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Digitalization in Higher Education: A Qualitative Approach

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Abstract

The increasing use of digital technology by young people has become a major concern in the 21st century. This access to technology has led to hot-button arguments surrounding the place of these technologies in our lives and the implications that they have for the future. The incorporation of multimodal and digital technologies in courses has been increasing, with documentaries, social media posts, and blogs host significant spaces for learning and coursework. These forms of knowledge and communication have started to become legitimized in the classroom setting, in addition to the traditional educational technologies such as lectures and textbooks. This paper explores the assumptions by instructors and students concerning why and how multimodal and digital technologies are incorporated into undergraduate classes by qualitative approach. Also, the actual experiences that students and instructors have in using these forms of media in an educational context are investigated via participant observation, in-depth review and open-ended questionnaire techniques along the research.

Introduction

Proponents of the idea of a digitally native generation argue that this digital divide between generations has profound implications for education. Marc Prensky (2001), a major proponent of this idea, argues that teaching digital natives requires a complete pedagogical shift. Educators must become more creative in their approaches so as to meet the needs of and relate to these young students who think and process information in a completely different way from older generations. Teachers and professors fear that the ways in which they have learned to teach and the skills they have acquired over time are becoming obsolete and that they are not reaching their students using these methods and techniques anymore (Palfry and Gasser, 2008). Tapscott (1998) argues that students have reflected this type of environment. As such, he argues that approaches to learning should reflect this change, becoming student-centered, or focused on student activity, as opposed to an instructor-centered model by which transmission of knowledge is imparted from instructor to student. The calling for these fundamental changes based on the assumptions associated with a digitally native generation implies that universities and other educational institutions will fall behind should they not choose to implement such approaches.

This research questions the basis for this argument, investigating the actual experiences of instructors and students, a reality that has not been evident in existing research. This research adds to the understanding of digital technology use in the university classroom at a diverse, public institution by investigating both student and instructors' perceptions and usage of technology and their perceptions surrounding impact and effectiveness. In order to understand how educators and students perceive these effects of technology and how they influence education, more qualitative research needs to be conducted within educational institutions. Although qualitative approaches can provide valuable information for improving education, there are limited qualitative studies related to technology use in higher education.

There are several studies that take on the question of the diversity of skills and exposure related to technology amongst young people, including Erstad (2011), Hargittai (2010), and Helsper and Eynon (2010). Additionally, Boyd's (2014) work provides insight into the lived experiences of teens across the United States, as she explores their digital lives and actual uses of media through interviews. These studies help demonstrate the realities of technological exposure and use among students of the supposed digital native category. When measured across a broad range of social and economic statuses (SES) and diverse demographics, these realities may challenge specific arguments about technology use and literacy, even for those born within the timeframe of the digital native with proper access to the Internet (Boyd, 2014; Hargittai, 2010).

Literature Review

Incorporating things like social media, blogs, or websites into the university classroom is thought to help enable students to become active learners, rather than passive, which is argued to be the result of the traditional approach (Farkas, 2012). Teaching has mostly centered on a closed system whereby the instructor passes on information to students, and students are assessed on the incorporation of this information into knowledge as measured through tests and other assignments. The advent of Web 2.0 in the early 2000s disrupted this pattern.

Farkas (2012) refers to these as participatory technologies and argues that they tend to challenge traditional ideas about authority and expertise, especially regarding the view of the instructor being the only one with the knowledge and expertise to teach. Now, more than ever, learning takes place beyond the classroom, and the lines have begun to blur with the use of these participatory technologies for work, learning, and recreation. These technologies allow students to open their work up to everyone in the class, and beyond, and create a dialogue, among students, that may not have been possible before, depending on students' comfort levels expressing themselves during in-class discussions. This dialogue gives students a chance to learn from not only their instructors but also their peers and others, outside of the class, who may be interacting with or commenting on their work.

What may be significant here is that students also may see the classroom as a separate environment where the technologies of communication they use personally are not appropriate. That is, even when attempts are made to incorporate new learning tools in the classroom, instructors and others involved in these pedagogical shifts must take into account students' perspectives and needs. For example, students may not want to use the technologies they typically use in their personal lives for academic work (Farkas, 2012; Helsper and Eynon, 2010). Additionally, not all students are as familiar with using these technologies as we might assume. Levels of literacy vary greatly, and these assumptions can prove problems. In addition, instructors may feel uncomfortable incorporating technologies that they have to teach about in a classroom full of supposed experts. Kress and Van Leeuwen (1990) argue that this is not fair to the student and that instructors may assume they do not need to teach these skills, as they are something that students already know how to do rather than something they need to be taught. It should be recognized that "...students are coming into the classroom with very different competencies, technological literacies, and expectations," (Farkas, 2012, 88). The diverse experiences of students and instructors largely depend on their ideas about media and digital literacy. Instructors also tend to not criticize multimodal work in the way they do writing (Kress and Van Leeuwen, 1990), which may result in a lower quality outcome. Additionally, some multimodal work and experiences may be disregarded and even banned in specific educational contexts, thus delegitimizing students' digital practices (Omerbasic, 2015).

The success of the implementation of a shift in pedagogy is determined by the interactions of many different factors. These factors include the culture of the educational institution and classroom resources, such as equipment and materials, but also the different players involved, which include instructors, students, and communities. A successful shift in pedagogy is also based on how well the policy is integrated into the broader educational system (Diallo, 2014).

Goodson and Mangan (1996) argue that rather than being a technical skill, computer literacy is an ideology based on an agenda that teaching it is motivated by the needs of businesses and the military rather than by its inherent educational worth. Their qualitative study of high school students and teachers on their perceptions of computer literacy in the classroom sought to deconstruct the rhetoric and assumptions behind the ideology by interviewing them about their experiences and ideas about computer literacy. Their findings suggested that while some teachers agreed with the dominant discourse of computers being important for students' future careers, others were resistant to incorporating them into their classes. The teachers that were against computer literacy feared the loss of "traditional literacy", implying that an over-reliance on computers could lead to students losing the ability to read, write, and communicate effectively. While some students also expressed hesitation towards using computers in their classes, many still felt that learning to use them was going to be important for their futures. Some students expressed that they felt computers had a place in school, but not in certain classes, like art.

Other, more recent studies demonstrate how traditional ideas of education and digital education are not mutually exclusive. By taking a virtual qualitative approach, Hemmi, Bayne, and Land (2009) demonstrate the tendency for students to fall back on conventional academic understandings, despite the use of social media in their classes. This study looked at several undergraduate classes that took place in a conventional classroom setting, as well as master's level classes that took place entirely online. While traditional participant observation was possible for the regular classes, the online classes required virtual observations, as the students never met in

person throughout the semester. In-depth interviews were also conducted with students and teaching assistants, either online, by telephone, or in person. Although various forms of social media were incorporated into both classes, their main findings came from the blogs and wikis in which students were required to participate.

Neier and Zayer (2015) explored students' media ideologies on the Web 2.0 tools used for educational outcomes in an undergraduate marketing course. They sought to understand, through in-depth interviews, which tools have the most potential for use in the classroom, how receptive students are to using them, students' openness to using social media in education, and their motivations for using these tools. Students were also surveyed on their familiarity with specific social media tools, as well as which tools they associated with educational outcomes. The results from the survey suggested that some students were less familiar with certain types of social media than the digital native idea might suggest.

In general, the students in this study viewed social media tools in their classes as a way to be interactive with their classmates and instructors. Students were more motivated by the interactive and integrative aspects of social media than they were by its entertainment, information, career development, or identity reinforcement aspects. The students expressed that social media could give them a way to share their thoughts and ideas with their classmates and instructor, especially for students who may not feel comfortable talking in class.

Other studies further demonstrate the complexity of the digital native/digital immigrant binary. Ng (2012) explores the "digital nativeness" of undergraduate students by investigating their degree of digital literacy and how easily they adapt to using unfamiliar technologies. A digitally literate person is able to adapt to new technologies and pick up new literacies quickly.

Many of the students in this study were studying Management Information Systems and taking a course about written and verbal communication skills that had an online component via Youtube, and SABIS, a course management site which is used by several universities throughout the country. Students' perceptions of their own level of digital literacy before and after the course was investigated. Questionnaires that included both Likert-scale questions and open-ended questions were administered to students at the beginning and end of the course. These questionnaires revealed that students regularly used digital technology and Web 2.0 tools for entertainment, socialization, and academic purposes; however, students were less familiar with using Web 2.0 tools, such as blogs or wikis, for creating for academic purposes.

In a similar study, Salajan, Schonwetter, and Cleghorn (2010) surveyed both students and faculty of a dental program on their experiences using digital technology for learning purposes, including course management site (CMS), Blackboard. The results suggested that students perceived themselves to be proficient with digital technology, while faculty perceived themselves as less so. Faculty members also expressed slightly more dissatisfaction with using the Blackboard site than students did; however, this may not only be due to generational differences. The authors stress that other factors should be taken into account to understand the different experiences that both students and faculty have with the same tools.

Krause (2013), a proponent for replacing CMS's with blogging tools, like Wordpress, describes a general dislike for Blackboard among students and instructors. He argues that the widespread use of these rigid CMS's, including Blackboard and others, shape the way instructors teach their courses. According to Krause (2013), another problem with using Blackboard and other CMS's is the fact that they are closed off to outside participants. Students are completing assignments within the system, and nobody but their classmates and instructors have access to their writing. Blogs, on the other hand, are typically written and used in a more public space, and accessible to an audience beyond the classroom.

Method

In order to explore the assumptions by instructors and students concerning why and how multimodal and digital technologies are incorporated into undergraduate classes, this study employed qualitative methods. For the first part of the research, participant observation is conducted throughout the 2018-2019 spring semester in Sakarya University. This phase of the study allowed the researcher to begin to understand how the classes are taught and gain a rapport with students and instructors. The data is gathered via classroom observations, online observations of student blogs, as well as informal conversations with students and instructors. This information allowed the researcher to have a better sense of how these classes were taught and provided a context for the second stage of the research, which included in-depth interviews and a blog questionnaire.

Taking a qualitative approach to include participant observation, as well as in-depth interviews has allowed the researcher to discover and represent the realities and perceptions of those involved and being affected by this shift in pedagogy (Merriam, 1998). According to Patton (1980) the raw data collected through qualitative measurements, such as a direct quotation, can reveal respondents' emotions, thoughts, experiences, and perceptions on a particular issue. In addition to interviews, participant observation has provided the researcher the opportunity to witness the daily operations and a first-hand look at what transpires in the classroom setting rather than just relying on informants' memories (Merriam, 1998). Additionally, an online, open-ended questionnaire is conducted. Since the questionnaire is open-ended, it gave students the freedom to respond in their own terms, with the possibility of bringing to light new information about their experiences that may not have been previously considered (Merriam, 1998).

Interviews and participant observation notes were transcribed in Microsoft Word and then coded using an open or inductive coding method, which allowed the researcher to gain an understanding of the texts and identify emerging themes through this exploration (Maxwell, 2008). Quotations and text from notes were then coded into categories, or themes. Among the interviews, themes were identified within the two different sets of interviews: instructor and student. Significant themes in each set of interviews were then broken down into subthemes, if necessary. Results from each category were then used in conjunction with extrapolating media and digitalization perceptions of participants, which were then compared to each other. As this paper only has limited data from the blog questionnaire, student responses were recorded and analyzed for general patterns. The survey responses were analyzed for general patterns separately. Online blog observation notes were also analyzed for general patterns and then compared to student questionnaire and interview responses. Since the data is obtained from several different methods, including the survey, as well as interviewing three different groups of participants, the triangulation of the methods employed in this research increases the validity of the data and the patterns emerging from it (Merriam, 1998).

Results and Discussion

In-depth Interview on Multimodal and Digital Technologies in Classroom Settings

In order to assess the perceptions regarding the integration of educational technologies in classroom settings, in-depth interviews are conducted with four instructors and three students. All four instructors mention critical thinking skills as being integral to digital literacy and technology integration. These skills include analyzing online content to determine the reliability and motives of authors, understanding media and who controls it, and the consequences and implications of sharing data online. While Instructor 2 admits to believing that digital integration is overrated, he still seems to think that these critical thinking skills are essential for students to learn as they move forward, as he cites learning how to work with others and an understanding of effective strategies as essential skills, although he may not directly associate these skills with digital integration. Their ideas about digital integration demonstrate that it is not entirely divorced from their traditional academic and social understandings. Students and instructors are considering the ability to conduct and hold oneself to the standards and expectations of others online as important aspects of digital integration. Their ideas about technology usage in classroom settings suggest that their definitions of digitalization are expanded to include this critical thinking about online behavior and decorum. This expansion demonstrates how perspectives of digitalization are going beyond the text-based social practices of past conceptions of education to include the sociocultural standpoint that Lankshear and Knobel (2011) describe.

Digitalization in education brings several advantages, and it can be seen as a step to becoming global in terms of their own diffusion and access to personal and general sources. Although the three students expressed feeling comfortable using the blogs, one of their only hesitations was the fact that their blogs were public and accessible to both their classmates and others outside of the class. However, public writing may not have been initially considered by the students. Instructor 1 had announced to his students that he would share the links to their blogs with the class, which, according to him, came as a shock to his students, even though their blogs were technically public beforehand. Student 3, describes feeling uncomfortable writing in a blog that is public to her classroom and beyond. Her hesitation stems from the fact that there are "real bloggers" who may access her blog and, not having prior experience writing in a blog, she is not sure how to present herself to a potential audience, whose expectations she may not fully understand. Student 2 describes writing for an audience as motivating him to write better and making him want to work harder; however, he does not seem to consider that his blog could be accessed by people outside of the class, and so only focuses on how he is presenting himself to his classmates and instructor.

As Hemmi, Bayne, and Land (2009) and Thompson, Gray, and Kim (2014) found, students' experiences as learners are not completely altered by the use of these tools, which is demonstrated through these considerations about behavior, interactions, and expectations of the audience. These connections between traditional academic understandings and students' ideas about digital education are significant in that they are demonstrating that students are not experiencing a fundamental shift in the ways they are learning, as proponents of the digital native generation, like Prensky (2001) and Tapscott (1998) have suggested. Rather, students' learning experiences are more closely related to the experiences of previous generations, even if the media they are using for learning outcomes are different. Ideas about the digital native experience also dispute some of the findings of Goodson and Mangan's (1996) study. While the students and teachers in their study felt that computer-aided education and traditional notions of education were mutually exclusive, the students' and instructors' in this study connected their ideas about digital education to traditional education, to include critical thinking and communication skills.

The final main connection between traditional and digital education were the ideas of career advancement and social mobility that are associated with being digitally literate. The instructors not only describe critical thinking skills as being essential to digital literacy and learning but also recognize the importance of being familiar with and able to use these tools, such as blogs. In general, both groups consider these tools to be more relevant to students' lives, both during college, and especially after, as they may one day encounter a blog or wiki in their future professions. Instructors specifically mention several skills which they believe will help students find a job or get noticed by prospective employers, including how to write proper email subject lines and creating a profile through a professional networking site, LinkedIn. Being digitally literate allows people to communicate with others and access information in new ways; however, in order to fully take advantage of the empowering possibilities of being digitally literate, students must have competence in using these tools and interacting in these digital environments especially in terms of educational settings (Erstad, 2011). Unfortunately, the assumptions about use and expertise of these tools among our current generation of college students may make some instructors and/or institutions hesitant to teach these skills in the courses they offer.

Online Observation of Student Blogs

Overall, the main pattern that is noticed with students' blogs among all of the classes is a limited amount of customization. The minimal customization can be attributed to limited experience and knowledge of using blogs, in conjunction with the perception of blogs being a casual medium. The limited experience and knowledge of blogs can be another reason, as only 7% of student respondents describe having used blogs in their personal lives. Some students gave their blogs interesting titles and included different backgrounds, but those were the exceptions. Most students did not edit the stock text that is included in the "About", "Contact", or "Text Widget" sections, although a few did include pictures of themselves and a brief biography. When asked about customizing their blogs, four out of six respondents to the blog questionnaire responded with "no" or "not really", which corroborates the observations. Some of the blog templates that the students used included icons for social media links, but there was only one blog where a student actually connected his social media accounts to his blog, suggesting that students either did not know how to connect their accounts, or did not feel comfortable connecting their personal accounts to their class blog. The length of the blog posts also varied, depending on what the student was asked to write about.

In answering the question of how media ideologies affect the receptivity of and reactions toward Web 2.0 for educational outcomes, the most prominent idea to emerge about blogs was their perceived casual nature. The casualness of blogs has several implications for using them to teach writing. Students and instructors recognize the casual nature of the medium but have different ideas and experiences about using this less formal tool. Students express feeling comfortable using blogs, especially since they are already using their computers for other tasks, both educational and personal. Students 2 and 3 even compare blogs to social media. According to Student 3, writing in her blog is "...like making a Tweet, it's just longer". Krause's (2013) prediction that students would feel more comfortable using a site like Wordpress to complete assignments because the format and style of writing are closer to the styles they are used to in their personal use of the Internet is true in the case of these students. While the students that are interviewed expressed comfort in using the blogs, the students who responded to all three questionnaires seemed to have mixed feelings about the medium. Only around a quarter of student responses included a positive experience using the blogs, citing reasons related to the above, including convenience, ease of use, and the blogs providing a different space to write, as opposed to hand-written assignments. However, in the questionnaire, all but one of the six student respondents expressed feeling comfortable using the blogs for their class. Students in all three questionnaires expressed interest in the fact that they could edit and customize their blogs; however, according to the online blog observations, it is noticed that

many blogs remained minimally edited, with only a few students adding a creative title, or an actual “About” section that did not contain default text. This lack of customization that is observed may be attributed to several different factors. While the instructors did not require a specific amount of customization for the blog assignments, the lack of customization may also be related to the casual nature of blogs, in that students may be taking their work on a blog less seriously than they would a traditional assignment, and so did not feel the need to take advantage of the customizable features on the site. As mentioned above, the lack of customization may also be attributed to students’ limited experience and knowledge of using blogs, as 69% of student respondents reported blogging for school, suggesting that this class may be one of a few, if not the only experience they have had with blogs.

Social Media Acceptance

In discussing social media with instructors and students, one of the most common platforms mentioned is Facebook. Although some responses, from both students and instructors, suggest that popularity among younger groups has been waning in recent years, the relevance of this platform continues to remain in an educational context. For example, Student 1 described using Facebook for communication and organizational purposes among the several on-campus groups in which he was involved at the time of the interview and even compared it to the wiki used in his class. Similarly, Student 2 had already used Facebook for educational purposes before college, when one of his high school teachers began to use it as a central hub for information for a class. Contrary to assumptions about students wanting to keep their personal lives separate from their school lives, as both Instructor 1 and Neier and Zayer’s (2015) study had suggested, neither of these students took any issue with using their personal Facebook profile to join a school-related Facebook group.

According to the results the communication factor in platforms, like Facebook, was one of the most common ways in which students saw connections between their personal uses of the Internet and their uses of the digital for school. Students are using these tools to reach out to classmates, and other people they are connected to, in order to find information about assignments or reach out for help answering questions for homework and other projects. Like the students in Neier and Zayer’s (2015) study, the collaborative and interactive aspects of social media seem to be the main drawing factor in using them for educational purposes. According to Neier and Zayer’s (2015) study students are using social media to access articles and other information that may or may not be related to their classes, but that could provide them with an opportunity to explore new perspectives, opinions, and ideas outside of their traditional classroom setting. These responses suggest that students are going to be more open to using platforms, such as Facebook, and possibly Twitter, for educational outcomes, since they already see connections between the two.

Popular video sharing site, YouTube, is another platform that students are associating with educational outcomes. Both Students 2 and 3 describe accessing YouTube to find information to help them with homework, or for accessing educational videos, in general. Both students also describe a preference for learning via a YouTube video, as opposed to a traditional lecture or a PowerPoint presentation. As Student 3 describes herself as a visual learner, she finds herself able to pay more attention to a video and would instead look up information on YouTube than read an article on the same topic. During one of the classroom observations, it is observed that Instructor 2 using a PowerPoint lecture, with YouTube videos embedded to demonstrate different rhetorical strategies. The use of this multimodal presentation suggests that Instructor 2, in general, is open to using YouTube, and also open to providing instruction in non-traditional ways that are responding to the expectations and preferences that Tapscott (1998) suggests about students who are accustomed to using the Internet in their personal lives.

Conclusion

Students and instructors have diverse experiences and relationships with technology that affect their media perceptions, which in turn affect their receptivity towards using specific media for educational purposes and their ideas about digital education. Through their understandings of digital literacy and education and their uses of these media, we can infer their comfort levels, familiarity, and ideas about their own levels of expertise with digital tools. The diversity among students and instructors, who would be considered digital natives, falls in line with the complexity that Hargittai (2010) Helsper and Eynon (2010), Farkas (2012), and Boyd (2014) suggest, and demonstrates how problematic this generational binary can be. There are some indications that faculty is projecting the assumptions about digital natives and their use of these tools on to instructors; however, instructors are also making assumptions and expecting students to have a certain level of fluency and comfort

with using these tools, as well. Understanding the diversity of the experiences among students and instructors is also crucial for the maintenance of programs that seek to incorporate digital tools and digital literacy into teaching and learning.

In addition to the diversity in experiences helping to deconstruct the digital native/digital immigrant binary, conceptions of digital education also demonstrate that students' learning experiences are not fundamentally different from those of previous generations. Definitions of digital education and ideas about how to conduct oneself online, how to write for audiences, and importance of digital literacy and education in the future lives of students connect back to more traditional notions of education and social and academic conventions. However, although many connections are made between digital education and traditional education, the fact that digitalization in education now encompasses ideas about interactions and behaviors in specific digital contexts suggests that definitions of education are expanding beyond the text-based practices of reading and writing.

Additional considerations should be taken into account for future studies. Further research should be conducted on teaching and learning with media ideologies surrounding emerging Web 2.0. tools and experiences. Future studies concerned with teaching with technology may also find significant variations in access to technology and digital literacy skills when exploring such factors as age, gender, and class. Also, future studies may consider investigating a broader student population to include students of varying ages, as opposed to strictly freshmen students, especially considering that other instructors who incorporate these tools into their classes may have students whose ages range as much as forty years. Additionally, this project could have benefitted from more in-depth interviews, especially among students, in order to gain a deeper understanding of the lived experiences of students through qualitative data. All of these considerations and recommendations for future research may help to deconstruct the digital native/digital immigrant binary further and can provide more information about the nuanced experiences and relationships with technology among instructors and students.

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