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From dystopian concerns to utopian view: adopting generative AI in South African higher education institutions

Dalle ansie distopiche a una visione utopica: l'adozione dell'IA generativa nelle università sudafricane

William Tichaona Vambe[a]

[a] *Walter Sisulu University and The National Institute for Theoretical and Computational Sciences,* *wvambe@wsu.ac.za*

Abstract

Most higher education institutions in Africa have been discouraged from using technology due to several reasons, such as the digital divide, lack of knowledge, unclear institutional policies, and both intentional and unintentional sabotage by governments and universities. Recently, there has been significant debate on this issue; however, if not approached wisely, African students may again miss the chance to use generative artificial intelligence, influenced by dystopian views rather than optimistic ones. Through qualitative research, literature review, and ethnographic methods, this paper found that some South African universities lack policies supporting generative artificial intelligence, and some academics oppose its use. Grounding our discussion in the socio-technical systems framework, we recommend viewing generative artificial intelligence as an additional tool within the existing university technical ecosystem. When applied ethically and effectively, the generative artificial intelligence can help to educate students with critical thinking skills and who have developed the competencies of the 21st century.

Keywords: higher education institution; generative artificial intelligence; technology.

Sintesi

La maggior parte delle università in Africa è stata scoraggiata dall'utilizzare la tecnologia per diversi motivi, tra cui il digital divide, la mancanza di conoscenze, politiche istituzionali poco chiare e sabotaggi intenzionali o non intenzionali da parte di governi e università. Recentemente, c'è stato un dibattito significativo su questo tema; tuttavia, se non affrontato con saggezza, gli studenti africani potrebbero nuovamente perdere l'opportunità di utilizzare l'intelligenza artificiale generativa, influenzati da visioni distopiche anziché da prospettive utopiche. Attraverso una ricerca qualitativa, una revisione della letteratura e metodi etnografici, questo documento ha rilevato che alcune università sudafricane mancano di politiche a sostegno dell'intelligenza artificiale generativa e che alcuni accademici si oppongono al suo utilizzo. Fondando la nostra discussione nel quadro dei sistemi sociotecnici, raccomandiamo di considerare l'intelligenza artificiale generativa come uno strumento aggiuntivo all'interno dell'ecosistema tecnico universitario esistente. Se applicata in modo etico ed efficace, l'intelligenza artificiale generativa può contribuire a formare studenti dotati di pensiero critico e che abbiano sviluppato le competenze del XXI secolo.

Parole chiave: università; intelligenza artificiale generativa; tecnologia.

1. Introduction

Technology has been adapted and adopted in many application areas, such as education, health, and many others. For decades, many European higher education institutions (HEIs) have been using technology for teaching, learning, and research (Yusuf & Tambuwal, 2018). One of the reasons for adopting technology in higher education institutions is that, intentionally or unintentionally, it will prepare students for lifelong learning in the age of information and communications technology (IAU, 2024; Rawas, 2023). In fact, "technology is not just a tool but also a social system, and the interaction between technology and the social system is what creates its impact" as per the socio-technical system theory lens (Griffith & Dougherty, 2001; Trist, 1981).

Contrariwise, figuratively and or literally, most African higher education institutions have been deprived and or discouraged from using technology as a tool in their teaching, learning, and doing research. Digital divide (Lembani et al., 2020; Venter & Daniels, 2020), lack of knowledge/exposure (Lembani et al., 2020), lack of clear institutional policies surrounding such tools (Kruger-Roux & Alberts, 2024), and government/university intentional or unintentional sabotage in policy and implementation (Muswede, 2017) are among the key drivers which leads to depriving or discouraging students from using technology. The digital divide and inequality reality were exposed during the COVID-19 pandemic, and many African higher education institutions, despite having ICT policies, were not fully implementing them. Post-COVID-19, though not fully implemented, many universities have transformed and cooperated technology in their teaching, learning, and research (Vambe & Pindura, 2024).

Recently, globally, studies such as Chu and colleagues (2022) and Crompton and Burke (2023), among others, have reported the continual proliferation of technology, and this time artificial intelligence (AI). Researchers pinpointed some potential benefits, such as improved personalized learning (Bhutoria, 2022), automation of repetitive tasks (de la Torre-López et al., 2023), and provision of efficient administrative processes (Parycek et al., 2023), among others. Since 2022, generative artificial intelligence (GenAI) such as Chat Generative Pre-Trained Transformer (ChatGPT) (Chavez et al., 2023; Tarisayi, 2024), Gemini which used to be called Bard (Akhtar, 2024), Large Language Model Meta AI (Llama) (D'Souza, 2023), among others has been a point of discussion. Generative artificial intelligence, as defined by Lim et al. (2023) is a "technology that (i) leverages deep learning models to (ii) generate human-like content (for example, images, words) in response to (iii) complex and varied prompts (for example, languages, instructions, questions)" (p. 2).

There have been debates in higher education institutions globally and some academics seem to be contemplating on whether to ban or adopt GenAI (Lim et al., 2023). Like the rest of the world, South Africa higher education institutions have been part of this debate. Preliminary investigations on this topic from research and discussions, show that many South African academics are against the use of GenAI. If this issue is not handled with wisdom, many South African students like the rest of African countries will be deprived and barred from using GenAI as a tool, which is the case with other top French universities (Reuters, 2023). This will not be fair considering the fact that the rest of the world, for example, Danish universities (Teach GenAI), Edinburgh, Glasgow, and London Metropolitan University (De la Coudray, 2024), Russel Group universities (Russel, 2023; Luo, 2024), among others (Chan, 2023a), have adopted GenAI as a learning and research tool. Viewing technology as a threat in higher education by some South African academics, completely goes against the socio-technical theory, which posits that technology plays a complementary role in teaching and learning (Tasayi, 2024).

Although there have been some works that looked on ChatGPT in the South African context, to the best of our knowledge, based on the literature review and supported by Sullivan and colleagues (2023), there is very little academic work that has discussed the position of HEIs adopting GenAI technologies which creates a contextual research gap. As such, this paper seeks to bridge this contextual gap and contribute to the body of knowledge by adding a voice in the use of GenAI in South African universities.

This work explored the dystopian concerns and utopian views of adopting GenAI, such as ChatGPT, Gemini, Large Language Model Meta AI (Llama). Furthermore, the paper looks at what South African HEIs have done regarding policies and discussions around embracing or banning GenAI use. Then, a critical analysis lens was used to draw the emerging lessons and implications. Furthermore, a discussion on how South African higher education institutions should approach GenAI as a game-changer for education reformation, a position that seeks to embrace rather than reject GenAI so as not to disadvantage the already disadvantaged African students, will be given. In doing so, we aim to answer the following research questions:

- RQ1: What are the general dystopian concerns and utopian views of using GenAI in HEIs?
- RQ2: What have the South African universities done to promote using GenAI?
- RQ3: How can South African universities embrace rather than reject GenAI whilst maintaining integrity?

The rest of the paper is structured as follows: paragraph 2 gives the methodology adopted by this work, followed by a discussion on dystopian concerns of using Gen-AI in higher education institutions in paragraph 3. Paragraph 4 discusses the utopian views of using Gen-AI in higher education institutions. Paragraph 5 presents the results from a scoping review which is a microscopic view of where South African higher education institutions stand as far as GenAI use is concerned. This is followed by paragraph 6 which is the discussion. From the scoping review and discussions insights, recommendations on what needs to be done in South Africa are presented in paragraph 7. Lastly, paragraph 8, give the conclusion of the paper.

2. Methodology

The study was conducted within the lens of a qualitative paradigm using three approaches, namely, literature review (Snyder, 2019), scoping review (Pham et al., 2014), and ethnography (Giaccardi et al., 2020; Hammersley, 2006). Thus, the paper seeks to collate perspectives, trends, and debates regarding GenAI application in HEIs, specifically in South Africa, whilst aligning our debate with the socio-technical systems framework as discussed by Tarisayi (2024).

A literature review served as a cornerstone for the research by synthesizing existing academic and practical knowledge on the GenAI subject in higher education institutions, looking at multiple academic databases, including Google Scholar, Scopus, Web of Science, and ERIC. This involved analyzing published studies, reports, news articles, and professional blogging platforms such as X (Twitter), LinkedIn, and theoretical frameworks from 2022 to 2024 to identify the dystopian concerns and utopian view on GenAI. This enhanced creativity, personalized learning, and increased accessibility associated with GenAI in higher education institutions. By focusing on global and South African specific contexts, the literature review helped to establish a baseline understanding of the current

discourse as far as the dystopian concerns and utopian worldview are concerned and highlighted gaps where further research is needed. Additionally, it provides a comparative analysis of GenAI adoption strategies and societal perceptions, forming a theoretical foundation to guide practical recommendations for embracing GenAI as a transformative tool in teaching, learning, and research in South African HEIs.

Since the use of GenAI in South African higher education is a complex topic and seeks to bring emerging evidence, a scoping review was instrumental in the research. It helped us to systematically map the existing evidence, South African university policies, or views on GenAI using their university websites as a source to identify key themes, trends, and gaps. It involved synthesizing studies/articles highlighting dystopian concerns and utopian views. This method allowed us to comprehensively analyze the breadth of evidence on GenAI adoption in South African HEIs. The scoping review included policy frameworks, technological readiness, and cultural factors relevant to South African universities. By integrating diverse perspectives and evidence, this method provided a foundational understanding for developing informed, context-specific advice and strategies for GenAI adoption in higher education.

An in-depth understanding of the cultural dynamics and institutional contexts influencing the adoption of GenAI was achieved using ethnography. Through observation, attending GenAI discussions seminars and lived experience as a senior lecturer in one of the South African universities, ethnography enabled the researcher to explore how GenAI is perceived by those in the HEIs. It helped reveal barriers such as fear of job displacement, ethical concerns, technical challenges, and opportunities. Ethnographic insights also helped to illuminate the broader socio-political and economic factor shaping dystopian and utopian perceptions, offering an informed view of how GenAI could transition from being viewed with skepticism to being embraced as a transformative educational tool in South Africa HEIs. This approach ultimately aids in tailoring GenAI adoption strategies that are contextually relevant, culturally sensitive, and aligned with the aspirations of the academic community. Thus, ethnography helped to draw conclusions about how university societies, individuals, and HEIs function.

3. Dystopian concerns on the use of GenAI in universities

Evidenced by history in the African context and worldwide, innovation responses have been received with different perceptions, varied, and often influenced by one's perspective (Tarisayi, 2024). Recently, a new technology, GenAI, has been predominantly seen as a threat in the HEIs, and some academics are anxious worldwide (Mushtaq, 2023). Several studies, such as the works of Ipek and colleagues (2023), Lim and colleagues (2023), Michel-Villarreal and colleagues (2023), Yilmaz and Yilmaz (2023), Yusuf and colleagues (2024), among others have been done to outline the dystopian concerns around GenAI. In the context of this work, we only looked at those dystopian concerns that have been raised over and over in South African HEIs debates, seminars, workshops and conferences, which include:

a) Makes students "lazy" and promotes plagiarism

This is the main dystopian concern many academics have raised in several conferences, workshops, symposiums, and research papers. Many researchers such as Ahmad and colleagues (2023), Botez (2023), Lo (2023), Michel-Villarreal and colleagues (2023), Sullivan and colleagues (2023) and Yu (2023) have also noted the same in their works

based on people's views, prompting some HEIs to ban the use of GenAI completely. The hesitation stemmed from the belief that if GenAI can effectively answer questions, it could just as easily be used by students to complete their assessments (Singh, 2023). Academics argue that this might discourage students from conducting their own research when doing given tasks like assignments, as they could rely entirely on GenAI without applying critical thinking. If this is the case, these concerns are valid, given that essays and assignments have traditionally been central to the academic experience in HEIs. Green (2022) called it "apocalyptic". If GenAI can now perform tasks like writing assignments on behalf of students, it is understandable that academics might feel reasonably alarmed. These views were also shared and supported by Tarisayi (2024), though her focus was talking about ChatGPT in particular.

b) Misleading information

According to the International Association of Universities (IAU, 2024) report, several academics are worried about using GenAI as there is a perception that "it can generate highly convincing and sophisticated text, which could be misused to create fake or misleading research articles and other content". If that is the case, it poses a risk to the integrity of academic research, making it harder to differentiate between authentic and fabricated information. Such misleading articles can adversely affect students' learning, as some may struggle to distinguish between fake content and genuine peer-reviewed studies. Others argue that it kills critical thinking and having a foundation in the subject. It is a fact that without critical thinking and a solid foundation in the subject matter from students, the use of GenAI poses significant risks. These views were also shared and supported by Tarisayi (2024) and van Aardt (2024).

c) Making jobs difficult and job displacement

The study by Singh (2023) found that 43% of teachers thought GenAI, particularly ChatGPT, would make their jobs more difficult and threaten their jobs involving information provision. Other academics feel that they will be substituted, and this worry is raised due to GenAI's ability to generate human-like responses and do tasks like proofreading (Tarisayi, 2024). This is a concern to many especially the old aged academics who seem not to understand the role of GenAI in education.

d) Ethical and privacy concerns

Because of the potential risks and unintended consequences of GenAI, there is a view that GenAI will raise issues related to data privacy, algorithmic biases, and the responsible use of AI-generated content (IAU, 2024; Michel-Villarreal et al., 2023). This has raised hesitance or skepticism around adopting GenAI in HEIs (Michel-Villarreal et al., 2023).

e) Loss of cultural context in learning

There has been a debate among social sciences and humanities academics saying that GenAI tools are predominantly trained on global datasets and may lack sensitivity to South Africa's unique cultural, historical, and linguistic nuances. This could result in educational content disconnected from local realities, diminishing the relevance and inclusivity of learning experiences.

As articulated by Lo (2023) and Yu (2023), the dystopian concerns surrounding GenAI include issues with its accuracy, algorithmic bias, and the inability to prevent information from being accessed by unauthorized or malicious parties. Additionally, concerns arise over the lack of transparency in its operations, unequal access to information that could exclude certain individuals, and the potential misuse of the technology by students and staff

for academic misconduct. Furthermore, reliance on GenAI may hinder the development of students' and staff's critical thinking and academic writing skills.

While understanding the dystopian perspectives on GenAI in higher education is crucial, it is equally important to consider the utopian views that highlight the benefits of integrating such technologies to enhance learning and innovation. According to socio-technical theory, the successful adoption of technology depends on the seamless interaction between social and technical systems (Griffith & Dougherty 2001; Trist, 1981). Emphasizing only the potential negative outcomes from dystopian concerns without acknowledging the advantages from utopian views may discourage or make African students to be denied utilizing GenAI, thereby hindering their access to advanced educational tools. Therefore, a discussion that includes the positive aspects of GenAI in higher education institutions is essential and in line with the socio-technical theory.

4. Utopian view on the use of Gen-AI in universities

From the perspective of socio-technical theory (Griffith & Dougherty 2001; Trist, 1981), GenAI should be seen as an additional tool within the existing technical ecosystem in universities, alongside resources like Google Scholar, Google, e-books, e-libraries, and other technologies. Consequently, it can be used complementary to enhance these systems. Based on this narrative, this work agrees with the works of several authors, including but not limited to Mushtaq (2023), Michel-Villarreal and colleagues (2023), Singh (2023), the International Association of Universities (IAU, 2024), Tarisayi (2024) and many others in literature who support the use of GenAI ethically because of its advantages. This work agrees with the following utopian views.

a) Skill development in critical thinking

Students can develop critical thinking and problem-solving skills by engaging in discussions and exploring multiple perspectives on a topic using GenAI. GenAI can provide insights that challenge student assumptions and encourage more profound analysis.

b) Personalized learning assistance

Students can use GenAI as a personalized tutor, asking questions in real time and receiving tailored explanations based on their specific needs. This can complement traditional learning methods, offering individualized guidance.

c) 24/7 availability

Unlike professors or tutors with limited availability, GenAI is accessible around the clock. Students can seek help whenever needed, whether for last-minute revisions, clarifications, or study sessions.

d) Instant access to information and resources

GenAI provides quick access to vast knowledge, allowing students to find explanations, summaries, and examples on complex topics. This helps in saving time and enhancing their learning experience.

e) Enhancing future-ready skills

GenAI equips students with relevant 21st century skills, such as digital literacy, data analysis, and ethical AI usage. Many companies are using GenAI; as such, allowing students to use it at universities helps to equip them with job skills for the 21st century.

These utopian views, among others, make GenAI a versatile and powerful tool for enhancing the academic experience in higher education. It should be noted that if used ethically, GenAI can be a great tool. We argue that:

- Good writing equals good thinking. Gen AI will help clarify and elaborate thoughts worth sharing. But they must have thoughts.
- GenAI will help connect the ideas. But a person must have the ideas. Thoughts and ideas come from reading, talking to people, and doing stuff.

5. Scoping review of South African university websites

South Africa has 26 public universities, which fall into three main categories: traditional, comprehensive universities, and technology universities. The scoping exercise revealed that some universities, such as the University of the Witwatersrand (WITS), North West University (NWU), University of Cape Town (UCT), University of Pretoria (UP), University of Johannesburg (UJ), Cape Peninsula University of Technology (CPUT), University of KwaZulu-Natal (UKZN), Rhodes University (RU), Sefako Makgatho Health Sciences University (SMU), Nelson Mandela University(NMU), Central University of Technology (CUT), Stellenbosch University (SU) have full policies or drafts on how to use GenAI for students and staff members.

UJ, for example, encourages students to be Responsible, Informed, Transparent, and Ethical (RITE) when using GenAI. UP gave general principles for responsible use (Ensuring Data Privacy and Confidentiality) and then provided specific instructions (to deactivate model training and the storing of chat history in ChatGPT). UCT gave effective prompts for GenAI tools, including various prompt pattern strategies, whether the pattern is based on Role Playing, Question Refinement, Flipped Interaction, or others. WITS and NWU gave a detailed guide for teaching and learning using GenAI. CPUT has guidelines for the use of Artificial Intelligence (AI).

While representing the University of Mpumalanga at a conference organised by Mangosuthu University of Technology with the theme *Generative Artificial Intelligence in Higher Education Teaching and Learning: Laying the Foundation for a Responsive and Inclusive Policy Framework*, Dr Masanai Musara emphasized that AI is here to stay and he said: “The best way to deal with the challenge was to find a way to harness its advantages, and how to deal with its side effects”. His argument was based on the fact that “embracing AI would benefit the students because the proliferation of AI technologies such as generative AI has brought about a plethora of opportunities, including AI-enhanced learning environments, enhancing academic administration and student support services” (ibidem).

Dr Makuwa, the Acting Deputy Vice-Chancellor: Teaching and Learning while representing Mangosuthu University of Technology position, said: “As we witness AI permeating every aspect of our lives, from healthcare to transportation, it is imperative that we examine its implications on education, particularly in higher learning institutions. Artificial Intelligence holds the potential to revolutionize the way we teach and learn”. Thus, he emphasized why his institution embraces Gen-AI (Makuwa, 2024D).

Other universities such as Tshwane University of Technology (TUT), Mangosuthu University of Technology (MUT), University of Mpumalanga (UMP), University of Fort Hare (UFH), University of Western Cape (UWC) are at least partially or fully supporting

the use of GenAI as evidenced by their articles or public speeches/ presentations/ symposiums that are publicly accessible on their websites, which cover teaching, learning, and research. Some of the named universities have also included a list of use cases as well as some cautions about risks. Furthermore, it can be noted that they have even done workshops/seminars or discussions to conscientize their students and lecturers. Hence, it can be concluded that they are encouraging the use of GenAI responsibly and ethically based on these initiatives that they have done.

Some universities, such as the University of South Africa and Walter Sisulu University, are still saying they are busy drafting such policies two years after the inception of GenAI. This pace is worrisome as HEIs are expected to be the leading drivers in understanding such things.

As can be noted from the scoping review, after the GenAI release in 2022, some universities in South Africa have not taken some positive strides in viewing GenAI as a tool to augment the technical capacities of universities and implement policies and protocols to foster responsible alignment between technical subsystem and social (human) subsystem which aligns to socio-technical systems theory as argued by Tarisayi (2024). This is evidenced by universities like the University of Free State, which is firmly against the use of GenAI for undergraduates, as evidenced by Dr. Peet van Aardt, the head of the UFS Writing Centre and the Coordinator of the Initiative for Creative African Narratives (iCAN) when he said: "We should do everything in our power to discourage its use because it threatens what we do at a university on three levels. If we as educators consider the fact that the use of AI tools impedes the development of academic literacies (on the undergraduate level), it silences local, authentic voices, and it can create further economic division among our student community, we should not promote its use at our institution. Technology is not innovative if it does not improve something" (van Aardt, 2024). Though, he agrees that GenAI is important when he says: "But as an institution, we need to produce a policy on how to deal with the threat and possibilities of AI. Because in society and certain disciplines, it can make a contribution, just not for undergraduate studies in a university context".

One of the limitations of this paragraph is that much of the information used in this scoping review was sourced from the websites of the targeted academic institution. An obvious limitation of this type of approach is that there is a risk of important extant information not being incorporated into the websites of the sampled academic institutions. Another limitation is the existence of various naming conventions of GenAI, such as GenAI, artificial intelligence, ChatGPT, Gemini, and the Fourth Industrial Revolution (4IR). It is possible that information pertaining to GenAI was missed simply because the "correct" search name was not used. To this end, future research should consider incorporating other data collection methods, such as interviews.

6. Discussion

Technology has always been seen as a threat to academia and academic integrity. For example, as shown in Figure 1 below, in 1994, there was an outcry by teachers when they did not want students to use calculators as they thought it would make them "lazy" and not to be "critical thinkers" (Shahzad, 2024). Similarly, Hirsh-Pasek and Blinkoff (2023) also made an interesting analogy about the invention of the telephone, and they noted that "the invention of the telephone in 1876 was met with simultaneous amazement and trepidation

critics wondered if phones would disrupt face-to-face communication in ways that made us either too active or lazy".

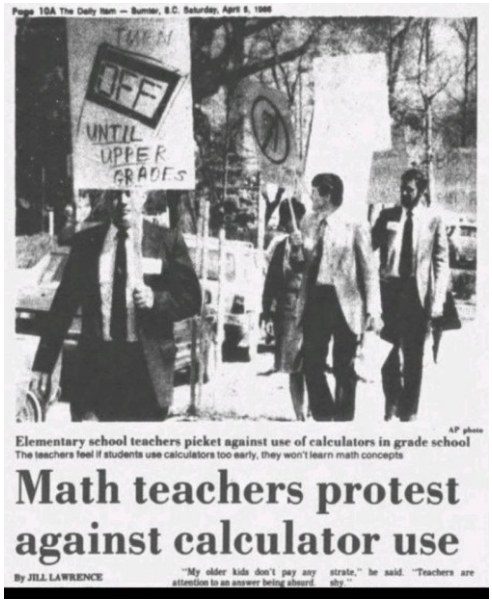

Figure 1. Protest against calculator use. [From Daily News 1994 by Jill Lawrence]

However, both the researchers agreed that just as calculators did not eliminate the need to learn math skills and telephones did not eliminate people, it is our view that GenAI should not replace critical thinking and analytical abilities. We argue that when used responsibly, these tools can serve as valuable resources to enhance learning and empower students. GenAI will not negatively disrupt HEIs integrity if used ethically and responsibly. Our understanding of GenAI is in line with the socio-technical systems theory (Griffith & Dougherty, 2001; Trist, 1981), which posits that "rather than being a threat, technology should play a complementary role". Thus, it is better "to find a way to work with the waves of the sea (technology), and not against it" as per the views of Hachten and Scotton (2015) as articulated in *The world news prism* book. This research shares the same sentiments with the researchers that going against something so powerful is futile.

Undeniably, to effectively and efficiently integrate GenAI into the HEIs fabric, staff, students, and administrators need to be involved in steering the common digital future transparency and responsibilities since they are the key stakeholders. Thus, they should be at the center of the decision-making of the framework so that it becomes "for them", "by them", and "with them". Our recommendation is informed and backed by the works of Kruger-Roux and Alberts (2024), when they said: "co-designing context-appropriate policies requires balancing the opportunities for pedagogical innovation and research efficiency with the imperative to avoid uncritical adoption of technological solutionism while addressing the varying perspectives and concerns of different stakeholders".

By integrating emerging GenAI tools with timeless educational principles, higher education institutions can implement integrity safeguards within instructional systems to enhance accessibility and personalization while preserving the critical analytical and communication skills, which is central to higher learning. Through evidence-based governance that thoughtfully supports the synergy between human capabilities and GenAI across various functions of higher education, South Africa's universities can gradually

revolutionize teaching, assessment, learning, and research, harnessing GenAI's potential to fulfil the goals of all stakeholders.

This study also strongly shares agrees to views aired by Twinomurinzi and Gumbo (2023) that there is a need for educational reform in light of AI's transdisciplinary impact, urging academia, society, and organizations to deliberately capitalize on this pivotal moment by developing forward-thinking policies for the optimal utilization of ChatGPT and other AI tools.

In a nutshell, rather than perceiving GenAI as a threat to academic integrity, South African HEIs should recognize GenAI as a tool to enhance universities' technical capabilities. To be able to do that, the development of policies and protocols is essential to ensure responsible integration between these systems. In conclusion, this work emphasizes the importance of avoiding the vilification of innovation while urging policymakers to establish transparent frameworks that align the evolution of artificial intelligence with the principles of academic integrity. Some researchers, such as Tarisayi (2024), agree with this observation.

7. Recommendation: what needs to be done by South African HEIs

It is a fact that those who will gain literacy in the use of GenAI will likely be more successful and productive in the workplaces than those who do not, as was the case with calculators, then computers and the internet. Allowing students to use GenAI, by default, is equipping them with the much needed 21st century skills. As such, South African universities as hubs that prepare students to be job and industry ready, should (Figure 2):

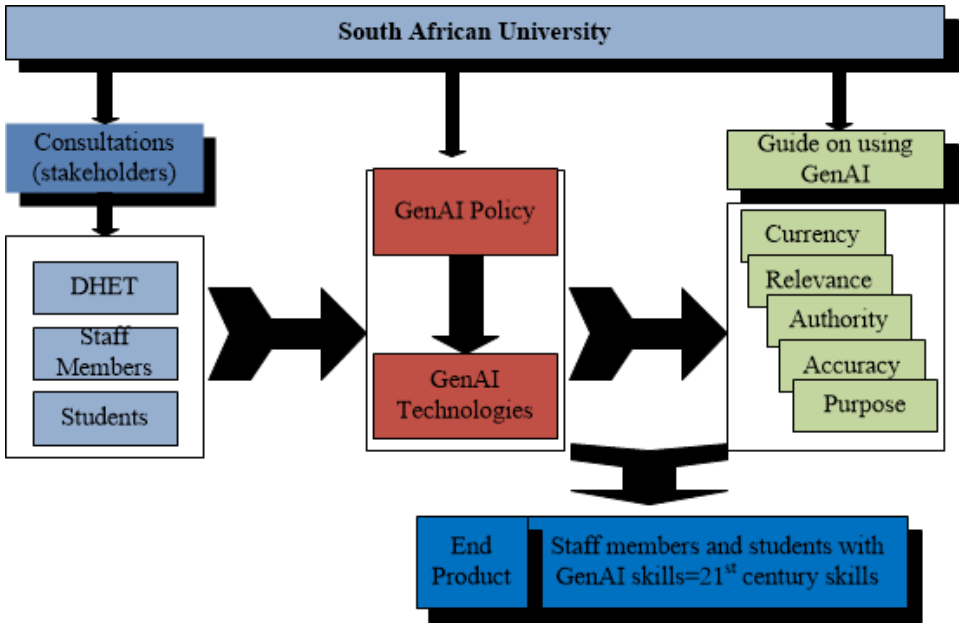

Figure 2. How to implement GenAI in SA universities.

1. come up with GenAI policies that are contextualized to their needs and informed with the world trends and standards. All stakeholders like the Department of Higher Education and Training (DHET), staff members and students should be consulted

and be part of the policy formulations;

2. guide and teach students and staff members how to use and utilize GenAI tools ethically, effectively (knowing how to prompt it for better results) and efficiently through seminars and workshops. It is important to contextualise the guidance to the specific tasks. As such, this work recommend that each university should have a dedicated department to teach students and staff members using the Craap test, a framework for evaluating information (Blakeslee, 2004) which has the following five elements: (i) currency (the timeliness of the information), (ii) relevance (the importance of the information for your needs, (iii) authority (the source of the information), (iv) accuracy (the reliability, truthfulness and correctness of the content) (v) and purpose (the reason the information exists). This is informed by Macquarie University Library (Teche Editor, 2023).

This recommendation is also informed by Hiller (2025) work on "Generative Artificial Intelligence in Higher Education".

8. Conclusions

Given the AI's ubiquity and increased capabilities, there is a need for a paradigm shift in South African universities for the benefit of the student. Higher education institutions should more than ever strive to provide the conditions within which 21st century students can learn and research using technological tools instead of focusing on banning new information technologies. Thus, students should be taught how to use GenAI as a tool and integrate it into learning and research practices. Importantly, students should be made aware that for GenAI to "assist in good writing", "help clarify and elaborate thoughts worth sharing", and "connect the ideas", there ought to provide human intelligence through good thoughts, and ideas from them. Thoughts and ideas come from being grounded on human intelligence, reading, talking to people, and applying concepts by doing "stuff".

Leveraging GenAI intelligently, teaching students to ethically use GenAI by applying human intelligence through critical thinking and creativity is key in enhancing learning and research for an African fit for the 21st century.

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