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

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With the disruptive technological changes, a new entry-level student is emerging, characterized by an increased digital imprint and is already coined in literature as the phygital generation. Framed by Critical Pedagogy models, the awareness of this phenomenon among lecturers and support staff in a Higher Education institution (HEI) in South Africa is studied. Using an interpretative design, qualitative data were collected from a purposively selected group. Findings are that participants are aware of the change but are not prepared for contemporary trends. Evidently, students prefer to learn from microcontent. Based on the findings, this study offers critical indicators to address the gap.

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

INTRODUCTION

Digital applications and usage in all spheres of life transcended expectations that are evident in particularly the younger generations. Sectors such as marketing and retail have already adapted and identified a new generation (Roten & Vanheems, 2019). Contemporary trends in student learning behaviour indicate an ever-expanding preference in using available digital options for their studies (Barclay, Donalds, & Osei-Bryson, K, 2018; Zang, 2021). These would typically include learning management systems, online information databases, eBooks and tutorial videos. Over the past decades, reported research have continuously alluded to the impact of digital natives, millennials and a range of reported generations, (see Dimock, 2019:1-7) and several authors warned about the need to adapt across all spheres, including education, educational approaches and student support (including Mele, C. *et al.* 2021, Mikheev, A. A. *et al.* 2021). Higher education research ratifies these demands (Dillion, 2019; Dimock, 2019, Stenhalt, 2021), and the question is whether these trends are taken into consideration to adapt teaching and learning. 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 principles, this paper interrogates the knowledge that a group of lecturers and their support staff in a Higher Education Institution (HEI) 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.

Background

The HEI in this study is in South Africa and offers undergraduate and postgraduate programmes in Education, Law, Commerce, Engineering, Social Sciences and Humanities across 27 campuses and operates as distributed federal institution. The HEI follows a social constructivist approach in Teaching and Learning. Teaching with technology is high on the agenda for all programmes.

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?

LITERATURE REVIEW

A reference to a new phenomenon described as the phygital generation was coined around 2013 (Mele, C. et al. 2021). In retail and marketing this term applies to a new generation who prefers 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. 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. One completely emerged in blending the physical world with the online, experiencing life by seamlessly integrating two worlds via mobile technology and social media. This is where the Second Level Heading would start.

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.

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.

Using Technology for Improved Metacognition

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. Complex learning material and topics with reinforcement of the essence offered in brief sessions afford the application of microlearning (Dillon 2019). Learning is optimised when distributed in manageable portions, opposed to it being delivered in one long continuous session.

Literacy About Literacy

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.

Critical Digital 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 HEIs for the African HEIs, 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.

Africa and Digital Exclusion

At the backdrop of a prevailing digital divide, particularly in an African or southern African context, the value and the affordances of critical theory must be revisited. Informed by recent reported research, this study explores the lived experiences in a HEI in South Africa in identifying and accommodating 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.

This is where the Third Level Heading would start.

A Critical Pedagogy Frame

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.

Rationale of the Study

The aim of this study is to investigate whether a change in learning preference towards a digital preference has been observed target group for this study. The study sets out to further explore an awareness of a new generation of student. This study is informed by critical digital pedagogy frameworks. in approaching prevailing and new forms of digital exclusion of students. Informed by critical pedagogy 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 9 academic support service's staff and eleven lecturers teaching a new cohort of students attending hybrid classes, which is a mix between face-to-face classes and eLearning on the learning management system.

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 form 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
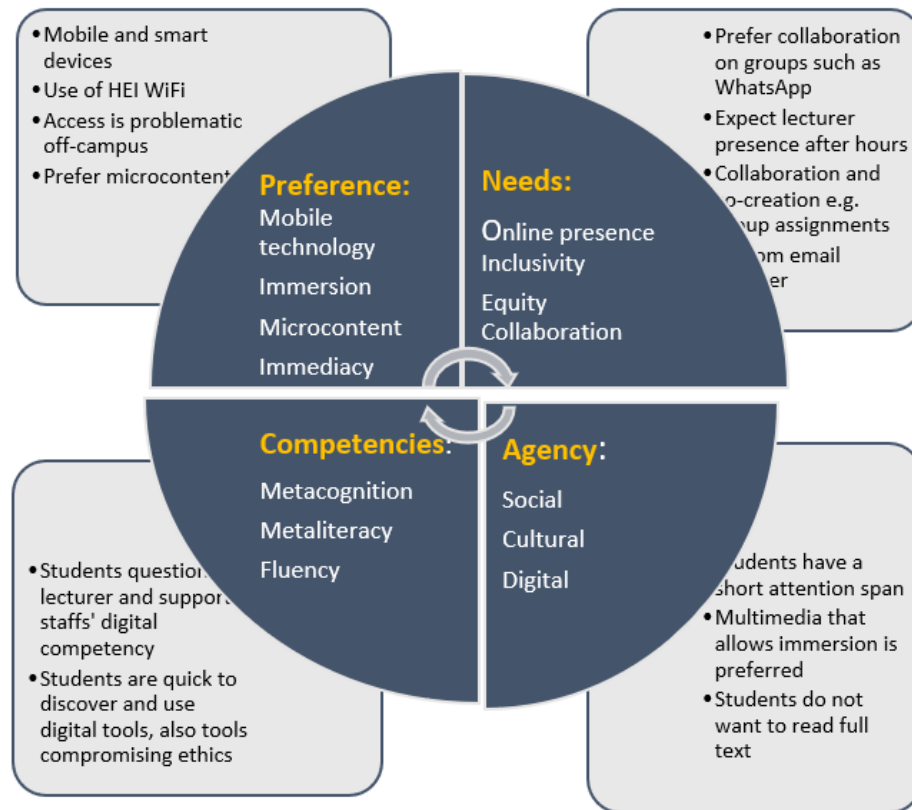
Recommendations: Indicators Towards Improved Critical Digital Agency

The study alluded to the importance of digital fluency for academics and the need to continuous reskilling and upskilling to support student agency. 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 behavior, and to strengthen engagement.

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

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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