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MOBILE TECHNOLOGIES IN SCHOOLS: THE STUDENT VOICE

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Abstract

Intermediate and high school students spend a large amount of time using mobile devices (Lauricella, Cingel, Blackwell, Wartella, & Conway, 2014), and such devices are increasingly being integrated into our school system. We conducted a series of student-led focus groups, with this early adolescent cohort, in order to better understand their experiences of the recent technological shift. Four main ideas emerged from a thematic analysis of three focus group discussions: restrictions, student-led technology use, bypassing the restrictions, and connectivity as a need. Direct quotes from students and our analysis of these themes suggest that young people should be included, to a much greater extent, in discussions about the evolution of teaching practices in today's digital age. Clear benefits and risks linked to greater use of mobile technologies were evident in our discussions, the implications of which are discussed along with limitations of the current study and proposed future research.

Keywords

Adolescents; thematic; technology; internet; social connectivity

Introduction

The impact of our growing reliance on mobile technologies, such as phones and tablets, is a concern for many groups, not least of all for teachers and parents of school-aged children (Seo, Park, Kim, & Park, 2016). Adolescents make up a disproportionate number of Internet users (Lauricella et al., 2014) and online socialisation has become normative for this group (Wartella et al., 2016). The Internet has many applications for learning, though there must also be caveats to its use (Seo et al., 2016). While the Internet has grown, its basic structure has remained largely the same—open with few boundaries. As well as potentially leaving young people vulnerable to unwanted contact, the vast amount of information stored online may present a challenge for educators (Selwyn, 2010). A careful balance of helpful and distracting aspects of mobile technologies, informed directly by the expertise of young people, is required to update best-practice teaching within our schools (Cheng, Yang, Chang, & Kuo, 2016).

The online environment changes quickly and educators must remain up to date to make effective use of mobile technologies in their classrooms (Bauman & Belmore, 2015). Young people, specifically digital natives, defined as those born in 1990 or later, are on the frontlines of changes to the online environment. That is to say, young people are the group most likely to experience the impact of those changes (Prensky, 2001). They are also well positioned to inform ongoing research (Valkenburg & Peter, 2011). In addition, a large proportion of the digital native cohort is experiencing a rapidly changing school environment, socially, but also in terms of the delivery of curriculum content (e.g., Davis & Fullerton, 2016; Selwyn, 2010). Teaching staff are increasingly embracing technology use as a key component of their practice, which has led to concepts such as Bring Your Own Device (BYOD) becoming commonplace (e.g., Song, 2014). Considering these evolving teaching practices, the aim of our research is to explore whether technology use supplements, rather than distracts from, teachers' curriculum goals (Sung, Chang, & Liu, 2016).

Mobile technologies are becoming an ever-greater part of the everyday lives of young people as such technology becomes integrated into teaching practices (Gao, Yan, Zhao, Pan, & Mo, 2014). The majority of young adolescents are online for several hours each day and studies, like that of Blackwell and colleagues (2014), are beginning to show concerning trends regarding the availability of content which is not age-appropriate. Heflin, Shewmaker, and Nguyen (2017) found that the use of mobile

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devices in classroom teaching lowered students' critical thinking, while exposing students to greater levels of distraction. Although students tend to react positively when mobile technologies are included in their classes (Gao et al., 2014), such a finding is often paired with less student engagement with their classwork (Heflin et al., 2017). Thus, student perception may be a flawed measurement when used in isolation to assess the benefits of technology use in the classroom.

An exploration of technology use in schools is needed because educators must understand the impact of mobile technologies upon student learning (Selwyn, 2010). Furthermore, it is important to ensure that the expertise of young people guides our research in this area (Valkenburg & Peter, 2011). We conducted focus groups with young people in order to find out about their personal experiences, including how technology interacts with their learning. While mobile technologies are potentially educative (Wu, Jim Wu, Chen, Kao, Lin, & Huang, 2012), it is important that their application in schools is moderated by student needs and resource constraints (Kearney, Burden, & Rai, 2015).

Our focus groups were intentionally broad, exploratory in nature, and intended to gather a range of views and personal experiences from young people (Morgan, 1996). A majority of the extant literature has been written in reference to participants who are in high school (Bauman & Bellmore, 2015), making it difficult to explore potential age differences. While many social networking site (SNS) administrative teams attempt to limit access to people under 13 years old, age guidelines are easily bypassed (Blackwell, Lauricella, Conway, & Wartella, 2014). Therefore we included students from intermediate school age as well as the traditionally studied high school cohort, with our first set of focus group discussions conducted with 12- to 15-year-old students. We sought to improve the understanding of student activity on mobile technologies, specifically their use within the school setting. Accordingly, key findings that relate to how technology, learning and the students interact are reported here as a starting point to aid the professional community's ongoing adaption to new technologies.

Methods

Recruitment

We conducted three focus groups: two at a local intermediate school, one with two boys and one girl and the other with one boy and three girls, and the third at a local girls-only high school with three girls. We used convenience sampling, liaising with school staff who selected a sub-population of students (according to classrooms) from their school. The first author then briefed these students on the project and invited them to register their interest in participating through an online form. We obtained formal consent from interested students and their parents prior to the focus group sessions, held at the students' school in a familiar environment. Young people's use of social networking sites (SNSs) to communicate with their peers was of central importance and so focus groups contained members of existing peer networks (e.g., classmates; Howitt, 2016, p. 88).

Procedure

The first author facilitated the semi-structured focus groups. Participants introduced themselves and cited which SNSs they most often used, which allowed a conversation about the similarities and differences between participants' use of social media to develop naturally. The focus groups were participant driven and, as such, their trajectory beyond the introductory phase and prepared opening questions varied from session to session. However, we asked every group to list all SNSs they use in an average week, not just the one they most often use, and what level of internet access and access to SNSs they had. We video- and audio-recorded all focus group discussions with participants' consent and transcribed the discussions. The transcripts anonymised participants' contributions while retaining general, non-identifiable, demographic information about them. Our research gained ethical approval from the School of Psychology Research and Ethics Committee (Protocol #16:53).

Analysis

We conducted a thematic analysis (Howitt, 2016) of the focus group discussions, as well as retaining verbatim quotes from the transcripts to retain participants' unique voices. Analysis of the focus group transcripts was iterative, beginning during the transcription phase then including several stages of review.

Findings and discussion

The thematic analysis revealed four themes that relate to student use of mobile technologies in schools: restrictions, student-led technology use, bypassing the restrictions and connectivity as a need. In the following paragraphs, we describe the four themes and illustrate them using participant quotes. Participants are identified by the first letter of their first name and either a 1 (intermediate school students) or a 2 (high school student).

Restrictions

Staff at both schools were incorporating new technologies into their teaching practice, though there were differences in approach which seem to mirror the general lack of consensus regarding best practice in this area (e.g., Gao et al., 2014). The intermediate students used individual tablet devices in class for much of their day-to-day work, at times prescribed by the teaching staff, and always under supervision. The school policy regarding mobile phones was that phones must remain at home unless pressing circumstances applied. Staff conduct routine bag-checks, monitor which devices are connected to local wireless networks, and, as the ability to permanently 'delete' histories on student devices is disabled, staff are able to oversee their use. Interestingly, disabling the 'delete' function was the main way the students discussed their on-device behaviour being monitored. Of course, their devices already include blocks for known inappropriate content and do not have social media installed on them, but this, in combination with being able to check the download history, appears to be a useful way to monitor student activity online.

H1: Yeah, if we download something like an App we can't delete it.

M1: Like, I downloaded a game and ... when I got here I didn't know that we weren't allowed to ... and then it got blocked from deleting so I would get in trouble but I didn't know.

The high school students had Internet access throughout their day by connecting, through their mobile smartphones, to the school's Wi-Fi network. Students access the network through a personal username, which presumably provides teachers with the ability to check a student's behaviour should a problem arise, much as disabling the 'delete' function affords the intermediate school. Although the high school students had more access to the Internet than the intermediate students, and recognised that social media could be a distraction from their studies, they provided several examples of school systems which they believed were unnecessarily restrictive. It is perhaps not surprising that students' views on the regulation of their Internet use was at odds with their school's policy. However, it is not sufficient to discount students' views, as young people can provide unique and valuable insight into the evolving use of technology from their position as digital natives (Lauricella et al., 2014).

G2: ... they block WhatPad on like the, the actual computers and some of the laptops won't let me get onto it, because all I'm doing on WhatPad is reading or—maybe writing that that's really rare [for me] at school.

P2: I feel like the teachers should like—consult like the students. Consult a student before like just doing things. Because I feel like teachers are not really doing a good job. They're just blocking sites for no reason.

Student-led technology use

The high school students spoke about wanting a more open approach to mobile phone and Internet access throughout the school day, as well as noting little curriculum-wide integration of technology. The participants talked about friends of theirs who, unlike them, took computing as a formal class and had projects formulated around software like Minecraft®, an idea they found interesting. While this group was clearly proficient at using the Internet as a reference tool, anecdotes about how their own classes were incorporating technology were absent. However, the students themselves had been proactive in using technology to help with their studies and it is possible for student-led initiatives to drive technological changes in schools (e.g., Fletcher, Fitzgerald-Yau, Wiggins, Viner, & Bonell, 2015). All three of the groups had set up some form of online study group to support one another.

H2: ... my class has like a Group Chat on Facebook Messenger and we like, send study links and all that ...

P2: We have something similar but it's on Instagram. A class—a class chat ... the teachers don't really know how to use like, the social media—so it's definitely students that set it up.

Bypassing the restrictions

Students in all focus groups talked freely about 'work-arounds' they had discovered, possibly as a result of what students saw as a frustrating mismatch between what was technologically possible and what their school's system allowed for. That students can bypass their school's various security measures and conceal device use was not unexpected because such behaviour is well documented within schools (e.g., Blackwell et al., 2014; Gao et al., 2014). The fact that *all* participants had knowledge of these methods, some of which demonstrate a clear difference in the technological proficiency of students compared to staff, is nonetheless a cause for concern. Furthermore, participants were confident in affirming that their peers were equally aware of these methods, making use of them often too.

P2: Yeah [everyone's on SNS], especially because like, the App Store has soooo many Apps designed for this. So people just download at home, come here, and then like, automatic!

G2: And they block certain sites on um, the school WiFi ...

H2: But you can use your Mobile Data ... Or people get VPN.

G1: I got in trouble at my old school for shutting down the blocks on some of the computers.

Connectivity as a need

Students' many solutions to the perceived difficulty of gaining Internet access could be a sign of how interwoven technology is in the daily lives of digital natives (Bauman & Bellmore, 2015; Seo et al., 2016). Of all the participants in the 12- to 15-year-old age group who are the focus of this article, none reported any level of Internet restriction in their home lives. When pushed to elaborate, one participant did mention age-related restrictions on some websites, though even this was accompanied by their own realisation that they were free to alter the age they input if they wished. Perhaps the format of the focus groups, by including existing peer groups, led participants to downplay any Internet restrictions they may have outside of the school environment. If not, such a finding is in contrast to that of much of the literature (e.g., Livingstone et al., 2017). There was some indication of self-regulation from the students, but the more prominent theme was the perceived need, particularly in terms of keeping up socially, of constant connectivity.

M1: I'm trying to put it away by a certain time, but it never really works—because people are still messaging me and then—I'm just desperate to answer so ...

H2: The majority of my time [using technology] is on social media.

G1: People our age, if, if you don't have one [a social media presence] then you're classed as being boring or dumb or something.

Conclusion

Participants in our focus groups discussed several proactive ways in which they were using technology to supplement their learning, often through online conversations and study groups with their peers. The schools from which these participants were drawn facilitated student access to the Internet, albeit to varying degrees. Two key, but somewhat conflicting, ideas, emerged from our analysis. Students revealed that access to tools with a primarily educational purpose was often impeded by the security measures in place. Conversely though, students talked about their own struggles in regulating their use of technology and many could articulate reasons why their teachers relied heavily on blocking content. Integrating mobile technologies into teaching practices appears to have some benefits (Wu et al., 2012), though these students' perspectives further reinforce that there are considerations, such as the level of distraction that devices introduce, to keep in mind if doing so.

The world of connectivity that many of today's young people inhabit requires that the goals of formal education re-align to fit a digital age, and the disparity of knowledge between student and teacher makes for a complex problem (Sung et al., 2016). The quick evolution of online technologies means that there is real value in hearing first-hand perspectives from young people, though the importance of teachers' oversight cannot be discounted (Chen & Yan, 2016). Our study has several implications for the professional community. First, although there are risks in providing students with Internet capable technologies at school, there are also benefits which should be given comparable weight when policy-making. Second, students have a valuable perspective to add to the discussion about technology in education (e.g., Fletcher et al., 2015; Valkenburg & Peter, 2011) and they should therefore be involved in decision-making. Indeed, our participants enthusiastically suggested such an approach. Thus, a balanced combination of teachers' and students' knowledge is vital if we are to address the many contemporary issues surrounding changing technology in education.

Our focus groups with young people revealed useful insights into technology use at school. Due to the small sample, however, the findings may not generalise to all schools in New Zealand. Encouraging the use of mobile technologies by providing Wi-Fi access is possibly related, through resource availability, to the decile rating of the high school our older participants attended. A clear avenue for future research is to broaden the range of participants included in focus group discussions about personal and academic technology use. Older adolescents, as well as young adults entering university-level study, may have a similar experience of balancing the useful and the distracting aspects of mobile technologies. In fact, given that the systems restricting access to technology are likely reduced for university cohorts, first-hand accounts from this group may help clarify the relationship between mobile technologies and potential distraction in learning environments.

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