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# Public address as embodied experience: using digital technologies to enhance communicative and civic engagement in the communication classroom

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## ABSTRACT

This study examines how students characterize their experience of a communication-based digital humanities project in relation to elements of situated embodiment and situated learning. Analysis of student response data indicates that the Virtual Martin Luther King Project situates students in a particular space and historical context resulting in communication outcomes including a form of cognitive attention that is conducive of reflection and fosters civic engagement. The essay concludes with a discussion of what is transferable from this case in relation to creating the conditions for situated learning and public address as immersive, embodied experience in communication classrooms.

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## Introduction

Two narratives often surround the current generation of college students. The first is that these students are “digital natives” (Lester, 2012; Prensky, 2001). That is, the current generation of students grew up surrounded by digital technology and therefore already possess critical digital literacies necessary to contribute to democratic society. The other is that the current generation of college students are so engrossed in the virtual worlds of their always-on, always-connected digital devices that they become disconnected from the realities, relationships, and political stakes of society (Putnam, 2000; Turkle, 2011). Together, these two narratives offer competing ideas about our current generation of college students: on the one hand, they are tech-savvy and tech-crazed; on the other hand, they somehow fail to use their technologies effectively.

Of course, many scholars have offered counterarguments to these narratives. Regarding the labeling of our students as digital natives, Selwyn (2009) suggests that the “overall tenor of these discursive constructions of young people tends towards exaggeration and inconsistency” (p. 370), and Margaryan, Littlejohn, and Vojt (2011) encourage a nuanced perspective of digital literacy that accounts for students’ socioeconomic background, life circumstances, and disciplinary background (p. 430). Additionally, several scholars reject the idea that digital devices disconnect us, and our students, from the

real world—arguing instead that these devices may enhance social interaction and community engagement (Gordon, 2016; Humphreys, 2016; Martin, 2014), since these devices allow for micro- and macrocoordination, near-instant access to information sources, and contact with political actors and governments.

These discussions offer considerations for how we, as communication educators, should approach our curricula and learning outcomes as well as what we should assume, on behalf of our students, as inherent knowledge (and what we should assume requires development). In recent years, the field of communication has already begun contending with these issues by asking valuable questions about how we should integrate technologies and technological literacies into communication classrooms (Cyphert, 2007; Finn & Ledbetter, 2013; Wood & Fasset, 2003) and renewing calls for fostering civic education as an integral part of communication education (Britt, 2012; Hogan, Kurr, Johnson, & Bergmaier, 2016; Hunt, Simonds, & Simonds, 2009; Leek, 2016; Upchurch, 2014). We recognize these two seemingly distinct conversations as necessarily intertwined. Leek (2016), for instance, argues that current “concerns about growing social isolation and apathy, and fears about the impact of new media technologies, have created new concerns over declining civic involvement, especially among younger generations” (p. 397). Similarly, Upchurch (2014) states, “we know that students use technology to communicate constantly, but there are increasing concerns that they are passive consumers of data rather than agents of creation and change” (p. 31). Together, these statements coalesce to suggest that a link exists between our digital technologies and civic engagement. We can see this link demonstrated by the integration of digital democracy, e-voting and e-elections, and hashtag diplomacy as methods for engaging in the civic sphere. The question remains, though, (how) can we engage these digital technologies within the communication classroom to improve, rather than detract from, civic engagement?

It is often assumed that using new technologies in higher education improves students’ learning as it makes the learning process more familiar and more convenient for our students (Dale & Pymm, 2009; Kelm, 2011). Indeed, some studies suggest that college students appreciate using new technologies during the learning process (Kennedy et al., 2008). However, other research suggests that the benefits of using advanced digital technologies in higher education are overestimated. First of all, using technology for learning purposes is not common in everyday students’ life, even in the developed countries (Lai & Hong, 2015). Additionally, students themselves appear to prefer moderate use of digital technologies in their academic courses and indicate that “technology should not eclipse valued face-to-face interaction with instructors” (Salaway, Caruso, & Nelson, 2008, p. 11).

Our goal is, therefore, to better understand how and to what extent digital technologies can create meaningful learning experiences and foster communication and civic education through situated learning. In particular, we respond to Upchurch’s (2014) call for experiences that “link [students’] coursework, and their bodies, to the world of politics that bustles along beside them unseen and unwelcoming” (p. 32) to understand how digital technologies that are immersive and/or create immersive learning environments (i.e., that situate students in a particular space; that result in a form of cognitive attention or focusing of the mind, that engender feelings emerging from engagement with a media text, Hillis, 1999) affect communication students’ learning experience. We study the case of the Virtual Martin Luther King project (vMLK), a project that aims to create an immersive, embodied experience of a significant public address by placing audiences/

visitors into a multimedia representation of the White Rock Baptist Church (projected on the walls of a teaching and visualization lab and in a VR simulation) as they listen to King's 1960 speech, titled, "Fill Up the Jails" from various positions around a simulated sanctuary environment. Specifically, we examine how students characterize their experience of the vMLK in relation to elements of situated embodiment and situated learning. The essay concludes with a discussion of what can be learned/generalized from this case in relation to creating the conditions for situated learning and civic engagement within communication classrooms.

## Review of literature

### *Situated learning and situated embodiment*

Situated learning emphasizes the significance of context in the process of learning (Brown, Collins, & Duguid, 1989; Lave, 1988, 1991; Lave & Wenger, 1991) and suggests that learning occurs when "a person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a sociocultural practice" (Lave & Wenger, 1991). Conceptualized initially by Lave (1988, 1991) and Lave and Wenger (1991), situated learning has roots in constructivism and draws from the works of twentieth century scholars, such as John Dewey, Jean Piaget, and Lev Vygotsky, to argue for the primacy of the learner's positioning within a learning experience. This results from situated learning's main tenet that learning cannot be extricated from the context in which it occurs (Brown et al., 1989; Lave, 1988, 1991; Lave & Wenger, 1991; Suchman, 1987). This emphasis on context allows us to distinguish situated learning from a similar learning theory, known as experiential learning. Hansman (2001) states that with experiential learning, the learning occurs "in the doing or the experience," and whereas situated learning may also be characterized in this way, situated learning goes a step further to emphasize "interacting with [a] community and learning to understand and participate in its history" (p. 46). Comparably, scholars such as DiFrancesco (2011), Patel (2018), and Hinck and Tighe (2020) also indicate that situated learning involves the process of engaging a specific community's practices.

The concept of situated learning has been applied to establish the value of authentic learning activities in comparison with the *seemingly* inauthentic activities occurring/contained within classrooms (Herrington & Oliver, 2000; Pérez-Sanagustín, Muñoz-Merino, Alario-Hoyos, Soldani, & Delgado Kloos, 2015). Accordingly, learning in classrooms typically involves retaining complex theoretical knowledge to which the learner has no meaningful connection. By contrast, situated learning involves acquiring knowledge or obtaining competency through practice in a *meaningful* context (Gee, 2004; Herrington & Oliver, 2000; Stein, 1998; Yeoman & Wilson, 2019). Yeoman and Wilson (2019) argue that this meaningful context results from careful consideration of how the material environment shapes learning as well as careful design of the learning experience (p. 2092). Further, Stein (1998) argues that situated learning must account for the intersection between the content delivered, the context in which it occurs, the community involved, and the learner's participation (pp. 3–4). As such, situated learning takes issue with disembodied models for learning as well as those that disavow the social relations and power structures that impact learning (Brubaker, 2011; Gee, 2004; Hinck & Tighe,

2020). For this reason, many scholars have adopted situated learning activities as part of a critical pedagogy (Carr, Jonassen, Litzinger, & Marra, 1998; Frey & Palmer, 2017; Hinck & Tighe, 2020) that acknowledges the importance of the student's experiences as well as the student's role in co-constructing the learning process.

Despite situated learning's value for creating meaningful learning contexts, it has also received some criticism. For instance, in its aim to produce *contextualized* knowledge that transfers to future scenarios (Choi & Hannafin, 1995; Hansman, 2001; Lave, 1996; Rambusch & Ziemke, 2005), DiFrancesco (2011) suggests that situated learning can fail to account for how specific students encounter a particular context. However, the literature does not support this claim with scholars like Gee (2004) suggesting that situated learning is a cultural process that engages the learner's body in the context and action (p. 35) and scholars like Hansman (2001) and Stein (1998) emphasizing the significance of the learner's role in situated learning. A related critique of situated learning comes from Anderson, Reder, and Simon (1996) who suggest that it exaggerates the importance of context, failing to recognize that general knowledge can transfer to other scenarios (p. 6) and that "abstract instruction can be very effective" (p. 8). Nevertheless, scholars such as Brubaker (2011) and Korthagen (2010) argue that situated learning does not dispose of theory but, rather, bridges the gap between theory and practice. Taken together, these rebuttals suggest that situated learning balances its attention to both student and context, theory and practice. Nevertheless, we still might take DiFrancesco's (2011) and Anderson, Reder, and Simons' critiques seriously as caution against becoming too fixated on context to the detriment of students and their learning experience.

While much work has been done to articulate the value of context in learning experiences (Brown et al., 1989; Lave, 1988, 1991; Lave & Wenger, 1991; Suchman, 1987), over the past two decades, the conversation surrounding situated learning has undergone a shift to reconsider the places in which situated learning might occur. While typically conceived as students entering *into* a community (Brubaker, 2011; Choi & Hannafin, 1995; Fenwick, 2001; Hinck & Tighe, 2020; Jacobson, 1996; Lunce, 2006), more recently scholars have considered the potential for immersive and/or virtual environments to facilitate situated learning (Dalgarno & Lee, 2010; Dawley & Dede, 2014; Dede, 2009; Mikropoulos & Natsis, 2011; Rambusch & Ziemke, 2005). For instance, Dede (2009) suggests that "immersive interfaces can foster educational experiences that draw on a powerful pedagogy: situated learning [since] Situated learning requires authentic contexts, activities and assessment coupled with guidance" (p. 66). In particular, scholarship focuses on the possibility for virtual reality and immersive experiences to create a sense of *presence*, defined by Murray (1997) as attentiveness to or the primacy of the created environment or reality (pp. 98–99). This emphasis on presence is well cited in the literature. Mikropoulos and Natsis's (2011) empirical study of the application of virtual reality in learning environments suggests that "presence is considered to be a key feature" with a majority of the authors, whose work they examined, reporting that "their sample had the feeling of 'being there' and that this might contribute to positive results" (p. 774). Accordingly, "being there" leads to increases in "intrinsic motivation and engagement" (Dalgarno & Lee, 2010).

In conjunction with (or as a byproduct of) creating a sense of presence, the scholarship also discusses the possibility of virtual and immersive experiences to produce situated embodiment (Dawley & Dede, 2014; Hung, Hsu, & Chen, 2015; Lindgren & Johnson-

Glenberg, 2013; Rambusch & Ziemke, 2005) and for this situated embodiment to be key in identity and perspective forming. Dawley and Dede (2014) define situated embodiment as being “physically present in a context that is not where the person is physically located ... based on the willing suspension of disbelief” and relies on “the body’s interactions with the physical environment.” According to Rambusch and Ziemke (2005), accounting for the body, and situated embodiment, is an important component, often excluded from research in situated learning. They contend that, in the literature, the body is “just an additional tool for the subject and not an integral part of human cognition” but instead should be understood as an integral part of human cognition (p. 1803). Similarly, Lindgren and Johnson-Glenberg argue that “human cognition is deeply rooted in the body’s interactions with its physical environment” and that immersive environments might “induce greater self-efficacy and educational progress” (p. 68). In understanding the role of the body in learning, a few scholars (Dawley & Dede, 2014; Dede, 2009; Rambusch & Ziemke 2005) suggest that situated embodiment may lead to identity exploration and perspective taking. For instance, Dawley and Dede (2014) argue that “virtual environments and immersive simulations offer the potential for identity exploration, in which a participant plays a role different than the one portrayed by that person in everyday life.” Further, Rambusch and Ziemke (2005) suggest that situated embodiment may help those with divergent perspectives to find common ground through a shared bodily experience. Making this point, they state,

The body here functions as a reference point, that is, even though two people look at, for instance, a chair from two different perspectives, both can relate to that particular chair as both know from bodily experience what a chair is. (p. 1807)

### ***Situated learning and embodiment in the public speaking classroom: public address as embodied experience***

The review of relevant literature above suggests it is appropriate to locate the vMLK experience, as an immersive experience achieved via interaction with a mediated text, within discussions on situated learning. Specifically, many discussions of educationally immersive experiences refer to this as a form of situated learning (Dawley & Dede, 2014; Dede, 2009; Lunce, 2006). While the scholarship about digitally immersive experiences, situated learning, and public address is limited to addressing the role of simulation technologies that allow students to practice public speaking (Slater, Pertaub, & Steed, 1999; Slater, Pertaub, Barker, & Clark, 2006), there is substantial scholarship indicating the efficacy of immersive experiences in producing meaningful learning experiences. For instance, Dawley and Dede (2014) argue that “as a cognitive tool or pedagogical approach, immersive technologies facilitate metacognitive learning processes such inquiry, active observation, peer coaching, reciprocal teaching and legitimate peripheral participation based on multiple modes of representation.” Additionally, Lindgren and Johnson-Glenberg (2013), in drawing from other sources, indicate that “human cognition is deeply rooted in the body’s interactions with its physical environment (Gallagher, 2004; Wilson, 2002)” (p. 68). Combined with Dannels (2002) and Brubaker (2011) who argue for situated learning in public speaking and communication courses, this suggests that immersive experiences, as a form of situated learning, may support learning public speaking, not just in the context of disciplinary situatedness, but in terms of situatedness

regarding activities related to civic engagement. This line of argument is furthered by Hung et al.'s (2015) claim that

situated learning can help learners construct procedural knowledge ... when students construct procedural knowledge in a situated learning context and apply what they learned to perform real tasks in the future, it is possible that they can achieve a satisfactory learning outcome. (p. 749)

Beyond learning public speaking, the scholarship demonstrates mixed results about the potential to produce advocacy through situated learning. Henthorn (2014) suggests that while “experience and place combine to prepare students for active citizenship ... one class will not change students’ understanding of a subject, one experience will not awaken in students a sense of civic responsibility” (p. 460). Importantly, however, Lindgren and Johnson-Glenberg (2013) argue that immersive experiences take time to process, and, for this reason, immersive experiences that aim to produce advocacy may require long-term studies to determine their effectiveness.

Based on this review of the literature on situated learning and embodiment, we developed the following research questions for examining how students characterize their learning experiences in relation to a digitally immersive project such as vMLK:

(RQ1) How do learners characterize their experience of situated embodiment in and through the vMLK project?

- a. How do learners characterize their sense of being present in the vMLK context?
- b. How do learners characterize their experience of embodying the role of audience members for the speech?
- c. How do learners characterize their interaction with the community and its history?

(RQ2) How do learners characterize their experience of situated learning in and through the vMLK project?

- a. How do learners characterize their encounters with different cultures and beliefs in the vMLK context?
- b. How do learners characterize a process of perspective taking in relation to their encounter with culture and beliefs in the vMLK context?
- c. How do learners characterize their experience of transformation/meaningful learning as a result of the vMLK experience?

## **Method and data collection: the vMLK project in the public speaking course**

### ***The vMLK project***

On February 16, 1960, shortly after the start of the Greensboro sit-ins, Dr. Martin Luther King, Jr. delivered the speech, “A Creative Protest” at the White Rock Baptist Church in Durham, NC. Despite the historical and rhetorical significance of what became more commonly known as the “Fill Up the Jails” speech, no known recording exists, and the church



building was torn down seven years later to make way for a freeway. The vMLK began as a partnership between the church congregation and local communication scholars. The result was a public recreation of King's speech at the current church location on June 8, 2014. Featuring a voice actor, the recreation event attracted over 250 people, including individuals who had attended the speech in 1960, area politicians and activists, members of the Durham Ministerial Alliance, congregation members, and members of the NC State community. Based on the sound recordings of the recreation, the vMLK Project utilizes advanced digital and audio technologies to afford scholars, students and citizens an opportunity to engage this speech through presentation of six components: (1) historic context, (2) individual listening and (3) collective sound experiences, (4) virtual reality and (5) gaming platform experiences, and (6) the "your creative protest" feedback opportunity.

### **Data collection**

Since 2015, public speaking students (approximately 1,000 students per academic year) have experienced one or more component(s) of the vMLK project as part of their coursework, in advance of the advocacy speech assignment for the course. While the majority of classes visited an exhibition of the vMLK project in a physical space in the university library, some have instead utilized the project website for this experience (<https://vmlk.chass.ncsu.edu/>). Class size for each section of the course during this period averaged 19 students per section and the library-located exhibition of the experience accommodates classes in pairs (having a total of 38 students per session). The data for this study were collected during fall semester 2018 and spring semester 2019. Students and instructors traveled to the university library during the last week of October/first week of November of 2018 and during the last week of March/first week of April 2019 for a 50-minute class session where students were shown a six-minute documentary about the project, and a five-minute historic documentary about a 1957 sit-in staged in Durham, NC near the church to establish the historic context for the speech. They then experienced the entire speech in a walk-in simulation of the sanctuary in the teaching and visualization lab. The walk-in simulation includes a 270-degree visual experience, depicting the interior of the original White Rock Baptist Church Sanctuary where King gave the "Fill Up the Jails" speech in February 1960, as well as a seven-channel, AC3 5.1 sound mix to provide a differentiated listening experience based on where audience members were standing, sitting, and walking in the sanctuary. This enabled visitors to have an embodied experience of the speech with others, together in the room, re-creating a version of the original experience. Students experienced the VR component of the project as a group—in this version, audiences got a 360-degree experience of the sanctuary from four hot-spots around the sanctuary—with the VR platform displayed on a wall-sized screen and sound projected through audio speakers situated around the room.

At the end of the entire session, students were engaged in a brief discussion among their classes and were encouraged to write reflections on white boards spread around the room in response to three prompts, derived directly from the speech's text. The prompts include: "A creative protest is ...," "An idea whose time has come ...," and "The origin of my dream ... ." Photos were taken of each of the white boards after every class session and, then, entered into a Google sheet. The responses were categorized according to the



prompts. Miscellaneous responses, which failed to appropriately respond to the prompts were retroactively categorized under the categories of “Reflecting about this experience” and “General Feedback.” The decision to collect data through these white board responses was made for two reasons. First, this method of data collection offered a means of verifying the data through the collection process. To clarify, while some scholars may return transcripts of interviews to research participants in order to verify that the transcript reflects the truth of the interview process, our data collection process provided students the time to both write their responses to the white board and to read/react to others’ responses during the discussion (Ballinger, 2008). This verification among respondents was internal to the data-collection process. Second, the way students were asked to participate in this data collection offered a level of anonymity for the students. Students were asked to offer responses during the class discussion in order to, at least partially, mitigate potential pressure students may feel from instructors to write responses or to write particular types of responses.

During the academic year of 2018–2019, 340 comments were written and collected in this manner from the approximately 1,000 students participating in the experience. Although students were not restricted to writing a single reflection, the brief nature of both the discussion and reflection process made writing more than one response challenging for most students. Additionally, because of the nature of this data collection process, assessing the percentage of participant responses was difficult. In order to contend with this potential dependability issue, the data collection process was conducted over the course of two semesters. Rather than focusing on achieving a particular response percentage or aiming for a particular quantity of data, focus was given to achieving a level of data saturation that demonstrated consistent and recurrent patterns of themes (Morse, 1995, pp. 147–148). Data were collected across two semesters because engaging with the responses between each semester demonstrated the repetition and consistency of discussions characteristic of saturation in qualitative scholarship. In addition to debriefing weekly during the data-collection process, the researchers iterated codes and discussed preliminary findings with colleagues between semesters of data collection.

### ***Data analysis***

The 340 written responses collected were initially categorized according to the prompts on the white boards and the other two general categories. Based on the review of literature on situated learning, and given the diverse array of responses to each question, this project utilized content analysis as a flexible methodological approach for analyzing text or data (Cavanagh, 1997). According to Hsieh and Shannon (2005) qualitative content analysis is “a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns.” (p. 1278). Research undertaking qualitative content analysis is concerned with the “characteristics of language as communication” by attending to “the content or contextual meaning of the text” (p. 1278). Specifically, in contrast to a grounded theory approach or conventional content analysis, which would involve deriving codes from immersion within data (Tesch, 1990), this study engaged a directed approach to content analysis. We utilized this directed approach to content analysis that, according to Potter and Levine-Donnerstein (1999), draws on existing theory or research to structure initial systematic classification through “operational definitions of each category” in order

to extend these theoretical frameworks (Hsieh & Shannon, 2005, p. 1281). In this study, we examined both manifest and latent content within these responses (both what is being said within the texts and any underlying illustrations within the responses).

The coding schema for the qualitative content analysis is organized around the following items drawn from the literature review as observable indicators of: *situated embodiment* (RQ 1), which included three primary codes: (1) projection into a context or presence, (2) audience embodiment, and (3) interaction with community and history. As observable indicators of our second research question, *situated learning*, the primary indicators were (1) cultural awareness/encounter, (2) cultural perspective taking, (3) and development of new knowledge. The initial codes were developed collaboratively among the research team. With this coding scheme, two different coders discussed these items, and then each worked on coding a random sample of 10 percent of the response data to determine the viability of the coding scheme. After this initial round, coders further refined the operationalization of the research questions and coding scheme to more accurately “provide knowledge and understanding of the phenomenon under study” (Downe-Wamboldt, 1992, p. 314). Then, a combination of the coders independently reviewed a sample of 25 percent of the data, in order to establish a baseline intercoder reliability. Results were discussed to determine the need for any additional clarification before coding the full data set. Once the full data set was coded, the research team examined the results in order to “interpret the content” of responses in relation to the research questions (Coe & Scacco, 2017, p. 346). This approach allowed for not only drawing parallels between responses but also determining student learning outcomes as presented in the section below.

## Findings

### *Situated embodiment and the vMLK experience*

#### *(RQ1a): situated embodiment, projection, and presence*

Student written responses described a sense of presence within a context and feelings of immersion. Students also indicated that they appreciated the multipart nature of the experience. Students wrote about their feeling of “being in the church” and being with “the crowd,” that was facilitated by “directly listening to MLK” and learning more about the history of that night. The environment seemed to come alive for these learners. Some of these learners wrote about the importance of specificity in feeling present. Students described a variety of features that drew them into the feeling of being there, ranging from specific details in the church ceiling to a desire to participate. For example, one learner wrote about feeling a bodily desire “to clap with the audience.” This participatory impulse indicated that the experience reflected more than a simple collection of realistic renderings and avatars; rather, it invited students (and their bodies) into the context as participants.

Students described the exhibition’s sound feature, particularly in the VR, as crucial to positioning them within the experience. It was not necessarily the speech text itself that featured centrally in students’ comments of this sort. Rather, learners noted specific aspects about the sound that made them feel present. For instance, students commented on the “echoes from the surround sound” that changed as they moved through the room

and the “voice helping to portray how powerful the idea is.” The dynamic and shifting sonic experience further developed the immersive qualities of this experience:

Through this experience you can really get a feel of how it would be if you were really there, you can hear the sincerity in his voice, overall it makes you understand the speech in a whole new and realistic way.

Specificity, particularly in relation to sound, seemed to be a key feature that allowed students to feel this sense of presence which, as students commented, was [a] “lifelike experience” that was “very realistic and immersive,” “made me feel like I was in the 60’s” [*sic*] and allowed “you to relive the experience as if you were there.” Both the qualities of the sound and the sense of locational positioning within the sanctuary were integral components to students’ sense of presence within the context. One student noticed a sense of synaesthesia, remarking that the impressive “sound dynamics” enabled another “way to visualize it.”

### ***(RQ1b): situated embodiment and being the audience***

The written responses describing how learners experienced the role of audience members coalesced around discussions of their bodily experiences. Students discussed having a shared bodily experience both with actual classmates and with simulated congregation members. One student wrote that the “added interaction from the audience” was a vital aspect of the experience, particularly the “applause and confirmations.” Another student described their relationship to and as an audience member more spatially, writing that when they were at the front of the room “it felt like I was in the church and directly listening to MLK. However, the crowd felt far away.” These learners’ responses emphasized their role as an audience member and their relationship to the congregation members through their bodily experience. Both how learners moved their bodies through the space and how learners felt as they moved throughout the space were elements that emerged frequently in the written responses. Students characterized these embodied responses to the exhibit in a variety of ways. Several learners described the “lifelike” feeling of walking through the exhibit. Others wrote that the exhibit itself “feels alive” when hearing it with their classes. One learner noted that sitting in the pews was like “being back in the 60s.” These descriptions—of hearing the speech, seeing King within the VR, and noting how the “surround sound” changed and moved with the students as they navigated these environments—all locate the students’ bodies as a point of collaboration/reference for engaging as audience members in this experience.

### ***(RQ1c): situated embodiment and community history/interaction***

In their written responses, students described their engagement with community history as both immersive and bodily. Responses focused on the interaction with communities began primarily with a focus on the community history made accessible through the speech. Learner reflections described “visualizing the moment in history” and the community, through a host of ways: some described “the magnitude of [MLK’s] voice and the speech” while another student described the “immersive sounds.” This immersive quality seemed to encourage unique kinds of interaction for learners, with one student pointing to the “importance of different perspectives of the speech” to their ability to engage with this history. The immersive feeling of the exhibit entailed an engagement

with the space/environment of the church, but also encompassed a sense of interaction with the congregation. The bodily engagement, as described in the previous section, was articulated as pivotal. The relationship to the congregation and history of the community seemed to be foregrounded for students within this experience. As students “moved” in the VR simulation onto the pulpit, into the pews, and up into the balcony, the call-and-response and the sounds of the audience were surrounding and situating them. They got to see and inhabit, as one student comments, “this specific time and place.” This immersive inhabiting, as another student characterized it, allowed the “words and the sounds that ignited passion in people back then to do the same for people today.”

Learner responses indicated that this interaction with the community, both bodily and contextually, was critical for understanding the community history in relation to the present. Students highlighted a connection and understanding related to both the civil rights movement and the congregation, with some students commenting that they saw “the troubles of civil rights in a new light.” Students not only had an embodied experience in relation to different histories, but also felt present in the historical moment as students: they embodied a student identity both with their classmates experiencing the project and with the students in the virtual congregation. This was demonstrated in comments that noted how “students play a key role in shaping society” and how the embodied interaction they experienced allowed them to “get more out of this than you get out of just a video.”

### ***Situated learning and the vMLK experience***

#### ***(RQ2a): situated learning and cultural awareness/encounters***

Written responses discussing encounters with different beliefs and cultures echoed some of those that featured discussion of embodiment and audience. Student responses foregrounded questions of how cultural ideologies shift with time. In particular, learner responses focused on their perceptions regarding the cultural evolution within United States politics. Several responses asked a variation of “who was at the recreation event?” Others asked “do we know how many white people were there? Today there would be many more,” in reference to the historical event that the vMLK project re-creates. These questions signaled an attention to both a consideration of the historical archival materials and to the sensibilities of contemporary audiences. Another student reflected that contending with shifting historical contexts and ideologies involves a different “form of rebellion that challenges the majority and voices the minority.” Many students wrote comments comparing contemporary violence with the violence of the civil rights movement. One student pointed to the continued “locking up of black men/boys” as a component of this legacy. Another student reflected on our present moment, stating that more progress “should have happened earlier but now action is being taken,” which demonstrates attention across historical moments. In summary, learners discussed an awareness of difference across cultures by considering ways in which cultural practices and beliefs have changed / developed / progressed. Further, student comments demonstrated a reflexive component, through which they read the present through the lens of the past.

#### ***(RQ2b): situated learning and perspective taking***

Responses from learners discussing perspective taking focused on considering the process of protest. To reiterate, the vMLK experience centers around the speech given in reaction

to the Greensboro Sit-Ins in 1960 that came to be called, based in part on this speech, a form of Creative Protest. Learner reflections emphasized protest, both historical and contemporary, as a primary characterization of perspective taking. Many student comments centered on this experience particularly in relation to understanding King and United States history of the Civil Rights Movement. One student wrote about the inspirational legacy of this project for understanding history, noting that “this is a really inspiring way to remember Dr. King and all of his wisdom.” More than simply emphasizing one figure, another student described the value of this project as capturing a “true American form of protest ... with incredible attention to detail of not only his speech giving but the crowd’s participation.” These students emphasized the experience of this project as an important entry point from which to begin perspective taking. Learners described this entry, “being able to see the church and him actually giving the speech,” as particularly valuable because it gave a comparative context from which to identify and consider contemporary, inventive modes of protest.

In fact, student responses featured a cascade of comments illustrating parallels between creative protests and the “Black Lives Matter Movement,” “Taking a Knee,” and “ending police brutality” particularly against black bodies. In addition to these comments about forms of protest, students identified a variety of issues that require new forms of protest including: “teachers marching for better pay,” “believing survivors of sexual violence,” “women’s empowerment,” “climate change,” and “LGBT rights.” Students demonstrated serious reflection through the breadth of concerns voiced within their responses. However, rather than reflecting on historical moments and perspectives without contextualization, these student responses placed them in dialogue with contemporary landscapes and schisms that they articulated as needing inventive solutions/creative protests.

### *(RQ2c): situated learning and transformation/new knowledge*

In learner responses that discussed the experience of transformation and new knowledge, two themes consistently emerged: contextual depth and capacities of technology for engaging historical moments. When going through an experience that is both digitally immersive and multifaceted, one may not think about contextuality as a key feature, particularly since VR experiences and digital projects are often created to be consumed and expected to be gamified. However, learners described the experience as one that engaged context through scaffolded encounters. As learners moved through the exhibit, they underwent six unique aspects of the vMLK project that always began with a documentary video and featured archival materials throughout the experience. This multifaceted structure was noted by students in relation to context. One student noted that they “liked the multi-part experience ... The context given prior to both the sound room and VR gave it all more meaning.” Here this student drew attention not only to the multiple kinds of experiences throughout the project exhibition, but also specifically to how scaffolding historical content matters for contextualizing and enabling an immersive, embodied digital experience. As another student noted, the context allowed them to make sense of this “comprehensive experience that provided greater understanding.” In relation to new knowledge, learners identified contextual depth as a feature that enabled this immersive digital experience.

In addition to contextual depth, learners described the kinds of transformations and knowledge they developed around an ability to engage with a historical moment. Students

wrote about the project's capacity to enable them "to see how technological advances can bring new life to historical events." However, students were more than simply fascinated by the technology. Learners described the experience as one that functioned as an immersive moment through which they could bodily experience this history; for instance, one student remarked that "through this experience you can really get a feel of how it would be if you were really there." The descriptions of this experience as embodied, emotional and realistic indicated that it enabled students to have a different kind of engagement with this historical moment.

Students also characterized the experience as one that could bring aspects of history to the fore in ways prior engagements with this history have struggled to do. More specifically, learners described this engagement as one that allowed them to connect historical and contemporary moments together. As one student wrote, the project "gave insights into the emotion and power behind MLK Jr.'s speeches. Shows the troubles of civil rights in a new light." The capacities of digital technology to enable students to engage a range of new knowledge in a unique manner was something that students pointed to in a variety of ways. For instance, another student who wrote about engagement with history, specifically the civil rights movement, noted that the experience enabled him/her to rethink and come to know the legacies differently: "I think this project is super profound, not only for civil rights but for the future of public speaking in general and recreating it in an authentic and moving way." This learner emphasized how the experience allowed them to engage a historical moment in relation to contemporary dialogues/traumas/issues, but also the role public speaking played in understanding and transforming knowledge of these tensions.

## Discussion

As the results above indicate, students characterized their experience of the vMLK Project's assets in ways that coincide with key elements of situated embodiment and learning. In particular, the vMLK experience is characterized by students as linking their coursework and their bodies to the world of politics around them (Upchurch, 2014). Student written responses indicated that they felt present or situated in a particular space allowing them to embody the role of audience members for the speech and to engage in identity exploration and perspective taking. The situatedness they experienced gave them a way to encounter, as one wrote, a "true American form of protest ... with incredible attention to detail of not only his [MLK's] speech giving but the crowd's participation."

These responses indicate that when digital technologies are utilized to provide an embodied experience of communicative engagement, they may offer distinct ways of experiencing different forms of learning that can inform, challenge, and demand reflection and response. Students indicated that their engagement with vMLK was an interaction with community history in which they found themselves comparing their lives and identities to those of the congregation. In fact, student responses emphasized the unique capacity of digital technologies to foster shared bodily experiences that engaged "the troubles of civil rights in a new light" and enabled them "to see how technological advances can bring new life to historical events." Student responses thus indicated that situated learning was enabled precisely because they experienced situated embodiment.



Although the term *presence* may be a potentially abstract, ubiquitous concept to discuss, as the presentation of results above indicate, it is one of the key features that students mentioned in their written feedback. In particular, learners' responses spoke about the extent to which the digital nature of the experience facilitated a sense of presence. In conjunction with the feeling of being present through a broadly immersive environment, responses reiterated that the specificity of the experience added to the sense of immersive presence in the VR portion of the project as well. These discussions of presence within the experience underscore the importance of combining both broad environmental and more specific engagements for students (Murray, 1997).

Specifically, students articulated that this sense of presence linked the experience to their bodies. Thinking about the extent to which this kind of situated embodiment matters for students' ability to engage in identity exploration requires attending to how students discussed their bodily experiences in relation to thinking about the digital experience. Although many students commented on specific fascinations within each aspect of the experience, students consistently articulated how the different aspects (specifically technical aspects that could, in other iterations be seen as detrimental/distracting from learning) facilitated this bodily experience, particularly the movement, sound, and visualizations.

As previously noted, Rambusch and Ziemke (2005) have posited that shared bodily experiences facilitate understanding across different perspectives. Student responses echoed this, reflecting on how shared bodily experience allowed for engagement/interaction with community histories. The vMLK project foregrounds the speech as transformative for the White Rock Baptist church congregation, for the state of North Carolina, for Martin Luther King Jr., and the civil rights movement, in an attempt to offer students a semblance of what that moment was like. In fact, the learner responses emphasized the unique capacity of digital technologies to foster shared bodily experiences that engaged "the troubles of civil rights in a new light" or "to see how technological advances can bring new life to historical events."

In situated learning, Hansman (2001) indicates that the important work comes through emphasizing interaction within a community and "learning to understand and participate" in that history. Student reflections articulated the experience as an embodiment that affords them an opportunity to engage with not just the exhibit, but the historical moment, the congregation, and the community. One student described this consideration of identity as an experience that allowed them to enrich their contextual understanding of the civil rights movement; "it wasn't just a battle of black/white. It was justice versus injustice, fighting the inequality, the hate, the ignorance." From these bodily experiences, students described empathetic engagements with different perspectives and different identities precisely because they were positioned as audience members.

One of the key considerations regarding situated learning is whether or not new knowledge has been created as a result of a transformative experience. In regard to the creation of new knowledge, student responses coalesced around the following types of new knowledge: contextual depth, capacities of technology for engaging historical moments, and connecting historical and contemporary tensions. Students indicated that the experience offered them a new understanding because of the contextual depth of the experience. Students also characterized their ability to engage in community/historical moments as integrally related to the contextual depth of the experience. Developing new knowledge, new



ways of engaging history and educational practices may thus be enabled by digital technologies if they are used to provide embodied experiences in conjunction with rigorous contextual depth.

## Implications for teaching and learning

We began this study with the question: (how) can we utilize digital technologies within the communication/public speaking classroom to improve, rather than detract from, situated learning and communicative and civic engagement? As noted, much of the pedagogical scholarship in the field of communication points to digital technologies as a *problem* with less consideration for the possibility of using such technologies as a *solution*. This study argues that there is room for pedagogical strategies that utilize digital technologies for achieving situated learning and enhanced civic engagement focusing on *context*, *presence*, and *embodied experience* (situated embodiment) as tenets of the larger movement toward situated learning.

Of course, one of the key constraints that must be addressed in considering how to provide this type of situated learning in communication/public speaking classrooms more broadly, is related to the portability/accessibility of the assets and of the technology that enables these experiences for learners. As indicated in the description of the data collection for this study, aspects of all of the vMLK Project assets are available online through the project website. For instructors and students who have not been able to attend the exhibitions at the university library, making use of these assets has been indicated (through self-report) as productive. User testing of the website indicates that further enhancing the online experience and working to make the assets of such projects available through some type of interlibrary loan or university press platform are worthwhile endeavors. What is more clearly transferable from this study is that utilizing technologies to achieve situated embodiment and situated learning in the communication/public speaking classroom is attainable and provides a path for enhancing students' learning and fostering civic engagement.

While the project website provides one avenue for communication educators who wish to pursue "public address as experience" in their classes, there are other possibilities as well. The vMLK project may help communication educators to think more inventively about the opportunities that digital technologies afford to them and to their students for demonstrating, illustrating, and applying theoretical principles and concepts in compelling and embodied ways. A related set of questions for educators based on this application of situated embodiment and situated learning is: What types of digitally enabled and/or digitally available experiences and events might provide an immersive, embodied experience for students in the public speaking or basic communication course? And how could the findings of this study be utilized to maximize the learning outcomes and the assessment of such experiences?

## Limitations and future research

As previously noted, Lindgren and Johnson-Glenberg (2013) articulate that immersive experiences take time to process. As such, our data-collection process represents both a limitation and potential productive outcome of this study. In terms of the limitation,

collecting student responses on white boards makes reporting specific levels of participation less feasible. Of course, a survey or other feedback instrument could be developed to address this limitation. Another limitation of our study is tied to Ewert and Sibthorp's warning against looking for outcomes of situated learning too early since immersive learning experiences happen as processes and outcomes may take time to emerge. In part, that is why the reflective prompts for students are direct quotes from the speech. Students come through the experience, are asked to reflect on the meaning and context, and then return to their public speaking courses for the rest of the semester, where they eventually present their own advocacy speeches. Determining the extent of active experimentation and other learning outcomes that result might best be accomplished through examining student coursework, including recordings of their advocacy speeches. Additionally, as indicated above, future scholarship will need to contend with how best to make aspects of immersive digital projects such as vMLK transferable and accessible to more communication classrooms.

## Conclusion

By connecting situated embodiment as it relates to situated learning, this study provides one model for how digitally immersive technologies can enhance communicative and civic engagement in the communication classroom. The study demonstrates that situated embodiment is a particularly important feature of situated learning due to the vital nature of the body as a site of learning (Dawley & Dede, 2014; Dede, 2009; Rambusch & Ziemke, 2005). And, indeed, bodily interaction with environments is foregrounded in student responses to the vMLK experience and illustrates the potential capacities that digital technologies and sensory engagements can have for situated learning.

The tension between rhetoric as both textual/symbolic and bodily enacted/material is as central to the pedagogy and practice of communication as to the oscillation described by Lanham (1993) who wrote that the "founding contradiction of rhetoric, namely, the dual nature of language as both transparent and opaque and of the self as both central and social" is particularly significant in an electronic or digital age (p. 82). By inviting visitors into an embodied experience of public address, the vMLK project structures a comparative rhetorical stance from which students reflect on the symbolic aspects and impact of words, text, and discourse as well as the embodied experience and consequence of sound, sight, and movement, all of which they experience as interwoven into a unified whole. In conclusion, the vMLK Project experience, particularly through its sonic elements, provides an authentic learning environment that places students into a context, where they embody the role of audience member, interact with a community and its history, which leads to cultural awareness, perspective taking, and a sense of engagement with others around civic issues. As a result, it demonstrates how digital technologies may be utilized to enhance rather than distract from communicative and civic engagement, merging historical, social, and digital realities.

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## References

- Anderson, J. R., Reder, L. M., & Simon, H. A. (1996). Situated learning and education. *Educational Researcher*, 25(4), 5–11.
- Ballinger, C. (2008). Verification. In L. M. Given (Ed.), *The SAGE encyclopedia of qualitative research methods* (pp. 914–914). Thousand Oaks, CA: Sage.
- Britt, L. L. (2012). Why we use service-learning: A report outlining a typology of three approaches to this for communication pedagogy. *Communication Education*, 61(1), 80–88.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32–42.
- Brubaker, J. (2011). Undergraduate political communication in action: Volunteer experience in a situated learning course. *Innovations in Education and Teaching International*, 48(1), 3–12.
- Carr, A., Jonassen, D., Litzinger, M., & Marra, R. (1998). Good ideas to foment educational revolution: The role of systemic change in advancing situated learning, constructivism, and feminist pedagogy. *Educational Technology*, 38(1), 5–15.
- Cavanagh, S. (1997). Content analysis: Concepts, methods and applications. *Nurse Researcher*, 4(3), 5–16.
- Choi, J., & Hannafin, M. (1995). Situated cognition and learning environments: Roles, structures, and implications for design. *Educational Technology Research and Development*, 43(2), 53–69.
- Coe, K., & Scacco, J. M. (2017). Quantitative content analysis. In J. Matthes (Ed.), *The international encyclopedia of communication research methods* (pp. 346–356). Hoboken, NJ: Wiley.
- Cyphert, D. (2007). Presentation technology in the age of electronic eloquence: From visual aid to visual rhetoric. *Communication Education*, 56(2), 168–192. doi:10.1080/03634520601173136
- Dale, C., & Pymm, J. M. (2009). Pedagogy: The iPod as a learning technology. *Active Learning in Higher Education*, 10(1), 84–96.
- Dalgarno, B., & Lee, M. J. (2010). What are the learning affordances of 3-D virtual environments? *British Journal of Educational Technology*, 41(1), 10–32.
- Dannels, D. (2002). Communication across the curriculum and in the disciplines: Speaking in engineering. *Communication Education*, 51(3), 254–268.
- Dawley, L., & Dede, C. (2014). Situated learning in virtual worlds and immersive simulations. In J. Spector, M. Merrill, J. Elen, & M. Bishop (Eds.), *Handbook of research on educational communications and technology* (pp. 723–734). New York, NY: Springer.
- Dede, C. (2009). Immersive interfaces for engagement and learning. *Science*, 323(5910), 66–69.
- DiFrancesco, P. (2011). *The role of situated learning in experiential education: An ethnographic study of the knowledge-construction process of pharmacy students during their clinical rotations* (Unpublished dissertation). University of Massachusetts, Boston.
- Downe-Wamboldt, B. (1992). Content analysis: Method, applications, and issues. *Health Care for Women International*, 13, 313–321.

- Fenwick, T. (2001). Experiential learning: A theoretical critique from five perspectives. *Information Series no.* 385.
- Finn, A., & Ledbetter, A. (2013). Teacher power mediates the effects of technology policies on teacher credibility. *Communication Education*, 62(1), 26–47. doi:10.1080/03634523.2012.725132
- Frey, L., & Palmer, D. L. (2017). Communication activism pedagogy and research: Communication education scholarship to promote social justice. *Communication Education*, 66(3), 362–367. doi:10.1080/03634523.2017.1290812
- Gee, J. P. (2004). *Situated learning and language: A critique of traditional schooling*. Psychology Press.
- Gordon, E. (2016). Civic engagement. In A. de Souza e Silva (Ed.), *Dialogues on mobile communication* (pp. 156–171). New York: Routledge.
- Hansman, C. A. (2001). Context-based adult learning. *New Directions for Adult and Continuing Education*, 2001(89), 43–52.
- Henthorn, T. (2014). Experiencing the city: Experiential learning in urban environments. *Journal of Urban History*, 40(3), 450–461.
- Herrington, J., & Oliver, R. (2000). An instructional design framework for authentic learning environments. *Educational Technology Research and Development*, 48(3), 23–48.
- Hillis, K. (1999). *Digital sensations: Space, identity, and embodiment in virtual reality*. Minneapolis, MN: University of Minnesota Press.
- Hinck, A., & Tighe, J. (2020). From the other side of the desk: Students' discourses of teaching and learning. *Communication Education*, 69(1), 1–18.
- Hogan, J. M., Kurr, J. A., Johnson, J. D., & Bergmaier, M. J. (2016). Speech and debate as civic education. *Communication Education*, 65(4), 377–381. doi:10.1080/03634523.2016.1203002
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288.
- Humphreys, L. (2016). Mobile social networks. In A. de Souza e Silva (Ed.), *Dialogues on mobile communication* (pp. 121–138). New York: Routledge.
- Hung, I. C., Hsu, H. H., Chen, N. S. (2015). Communicating through body: A situated embodiment-based strategy with flag semaphore for procedural knowledge construction. *Education Technology Research Development*, 63(5), 749–769.
- Hunt, S. K., Simonds, C. J., & Simonds, B. K. (2009). Uniquely qualified, distinctively competent: Delivering 21st century skills in the basic course. *Basic Communication Course Annual*, 21(1), 6.
- Jacobson, W. (1996). Learning, culture, and learning culture. *Adult Education Quarterly*, 47(1), 15–28.
- Kelm, O. R. (2011). Social media: It's what students do. *Business Communication Quarterly*, 74(4), 505–520.
- Kennedy, G., Dalgarno, B., Bennett, S., Judd, T., Gray, K., & Chang, R. (2008). Immigrants and natives: Investigating differences between staff and students' use of technology. In *Hello! Where are you in the landscape of educational technology? Proceedings ascilite Melbourne 2008*. <http://www.ascilite.org.au/conferences/melbourne08/procs/kennedy.pdf>
- Korthagen, F. A. (2010). Situated learning theory and the pedagogy of teacher education: Towards an integrative view of teacher behavior and teacher learning. *Teaching and Teacher Education*, 26(1), 98–106.
- Lai, K. W., & Hong, K. S. (2015). Technology use and learning characteristics of students in higher education: Do generational differences exist? *British Journal of Educational Technology*, 46(4), 725–738.
- Lanham, R. A. (1993). *The electronic word: Democracy, technology, and the arts*. Chicago: The University of Chicago Press.
- Lave, J. (1988). *Cognition in practice: Mind, mathematics, and culture in everyday life*. Cambridge: Cambridge University Press.
- Lave, J. (1991). Situating learning in communities of practice. *Perspectives on Socially Shared Cognition*, 2, 63–82.
- Lave, J. (1996). Teaching, as learning, in practice. *Mind, Culture, and Activity*, 3(3), 149–164.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

- Leek, D. R. (2016). Policy debate pedagogy: A complementary strategy and political engagement through service learning. *Communication Education*, 65(4), 397–408.
- Lester, D. (2012). Social media: Changing advertising education. *Online Journal of Communication & Media Technologies*, 2(1), 116–125.
- Lindgren, R., & Johnson-Glenberg, M. (2013). Emboldened by embodiment: Six precepts for research on embodied learning and mixed reality. *Educational Researcher*, 42(8), 445–452.
- Lunce, L. (2006). Simulations: Bringing the benefits of situated learning to the traditional classroom. *Journal of Applied Educational Technology*, 3(1), 37–45.
- Margaryan, A., Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education*, 56(2), 429–440. doi:10.1016/j.compedu.2010.09.004
- Martin, J. A. (2014). Mobile media and political participation: Defining and developing an emerging field. *Mobile Media & Communication*, 2(2), 173–195.
- Mikropoulos, T. A., & Natsis, A. (2011). Educational virtual environments: A ten-year review of empirical research (1999–2009). *Computers & Education*, 56(3), 769–780.
- Morse, J. M. (1995). The significance of saturation. *Qualitative Health Research*, 5(2), 147–149.
- Murray, J. (1997). *Hamlet on the Holodeck*. Simon and Schuster.
- Patel, C. (2018). *Situated learning*. London: Macat Library.
- Pérez-Sanagustín, M., Muñoz-Merino, P. J., Alario-Hoyos, C., Soldani, X., & Kloos, C. D. (2015). Lessons learned from the design of situated learning environments to support collaborative knowledge construction. *Computers & Education*, 87, 70–82. doi:10.1016/j.compedu.2015.03.019
- Potter, W. J., & Levine-Donnerstein, D. (1999). Rethinking validity and reliability in content analysis. *Journal of Applied Communication Research*, 27, 258–284.
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5). doi:10.1108/10748120110424816
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Touchstone Books.
- Rambusch, J., & Ziemke, T. (2005, July). The role of embodiment in situated learning. In *Proceedings of the 27th Annual Conference of the Cognitive Science Society* (pp. 1803–1808). Mahwah, NJ: Lawrence Erlbaum.
- Salaway, G., Caruso, J. B., & Nelson, M. R. (2008). *The ECAR study of undergraduate students and information technology* (Research Study, Vol. 8). EDUCAUSE.
- Selwyn, N. (2009). The digital native – myth and reality. *Aslib Proceedings*, 61(4), 364–379. doi:10.1108/00012530910973776
- Slater, M., Pertaub, D. P., Barker, C., & Clark, D. M. (2006). An experimental study on fear of public speaking using a virtual environment. *CyberPsychology & Behavior*, 9(5), 627–633.
- Slater, M., Pertaub, D. P., & Steed, A. (1999). Public speaking in virtual reality: Facing an audience of avatars. *IEEE Computer Graphics and Applications*, 19(2), 6–9.
- Stein, D. (1998). *Situated learning in adult education*. ERIC Digest No. 195. Retrieved from <https://files.eric.ed.gov/fulltext/ED418250.pdf>
- Suchman, L. A. (1987). *Plans and situated actions: The problem of human-machine communication*. Cambridge: Cambridge university press.
- Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. Bristol, PA: Falmer.
- Turkle, S. (2011). *Alone together: Why we expect more from technology and less from each other*. New York: Basic Books.
- Upchurch, W. R. (2014). Public address as the basic communication course. *Basic Communication Course Annual*, 26(1), 8.
- Wood, A., & Fassett, D. L. (2003). Remote Control: Identity, power, and technology in the communication classroom. *Communication Education*, 52(3–4), 286–296. doi:10.1080/0363452032000156253
- Yeoman, P., & Wilson, S. (2019). Designing for situated learning: Understanding the relations between material properties, designed form and emergent learning activity. *British Journal of Educational Technology*, 50(5), 2090–2108.