

# New Kids on the Block? Exploring Technological Preferences of a New Generation

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**Abstract:** Over the past decades, reported research have continuously alluded to the impact of “digital natives,” “millennials,” and a range of reported “generations,” and warned about the need to adapt across all spheres, including education, educational approaches and student support. Higher education akin to these demands. Contemporary trends in student styles indicate an ever-expanding preference in using digital options. In essence, the use and application of technology and expectations hereof are changing with the emergence of each new generation. This necessitates a deepening in understanding, of inter alia, developments and application of educational technology and instructional design. With the disruptive technological changes of the Fourth Industrial Revolution (4IR), a new entry-level student, characterised by an increased digital imprint and a marked preference to using only mobile technology, surfaced and is already coined in literature as “the phygital generation”. Phygital is the concept of using technology to bridge the digital world with the physical world with the purpose of providing a unique interactive experience for the user. The term has first been introduced by the marketing and consumer industries. Here, smart and mobile technologies enable interaction and experiences for increasingly daily needs such as online purchases, traveling, learning, communication. The question is: how does this new trend affect teaching and learning? Evidently, students from this generation prefers to learn from microcontent and they are averse to voluminous content. Is there an understanding of the nature of the phygital generation, with its focus on mobile technology? Will this exacerbate the digital divide in marginalised communities? Framed by Critical Pedagogy, this paper interrogates the knowledge that a group of lecturers and their support staff in a Higher Education Institution in South Africa must accommodate a new generation of students. Using an interpretive design, qualitative data were collected from a purposively selected group of educators and support staff. Semi-structured interviews were used in this case to gauge their awareness and readiness to accommodate this new generation in their teaching and learning ecosystem. Findings are that participants are aware of the change but are not prepared for contemporary trends. Informed by critical theory, the paper offers critical indicators to address the gap.

**Keywords:** agency, the phygital generation, mobile technology, micro learning, critical digital pedagogy

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## 1. Introduction and background

One of the African Union’s flagship projects on the Africa 2063 Agenda is the use of technology-assisted teaching and learning to increase access to tertiary and continuing education in Africa (AU, 2021). This objective links with the United Nations’ 2030 Sustainable development Goals, SDG4, aiming for inclusive and equitable quality education and the promotion of lifelong learning opportunities for all. Higher Education Institutions (HEIs) have continuously been challenged by new technological developments. However, studies allude that many HEIs in Africa are still following traditional teaching and learning approaches (Van Wyk, 2020; Kunda, Chembe, & Mukupa, 2018). HEIs must prepare to navigate disruptive changes by, inter alia, exploring the affordances of mobile learning offering microcontent. To compound this complex scenario, the prevailing digital exclusions experienced by many students, in especially Africa, could potentially increase. This study firstly asks if the HEI selected, observed the said emerging new trend. And secondly asks: what is being done to accommodate the new trend?

At the backdrop of a prevailing digital divide, in a particularly on the African or southern African context, the value of Critical Realism paradigms and the affordances of critical theory must be revisited. Informed by recent reported research, this study explores the lived experiences in a Higher Education Institution (HEI) in South Africa in identifying and accommodating the new generation. The factors that could potentially exasperate an existing digital divide within rapid developments are explored. The readiness of universities to rise to the new demands is investigated and gauging existing competencies to understand the extent and nature of potential gaps in skill sets. Taken the high mobile penetration in Africa, it makes sense that the solution lies in exploring the value of mobile technology in teaching and learning.

## 2. The Identification of a new generation

Retail and marketing were the first sectors to respond to the unique needs of the new generation. Realising this change, online advertising and purchasing options adapted very effectively to this change in behaviour. This new term and phenomenon can be described as the phygital generation. Coined around 2013 (Mele, C. *et al.* 2021)

this term applies to a new generation of students who prefer to navigate all aspects of their world via their smart devices. The term phygital refers to the joint environments of the physical lived experience and the digital lived experience. One completely emerged in blending the physical world with the online, experiencing life by seamlessly integrating two worlds via mobile technology and social media.

Dimock (2019) explains the value of classifying generations to be used as a tool to research and analyse changes over time. Functioning in a ubiquitous digital world has changed “Generation Z” or “iGen” to the extent that a new generation is emerging, coined in literature as “the phygital generation”. It could be argued that the phygital student exists in a post digital world. Jandric (2020) explains the age of the postdigital as a blurring of lines between the physical and virtual worlds, where the one can no longer exist without the other:

*“We are increasingly no longer in a world where digital technology and media is separate, virtual, ‘other’ to a ‘natural’ human and social life” (Jandric, 2020: 178).*

Reportedly, this generation sees little distinction between the physical and digital worlds and appears to be comfortable in both (Mele, C. *et al.* 2021, Mikheev, A. A. *et al.* 2021).

## **2.1 Characteristics of the phygital generation**

Not much has been written on the phygital generation in higher education, but authors (including Mele, C. *et al.* 2021, Mikheev, A. A. *et al.* 2021) report that the phygital generation display the following characteristics and behaviour:

- Interpersonal, interaction and collaborative experiences are important;
- Access versus ownership is preferred;
- Immediacy in answering needs;
- Seamless immersion between the physical and the digital world is expected.

All the above reported preferences are facilitated by mobile technology and services.

## **3. Technology integration in teaching and learning**

The nature and impact of mobile technology on the demands of this generation were underestimated by HEIs. Mobile technology is at the centre of the phygital generations’ preferences and includes studying and accessing information sources and libraries.

Literature abounds that mobile phones and smartphones are increasingly utilised by students to access services on the internet. Among the emerging technologies, mobile communication technology is growing at a rapid speed (Coker, 2020). Lunevich (2021) posits on the role of the educator’s competencies and skills to include the capacity to plan, initiate, lead, and develop education and teaching to be cognisant of students’ digital skills or gaps thereof. Mobile learning has been accepted as part of academic, but meaningful integration towards inclusive education and equity in delivery still has a long way to go. These devices include smart phones, tablets, e-book readers, handheld gaming tools and portable music players.

The penetration of mobile connectivity in Africa is higher than internet connectivity (GMSA 2020). This makes mobile devices ideal to facilitate learning. In addition, the familiarity with their own devices and technology helps the users in accessing information quickly and does not require orientation and training in accessing library resources (Gandotra, 2019). Mobile services include mobile-friendly websites or apps, mobile-friendly access to the library’s catalogue and online databases, text messaging services, e-books, and LIS tutorials available via mobile devices.

### **3.1 Metacognition, microlearning and microcontent**

In its simplest form, metacognition is thinking about thinking. Metacognition implies that students can monitor their own performance and are equipped to know their information and learning needs. The phygital generation is more comfortable with microcontent, rather than lengthy readings.

*“Microlearning allows for the breakdown of complex topics and deliver new training and reinforcement activities in brief sessions” (Dillon 2019).*

Learning is optimised when distributed in manageable portions, opposed to it being delivered in one long continuous session.

### **3.2 Metacognition and metaliteracy**

Metaliteracy emphasises four learning domains: the cognitive, behavioural, affective, and metacognitive. Mackey and Jacobson (2016) state that metaliteracy forms the foundation of a range of literacies including visual literacy, digital literacy and media literacy, among others. As conceptual framework for information literacy it enables the construction of networks, supports lifelong learning and literacy fluency. As such, metaliteracy combines the cognitive, behavioural, procedural, and motivational, and other practices towards more context-specific and context-appropriate practices. Fulkerson, Ariew and Jacobson (2017) add that metaliteracy focuses on metacognition as well as the realisation that students are indeed creators of information during research and learning.

### **3.3 Critical pedagogy and student agency**

Morris and Stommel (2017) stress that Critical Pedagogy is an approach to teaching and learning, focussed to develop student agency in an environment where oppressive structures should implicitly and explicitly be criticised. Morris and Stommel (2017) explain that the essence of Critical Pedagogy lies more in the deprived effect of not-knowing, opposed to knowing, referring to students and educators alike. The new generation of students requires positioning, where they can be acknowledged, respected and empowered in an already challenging digital world. Williams (2017) stresses that learning with agency is an entirely different cognitive and physical activity leading to powerful learners who choose to take on challenges with their whole being. Stenalt (2021) opines that where student agency generally referred to sociocultural aspects of student experiences, in a digital world this definition needs to be expanded to allow temporally constructed engagement of digital and networked environments.

## **4. Research design and frame: A critical frame for a critical problem**

Coker (2021) posits that critical pedagogy is intricately linked to the concept of the postdigital era, where the emphasis is no longer on emerging technologies, but where the so-called “disruptive technologies” are actively being implemented and used extensively. The concept of critical digital pedagogy must be explored further in African Higher Education. Jandric (2020) points out this era is characterised by the fact that the human competencies are as important as the computational and technological functionalities. Knox (2019) warns that a postdigital approach makes it virtually impossible to divorce pedagogy from technology. Waddle and Clariza (2018) take this further and stress that Critical Digital Pedagogy necessitates a networked educational environment and warns that going about outdated practices of supporting students with repositories of content alone, is bound to fail.

## **5. Rationale of the study**

The aim of this study is to explore academic and academic support staffs’ experience and awareness of a new generation student. This study explores the value of critical realism paradigms in approaching prevailing and new forms of digital exclusion of students. Informed by critical theory, qualitative data were collected from semi-structured interviews in a technologically marginalised community of students. Using an interpretive design, qualitative data were collected from a purposively selected group of educators and support staff. The non-probability sample was purposively selected, consisting of academic support service’s staff and eleven lecturers teaching a new cohort of Psychology students attending hybrid classes, which is a mix between face-to-face classes and eLearning on the learning management system.

## **6. Analysis, presentation, and discussion of findings**

The qualitative data collected during the interviews were analysed using thematic reflective analysis. Vaismoradi *et al.* (2016) state that qualitative research, as a group of approaches for the collection and analysing data, aims to provide an in-depth, socio-contextual and detailed description and interpretation of the research topic.

The data collected from the interviews were transcribed and thematically analysed. All participants, both from the support services and from lecturers confirmed a marked shift to mobile preference. The following themes were identified:

- New student behaviour and preferences

- Networking, online presence and collaboration
- The need for metacognition and metaliteracy
- Support towards digital equity and cognitive justice
- Student agency in a networked education environment

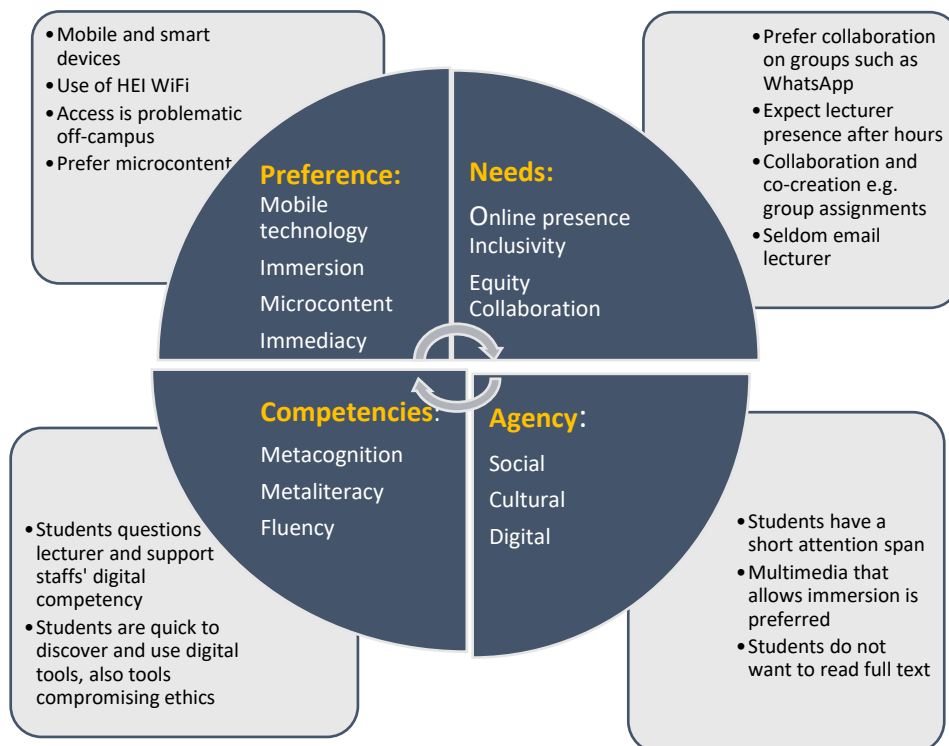


Figure 1: Themed presentation of findings

Findings are that there is a pronounced shift observed in the learning and accessing information by new entry students compared to previous cohorts. Reported observations allude to the propensity towards using mobile technology in all aspects of daily activities. Over and above the reported preference to mobile technology use, the phygital student prefers to network and share information with fellow students using online applications such as WhatsApp. They expect to access all support services and communication with their Smart Devices.

The study found that participants are acutely aware of the preferences of new student cohorts. Some participants conceded to encourage students not to use mobile technology, and to remain with the mainstream and traditional teaching and learning practices.

*"My main focus is on the course content of my discipline. This is also how I teach...I know truly little about mobile use in the classroom, and I find it is a hindrance" (Participant F).*

Although participants understood the role of cognition in its traditional sense, a shift is beckoning towards a deeper understanding to be able to embed constructs of metacognition, metaliteracies as well as cognitive justice in the curricula, and as teaching and learning praxis to accommodate a new generation.

Evidently, the participants, being academics and academic support staff, feel overwhelmed and unprepared to answer to the demands of students. Participants further reported an observed lack of metaliteracies, including digital fluency required for student success. Writing skills are lacking:

*"I have recently noticed that students writing styles in assignments are short and curt. At times it is like the style they use to SMS or text" (Participant C)*

Although the changed student behaviour is confirmed by this study, it is evident that the participants are not fully equipped to address the new demand. The study revealed the urgent need for a better understanding among participants of the pedagogy and praxis in a changed ecosystem. On a question around developing student agency participants voiced their understanding of learning through activities that are meaningful and relevant to learners but providing opportunities akin to the new generation students' interests posed problems:

*"I sometimes find it difficult to keep them interested and engaged, they seem to get bored very easily" (Participant A)*

Participants believed that students have limited choice on how their learning takes place. They further reported that students prefer personalised learning, which was not always possible. Participant reported that even though the HEI professes to offer student-centred teaching and learning the current central development of course material, and the instructional designs on the current LMS do not in all cases allow for student agency and personalised learning.

Participants reported that if students could access resources on campus, but the inequality became evident during the pandemic lockdown period from 2020 to 2021, where data costs and access became a hurdle in student success.

## **7. Recommendations: Indicators towards improved critical digital agency**

The study alluded to the importance of digital fluency for academics and the need to continuous reskilling and upskilling to support student agency. According to Stenalt (2021) where teaching with technology is concerned, digital agency must be developed and supported. Here, digital agency entails digital competencies, digital confidence, self-reliance and digital accountability to function in a connected environment. Addressing these shortcomings, the widening of the digital divide and in an already marginalised group, can be addressed. Critical digital pedagogy in HE for the African HE, require an urgent re-evaluation and intervention on institutional level. Continued retraining and reskilling of educators must address skills gaps with the needs of the new generation in mind. Freire's (1972) stance that pedagogy is never neutral, has once again proven to be critically important, also for this study. Teaching towards delivering future-ready students and citizens beg a change in curricula and instructional design to include theory and practice of critical digital pedagogy and digital agency. Indicators include:

- Teaching and learning must use technology that facilitates the nature of the phygital student;
- Metacognitive and metaliteracy strategies must form the foundation in preparing learning;
- Developing agency must address social justice, inclusion and digital equity;
- The integration and adjustment of instructional design and agency-support services to accommodates phygital needs and behaviour, and to strengthen engagement.

Critical teaching strategies, the integration of digital tools and information sources must enable students to become creators of new information.

## **8. Conclusion**

A new generation student is emerging from Generation Z and is characterised by an ever-expanding digital imprint. This study explored the preferences of new entry-level students as perceived and observed by their lecturers and support staff. Not surprisingly, the rapid and disruptive technological changes imposed by the 4IR resulted in an entry-level student cohort with different learning and information seeking trends and expectations. This case study concluded that there are similarities in technology preferences as those reported in retail and marketing research. However, the similarities are brief as it may be less complex to do online purchases than online learning. Digital student agency is far more complex.

In answering the two research questions, this study confirms that the new generation has a marked preference and expectation towards using mobile technology to navigate all aspects of their daily lives, including research and study. Findings are that participants, (being educators, academics and academic support staff) are not prepared to accommodate the phygital student. The study also warns that potential digital exclusion, the metacognition and metaliteracy required to function and succeed in a connected teaching and learning ecosystem do not only affect students. It starts with cognition and metacognition amongst lecturers, support staff and all HEI sectors.

Student agency in a changing digital world must be created with a sensitivity of cognitive justice of the social and cultural lived experience of students and broaden these constructs to include digital aspects. "Culturally relevant pedagogy also calls for students to develop critical perspectives that challenge societal inequalities" (Lunevich, 2021: 2011). Learning must be student-centred, and it is invariably political and subjective (Morris and Stommel, 2017).

As a qualitative study, the findings cannot be generalised and further research on the agency of the phygital generation is needed. Much more needs to be done to use mobile technology towards better inclusivity and effective learning design. It must become strategic foci in HEIs to capitalise on the affordances of mobile technology and the student-driven integration of resources and digital tools. HEIs need to rethink their metacognitive strategies to create student agency. The phygital student must be empowered to function in the 4IR and to think about their own thinking. HEIs are often ill-equipped to live up to international agendas and governments policies. Where initiatives such as the AU's 2063 agenda do not translate to foot sole level of education, these goalposts will keep on being moved. Only then will they be able to enhance motivation and control over their own deep learning, critical thinking and creative problem solving.

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