

# ***Digital Inequalities and Student Engagement in Higher Education: Understanding the Experience of Students Through Digital Ethnographic Approaches***

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## **Abstract:**

During the COVID-19 pandemic, education systems worldwide were forced to shut down and transition to online learning. While distance learning and digital technology offer a practical solution to mitigate the negative effects of university closure, there is also a risk of exacerbating the pre-existing digital disparities by reducing opportunities for those from less privileged backgrounds. China, as one of the first education systems to experience system-wide closure during the COVID-19 crisis, adopted emergency online learning, following a policy entitled Suspending Classes Without Stopping Learning. In the past three years, we have witnessed a growing number of studies on students' online learning experiences. However, most of these studies have focused on a behavioural perspective which centres on student behaviour and effective institutional practices, thereby neglecting the exploration of broader sociocultural contexts that may influence student experiences. Moreover, the majority of empirical studies have laid particular emphasis on quantitative measures of student engagement through large-scale surveys, while very limited studies have explored in-depth factors that influence student engagement. This short paper offers a brief overview of an ongoing research project that focuses on exploring the day-to-day digital practice of students in two different types of universities in China. Adopting a digital ethnographic approach including visual methods, online observations, semi-structured interviews and comparative ethnographic analysis, this study aims to provide a detailed qualitative understanding of student experiences working with digital technologies in both research-oriented universities and teaching-oriented universities. Throughout the theoretical discussion of different approaches to digital inequalities, this paper hopes to stimulate thinking about the forms of the digital divide that might exist in higher education and ultimately contribute to both academic and policy debates on the subject. By exploring the different meanings of student engagement, this paper exhibits some of the challenges and issues relating to conceptualising and measuring student engagement in the digital age. It is hoped that this paper will bring insights into reframing and conceptualising student engagement from a socio-material perspective that moves away from the dominance of behavioural and quantitative studies. The finding of this study will contribute to providing a nuanced understanding of the relationship between initial socioeconomic inequalities, differences in student engagement and resulting inequalities in post-higher education, which will potentially inform future educational practitioners and scholars alike in developing effective strategies to enhance student learning experiences in the digital sphere.

## **Keywords:**

Digital inequalities; student engagement; sociomateriality; online learning; digital ethnography

## **Introduction**

In the early 1990s, the term “digital divide” was coined to describe the disparity between individuals who have access to new forms of information and communication technologies (ICTs) and those who do not (Rogers, 2001). Later, scholars started looking more closely at the use of ICTs and the benefits derived from the usage of technology (e.g., van Dijk, 2012; van Deursen et al., 2017). Recent studies have moved away from the traditional notion of digital inequality which centres on individuals' access, skills and adoption of digital technology, to examine how digital inequality intersects with and exacerbates pre-existing structural inequalities in education. This shift acknowledges that digital technologies are not neutral tools but are entangled in complex power dynamics that often privilege those who are already in position of power (Winters et al., 2019, Zheng and Walsham, 2021).

The disruption caused by the COVID-19 pandemic has further exposed the issues of digital inequalities within education systems, including China's. Despite increased recognition of digital access challenges and the importance of digital skills for effective learning, there remains a notable gap in research on student engagement

with digital technologies, particularly within the context of higher education. This gap is more pronounced in the exploration of differences between prestigious, research-oriented universities, which typically receive substantial government support (Yin & Wang, 2016), and their less privileged, teaching-oriented counterparts.

This ongoing research seeks to address this gap by qualitatively exploring the day-to-day digital practices of university students in two different types of universities in China and how their experiences working with digital technologies might be different between a fairly prestigious research-oriented university and a less privileged teaching-oriented institution. To do this, a digital ethnographic approach will be adopted including visual methods, online observations, semi-structured interviews, and comparative ethnographic analysis. Digital ethnography, which emerged in the early 21st century, is a qualitative methodology used to address questions in online space (Hine, 2000). Similar to traditional ethnography, it collects rich and unstructured data through observations that provide detailed information regarding how and why individuals and groups behave as they do online (Jensen, et al., 2022). Therefore, adopting an ethnographic approach will help researchers locate themselves much more strongly in the ethnographic orientation of understanding lived experiences and identifying problems that they may not be able to articulate through other research methods. By situating the study within the broader discourse on digital inequalities and student engagement, this study aims to contribute to both academic and policy debates on these critical issues. Through the lens of sociomateriality, this short paper will explore the multifaceted nature of student engagement in digital age, moving beyond traditional quantitative measures to offer a nuanced understanding of the digital divide in higher education. The findings of this study seek to provide insights that can inform future educational strategies, aiming to enhance student learning experiences in an increasingly digital world.

## **Social Inequalities and Digital Inequalities**

Social inequality has been a prominent area of study for many decades. The central theme of such research revolves around various aspects of social inequality including its forms, sources, the mechanisms of social mobility, the consequences of social stratification, and the substantial differences in life opportunities among different societal groups (Grusky, 2019). Building on this field of study, researchers have developed theories on how the Internet and digital technologies influence social disparities (Dimaggio et al. 2004; van Dijk, 2005). Traditionally, research into digital inequality has focused on the “digital divide” discourse, which centres on the physical access and adoption of digital technologies (Rogers, 2001). Within this discourse, individuals are usually perceived as “users” of technology and grouped into specific categories of the “excluded” based on a binary division of information “have” and “non-have” (Qureshi, 2014). Later on, scholars have come to recognise that digital inequality is a complex and multifaceted phenomenon that is influenced not just by this binary division. Moving beyond this binary perspective, DiMaggio et al. (2004) introduced a framework addressing five dimensions of digital inequality related to information and communication technologies (ICTs): technical apparatus, use autonomy, skills, social support availability, and usage variation. They emphasized how demographic and socioeconomic factors influence these dimensions, affecting digital usage types and resulting in diverse outcomes. Similarly, Van Dijk (2005) identified a positive correlation between four types of digital resources including material access, skill, usage, and motivation, where higher motivation to use ICTs may lead to greater possession of technological devices, resulting in better material access, fostering the development of more advanced skills, and ultimately leading to more diverse and intense uses of ICTs. This indicates that the connections between socioeconomic status (SES) and access to digital resources are reciprocal, in which individuals with greater SES may become better informed through media consumption compared to those with lower SES backgrounds, exacerbating the existing disparities between different groups of people.

In fact, digital inequalities and social inequalities are deeply intertwined. Drawing on Max Weber’s theory of stratification, recent studies have brought with it the potential for examining new dimensions of digital inequalities. According to this theory, social stratification in the digital sphere is a result of the complex interplay of economic, cultural and socio-political aspects. In the article “Examining Internet Use Through a Weberian Lens”, Blank and Groselj (2015) highlighted a nuanced view of Weber's notion of stratification. Based on the survey data collected from 1,396 adult Internet users, they found that participation in online activities is stratified by status, class and power. That is, those of higher status and power seem more likely to use the Internet in various ways to enhance their social positions and, therefore, generate more benefits from the Internet than those from low dimensions of stratification. Similarly, Winters et al. (2019) argue that although digital technologies may not intentionally reinforce inequalities, they are often implicated in complex systems of power, in which the advances in digital technologies tend to benefit those who are already in a position of power. In other words, those who are more

affluent and better connected, are more capable of leveraging technologies and making more meaningful use of them. Overall, different approaches to the study of digital inequalities have a common starting point: unequal access to economic, cultural, social, and personal resources translates into differential engagement with digital technologies, implying that digital inequalities and social inequalities may reinforce each other.

## Student Engagement in Digital Age

The concept of student engagement has its origins in a collection of studies focused on student involvement, primarily in North America and Australasia, where it has been deeply rooted through large-scale national surveys. Early research on student engagement has largely emphasised individual effort such as student involvement, time-on-task and quality of effort students put into learning (Pace, 1984). Later on, scholars began to focus on the interactions of students and viewed student engagement as encompassing both collaborative learning and participation in a wide range of academic activities (Coates, 2007). The most widely adopted view of student engagement in higher education, including in the National Survey of Student Engagement (NSSE) and Chinese College Student Survey (CCSS) focuses on a behavioural perspective (Kahu, 2013), where student engagement has been defined as the “time and effort students devote to activities that are empirically linked to desired outcomes” (Kuh, 2009, p.683). These nationwide surveys have mostly focused on a range of institutional practices and student behaviour related to learning and development, however, it has been argued that understanding student engagement from a behavioural perspective is too narrow (Yin & Wang, 2016). According to Kahu (2013), student engagement is a complex and multifaceted phenomenon encompassing four dimensions including behavioural, psychological, socio-cultural and holistic perspectives. Overall, engagement has been defined in many ways in the literature. The various interpretations of student engagement have led some researchers to question its usage as a term, with some arguing that it has been used uncritically (Ashwin & McVitty, 2015) and some others arguing that its use is “chaotic” as its vague meanings has masked inequalities by those who use the term (Trowler, 2014).

“Student engagement” is a buzzword in the context of higher education and has predominantly centred on the campus with little attention to online learning in the past (Coates, 2007). With the growing online presence of universities and the expansion of opportunities for online learning, a body of work has emerged to investigate the engagement of students in online settings, although there are still some problems with conceptualising and measuring student engagement in online environments (Bond et al., 2020). An important approach to understanding student online engagement is through a socio-material perspective. This approach has moved away from models and frameworks that presuppose students as somehow standing outside of the digital university and considers how human bodies, spatial arrangements, physical objects and digital technologies are entangled with everyday practices. The socio-material approach, rooted in Actor-Network Theory (Latour, 2005), views social processes as encompassed by both human and non-human actors. From this perspective, student engagement would be understood as emerging through a network of actors, such as teachers, peers, institution, laptop and so on. Based on this idea, the university would no longer be regarded as a neutral ‘context’, but instead, it would be recognised as “actors which play a role in configuring the flow of day-to-day practice” (Gourlay, 2017, p.16). Recent work conducted by Gourlay and Oliver (2018) has provided a socio-material understanding of students’ digital engagement by employing a method called “multimodal longitudinal journaling”. In their studies, the authors have conceptualised and reframed student digital engagement as a “set of socio-material practices, which are achieved by complex entanglements with nonhuman devices, objects, digital and analogue texts, spaces and time, in order to create fluid assemblages of practices” (Gourlay & Oliver, 2018, p.9).

In the past three years, a growing number of studies have particularly focused on students’ experiences of online learning in China (Yin, 2023). A recent survey found that there were significant differences in student engagement between groups with various demographic characteristics and types of learners. However, online learning seems to “reduce the gaps in student engagement between different types of universities” (Yin, 2023, p.372). In other words, the main differences reflected in student engagement were related to students’ personal factors, such as gender and ethnicity, rather than to institutional differences. This finding is interesting because it differs from previous studies on student engagement in face-to-face contexts, as students from research-oriented universities tended to be more engaged in learning compared to those from teaching-oriented universities (Yin & Wang, 2016). In the Chinese context, although an increasing number of researchers are beginning to explore student engagement as a broad range of qualities and characteristics, the majority of empirical studies have laid particular emphasis on quantitative measurement of student engagement through large-scale surveys, while few studies have explored in-depth factors that influence student engagement, particularly from a socio-material perspective. Therefore, further research is needed to capture the complex nature of student engagement in material and digital spaces.

## Conclusion

This short paper is an overview of the key concepts and preliminary insights from an ongoing postgraduate research project. This paper has critically engaged with key literature on digital inequalities and student engagement, identifying essential gaps for further exploration. By leveraging ethnographic methods, this study advocates for a shift from the dominance of behavioural and quantitative accounts of student engagement toward a socio-material framing, offering a deeper understanding of student experiences within digital environments. The findings of this study seek to shed light on how digital inequalities can be reproduced within students' day-to-day digital practices in higher education, thereby providing a foundation for future strategies that address digital disparities and enhance student engagement in the digital age.

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