing for real-time and synchronous communication between the speaker and the listener, covering long distances to reach the potential audience and making it possible to archive web-based information for later use".[4] Zoom class fulfills users' expectations by allowing people to join a scheduled meeting and participate in discussion by unmuting themselves before they speak; at the same time, users have an option to show their video images. The whole meeting is also recordable for later use. Since most schools and universities have purchased education licenses, students and educators usually have access to full services provided by Zoom if they log in with their institutional credentials.

On the other hand, the familiarization of the affordance delivers the enrichment of inhabitation. Using Zoom regularly cultivates a certain pattern of gesturing and thinking even after the meeting

session. Richardson and Keogh[1] documented a piece of narrative in their mobile media fieldwork: "she held her right hand in the air, index finger stretched out, and waved horizontal and vertical lines in the air" (211). This story illustrates the penetrative impact of technological affordance by activating people's muscle memories. For example, Zoom users tend to unmute or mute themselves before or after their speaking section during their regular class. Such a self-conscious gesture may come to act beyond one's awareness when the user is going to speak using the same or other platforms. "Putting one's finger on the screen does not only open apps, but invokes feelings of connection with people, experiences, and activities".[2] If entering the classroom prepares students and educators into learning and teaching mode, their engagement with Zoom class will have the similar effect in non-virtual class by activating their preset inhabitation toward a designated environment. Zoom's affordance, therefore, is highly associated with users' sense of occasion.

As Richardson[5] argues, "both body and screen are imbricated in a number of complex ontological and embodiment metaphors" (3). The shift to Zoom class accordingly challenges people's embodiment that was established before the pandemic. Richardson and Keogh[1] find that users' engagement with digital games is usually "multi-contextual" (212). There are multiple fields that ethnographers can analyze between digital screens and users' gestures. This "simultaneously involves online networks, the specificity of domestic spaces, the materiality of interfaces and their haptic demands, and communication with others both physically and virtually present" (212). Therefore, "ethnographers of online and digital media have argued that we need to acknowledge and explore the 'ontological diversity' of online and mobile media, requiring the application of ethnography as an 'adaptive methodology' (212). Such an approach allows ethnographers to take equally diverse fieldwork into account without falling to the dichotomy of online and offline worlds. Like any internet-based technology, Zoom users' performances are interconnected to their embodied experiences within certain social and material contexts. In this manner, "ethnographies of online, mobile, and digital media cannot attend solely to the online and the digital, but must also account for the material, social, and embodied experiences within and alongside which the online and digital are situated" (212).

Phenomenology provides a perspective to study body-technology relations regarding people "individual, collective, social, and cultural effects in everyday life contexts" (212). Merleau-Ponty's intercorporeality can be applied to describe the intimate relationship between humans and technologies, which "describes the irreducible relation between technics, embodiment, knowledge, and perception" (212). As Merleau-Ponty[6] argues, "one's own body is in the world just as the heart is in the organism" (209). The phenomenological approach is instrumental in collecting and interpreting people's Zoom class experience given specific contexts, particularly their experienced perception and bodily movements. Richardson and Keogh[1] apply the phenomenological approach to explore "how the routines of bodily movement and interaction within the home are modified by mobile media user-practices, affecting our experience of touch, immediacy, proximity, distance, and togetherness in domestic space" (213). This aspect has a significant impact on people's contextualization of the dynamics between their body and the technology.

Another aspect of researching body-technology relationship calls attention to sensational process among users' experiences. Richardson and Keogh[1] claim that "the practical application of phenomenological enquiry to ethnographic methods also turns our attention toward the multisensory and tactile nature of our being-in-the-world, countering the predominance of audiovisual approaches in the study

of contemporary media" (213). The engagement with Zoom class inevitably drives the reconfiguration of sensation about technology and interactions with others. These changes may cause disturbance to our post-Zoom experience and generate new dimensional sensations to our current situatedness.

Additionally, phenomenology is also concerned with the everyday embodiment, in Moores[7] terms, our "habitation," "at-homeness," or indwelling "by reflecting upon those mundane micro-practices that congeal into collective routines and processes just as they simultaneously rework and transform those patterns of perception and ways of knowing" (213). Attending class on Zoom on a regular basis while staying at home influences people's perception of spatiality in their daily lives. As Richardson[5] argues: "tools are not conceived as merely perceptual attachments or extensions, but rather our corporeal schemata dilate to make room for instrumentality" (1). From this perspective, technologies are not only passively perceived in digital communication; more importantly, they play active roles in people's daily engagement with themselves and others. Thus, technology becomes an attachment to our skins and functions as a membrane that absorbs elemental vibes through our multiple senses, delivers nutritional data to our daily perception, and constitutes our new experience.

Methodology

As Richard and Keogh[1] argue, "digital ethnography has emerged as one response to the study of digital, mobile, and networked media in everyday life" (211). There is no one-fits-all method to study digital ethnography, but rather "such research is methodologically innovative or mixed transdisciplinary, empirical, contextual, and cross-cultural" (211). To capture comprehensively the nuanced dynamics of users' Zoom class experience, the stay-at-home impact, and researcher's reflexivity, this research includes media walkthroughs, semi-structured interviews, and autoethnography.

The media walkthrough, as Light et al.,[8] argue, "establishes a foundational corpus of data upon which can be built a more detailed analysis of an app's intended purpose, embedded cultural meanings and implied ideal users and uses" (881). It is useful to apply the media walkthrough to gain first-hand knowledge of the affordance. A media walkthrough involves "engaging directly with an app's interface to examine its technological mechanisms and embedded cultural references to understand how it guides users and shapes their experiences" (882). This method requires observation and documentation of the software' screenshots in a step-by-step manner. To examine features and flows of activity also involves the review of the software's updates and its operating requirements. On the other hand, "the walkthrough also serves as a foundation for further user-centered research that can identify how users resist these arrangements and appropriate app technology for their own purposes" (881). Light et al.,[8] explain:

Once an app's intended use is established, user-developed practices, services and artifacts provide a sense of how individuals resist these intentions. The walkthrough method is versatile and provides foundational analysis of an app, which can be combined with content analysis or interviews to gain further insights into users' application and appropriation of app technology to suit their own purposes. (897)

As Burrell[9] suggests, "seek entry points rather than sites" (190). The application of the media walkthrough approach serves as a legitimate entrance, carefully analyzing the affordances of apps that reflect cultural values by providing a shared platform for users

and developers to "communicate meanings that shape our everyday practices" (896).

Ethnographic interviewing, as a conversational entry point, is critical for understanding how technologies are part of people's daily lives. Interviews with informants provide opportunities to have concrete and "thick" description of their regular practice with Zoom classes. Five informants in this study include three of my classmates and two of my professors in this semester. Given the circumstance of people's different schedules, the interview session is determined weekly and the duration for each session is from thirty minutes to an hour. The first interview round started on March 30, 2020, and questions primarily concentrated on initial response and adjustment to their Zoom class. Later, questions focused on how they use various features on Zoom to have class, what problems they have encountered during Zoom meetings, what functions they like about Zoom, and how they use Zoom to have meetings with class and other friends. The last Zoom interview round was on April 30, 2020. The transcription work is assisted with the collaboration between transcribe service and the "dictate" feature in the Microsoft Word processor. Previous interview sessions usually provided insights for later discussion about users' Zoom class experience.

Autoethnography, also known as self-ethnography, is a common research approach for collecting first-hand information and examining socio-cultural context from researchers' own experience. In particular, during the COVID-19 quarantine, it is difficult for researchers to observe and document informants' daily life beyond the screen. According to Chang,[10] autoethnography is researcher-friendly. She explains:

This inquiry method allows researchers easy access to the primary data source from the beginning because the source is the researchers themselves. In addition, autoethnographers are privileged with a holistic and intimate perspective on their "familiar data." This initial familiarity gives autoethnographers an edge over other researchers in data collection and in-depth data analysis/interpretation. (52)

The benefits of autoethnography are that it allows me to have a self-reflection on my personal Zoom class experience by extending the fieldwork to my daily life. Being a sixth informant in my study and keeping an autoethnographic journal help me increase the reflexivity in my ethnographic work as well. However, there are some pitfalls related to autoethnography that can affect the data analysis. First and foremost, over-relying on personal memory and narrative is problematic: "When data are collected from a single tool without other measures for checks and balances, the validity of data can be questioned" (55). Another concern stems from a false notion that "confidentiality does not apply to self-narrative studies because researchers use their autobiographic stories" (55). Playing the multi-layered role of researcher, author, and informant, an autoethnographer "may be tempted to claim full authorship and responsibility for their stories without hesitation" (55). Therefore, adhering to the research ethics of confidentiality is equally significant to autoethnographer like treating other human subjects. The appropriate reference of autoethnographies is vital to a balanced description from a qualitative scope.

Research results

The first interview session reveals that Zoom class challenges many people's stability of having a synchronized class. Challenges include occupational issues, multitasking assignments, accessibility to reliable internet, and having difficult time speaking to a screen. These issues become primary obstacles for the adjustment to a new communication channel at the initial stage, although some of informants think those are normal problems. In fact, most difficult situations improve over time, and most informants can adapt to new learning and teaching environment in a short time.

When it comes to the first-time-user-experience of Zoom, one informant commented, "I love Zoom now. I use it all the time. It is very easy and user-friendly. So, I adjusted to that pretty easily. It seems like everybody else did too" (Anonymous informant #1). The affordance of the Zoom, in this case, becomes an advantage for users to adjust quickly to it. Since Zoom also becomes many people's only option to work and study from home, it offers dark mode for users to ease long meeting sessions. Another informant, a student, uses this shift between dark and light modes to remind himself the day class and night class. Thus, the presence of Zoom has a new meaning of indicating time for users through their engagement: "Time is neither a real process nor an actual succession that I could limit myself simply to recording. It is born of my relation with things".[6] By recognizing their body power of controlling their perception of temporality, Zoom users can actively take affordance of an app into their body rhythm and serves their sense of time.

Another user, a teacher, provides the biggest flexibility to her students by making the Zoom class meeting completely optional. She explains, "Requiring a synchronous teaching is a bad idea. Many people don't have their sense of stability right now. When I switch my stuff into online now, I took out big assignments, especially for my undergraduate classes, and I switch everything into multiple engagements on Canvas throughout the week rather than one thing at a time" (Anonymous informant #2). Zoom class not only challenges people's time management at home but also gives people a new sense of time by having this "weird" experience.

As for my initial adjustment, time and space are strongly tied together for my motivation of working and studying. "The body has a 'situational spatiality' that is oriented toward actual or possible tasks" (102). Such a situational spatiality is the key to my adjustment. I apply multiple virtual background settings to prepare my meetings and give myself a sense of occasion given different class while staying at the same place. The "virtual background" is a feature embedded in Zoom, which allows users to set up different pictures and short videos as alternatives of their real room environments.

During the middle session of interviews, many informants started to focus on their emotional reaction during the Zoom class and also began to shut up their video images during the meeting. "One's own body is in the world just as the heart is in the organism" (209). When they regard Zoom meeting as a quasi-presence of the on-campus class, they develop other senses and emotions in terms of the class setting. The "Zoom" part of the Zoom class becomes the latent while the "class" part emerges as the manifest influence of people's feelings. As one informant remembers, "I don't know exactly when. I can show up, but I don't want to show my face" (Anonymous informant #3). Such a phenomenon sounds familiar to some "lurking" ethnographer when they hide themselves behind the screen and observe people's discussion. However, most informants regarded "lurking" as a conformable way to attend class when they didn't like their images during video meetings. Another reason I use virtual background is because it blocks all the noises at my space that I intended not to show to my peers during the class time. Even I am physically staying at the same space, having Zoom class gives me a sense of traveling to another space dimension where the purpose of the Zoom class dominates. The presence of my classmates and professors brings my sensation back to the classroom settings even though I am staying at

home. This kinesthetic sense of my gesture and movement directly attached to my laptop screen and the Zoom class streaming on the screen. The remote class, in this manner, successfully keeps its original flavor through Zoom meetings and is rolled into my existing sensations by differentiating its own time and space.

Regarding the last session of the interview, most informants claimed that although they can deal with Zoom class, they prefer to have face-to-face classes. One informant mentioned, "Zoom class is okay, but it is not as effective as real meeting class. I feel I can definitely learn better from the face-to-face class. I don't feel like I am always there when I have Zoom meetings. It's just different" (Anonymous informant #4). I struggled the most with the after-effect of having a long-time screen time. Since most of my classes are at night, it is difficult for me to go to sleep or keep work on my laptop after logging off the Zoom session. My biological rhythm and productivity are affected by those extra hours of screen time whereas I usually can easily focus on my work while using a laptop almost at any time of a day.

Sensing is a "living communication with the world that makes it present to us as the familiar place of our life" (153). As using Zoom meeting as a new norm in our daily life, this software and its technological architectures become an essential part in my daily routine regarding communicating with my class, family, and friends. To keep the simplicity of the operation for users, Zoom had a several updates during my research period. Except for necessary fixes for security concerns and mandatory software maintenance, Zoom offers more interactive cues such as "fast" and "slow" to prepare the host have a better-quality and engaging meeting.

Conclusion

As an early study of Zoom incorporation into online learning during the early phase of the COVID-19 pandemic in the Spring 2021 semester, this pilot study aims to provide preliminary yet critical insights to enhance an inclusive and accessible learning and teaching experience. While more rigorous empirical studies have been developed later to address and improve Zoom-based learning settings, the results from this study remain foundational and complementary to ongoing and future research on pedagogical practices in online teaching and learning.

This study examines the situational temporality and spatiality during people's regular Zoom class experiences and finds that the Zoom class not only changes the way of people's daily communication but also challenges their sense of time and space. Thus, it is inadequate to help people cope with new communicative channels during the quarantine merely through techniques to adjust new technologies. More importantly, realizing the everyday embodiment of people's perception and experience and taking these elements into account when studying body-technology relations are significant.

The active engagement with technologies and the good use of their features are beneficial to users to synthesize their body rhythms to the changing environments. It is not hard to imagine that people's habits during the Zoom class may still play a part in their face-to-face meetings after the pandemic. From the phenomenological perspective, it will be easier for people to shift their mode between remote and face-to-face classes.

For future research, researchers can select a larger and more representative sample for their digital ethnographic study. For example, I taught some Facebook groups from my digital fieldwork that is valuable resources for ethnographic research, such as "Higher ed and the coronavirus" and "Teaching during COVID-19." People can focus on either educators or students and examines their adjustment and coping strategies into a more specific and careful manner rather than exploratory analysis on a large scale. Phenomenologically speaking, while the stay-at-home norm limits people's freedom in terms of social interactions, Zoom meeting provides numerous opportunities for people to keep in touch while practicing social distancing. Merleau-Ponty's concept of freedom speaks that "autochthonous sense of the world that is constituted in the exchange between the world and our embodied existence" (466). The aspect of freedom is worthy for future researchers to develop further regarding subjects such as embodiment and human-computer interactions.

Acknowledgments

Conflicts of interest

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