



Leadership in Technological Transformation: Exploring the Role of Ubuntu in School Leadership with Relation to AI

Chibaya S.¹ & Nyabeni N.²

¹University of Free State

²University of Pretoria

Abstract

In a rapidly evolving education landscape and technological transformation, particularly artificial intelligence (AI), there are challenges and opportunities for school leadership. This paper presents findings from a comprehensive literature review examining the intricate intersection of school leadership and the explosive domain of artificial intelligence (AI) under the lens of Ubuntu. Grounded in a qualitative research paradigm, this study comprehensively explores literature, including renowned academic databases such as Google Scholar, JSTOR, and Scopus. The ensuing analysis underscores the transformative potential of AI within educational frameworks, accentuating the imperative for leadership strategies based on an African Philosophy geared towards contextualised AI integration. The literature review examines how philosophy influences leadership by examining ancient philosophies. Central to this discourse is articulating the African Philosophy of Ubuntu in how school leaders navigate AI-infused educational environments. Furthermore, this paper elucidates the scantness of extant literature, elucidating the pivotal role of school leaders in orchestrating successful AI implementation initiatives, thereby advocating for a paradigmatic shift towards foregrounding AI leadership within Ubuntu. Considering these revelations, this scholarly exposition advocates for a proactive embrace of AI at African school leadership echelons, positing it as a catalyst for engendering a culture of informed AI stewardship characterised by heightened awareness of humanity, collaborative learning, empathy, and the recognition of the worth and dignity of every individual. Drawing upon Ubuntu as a theoretical framework, this research offers valuable perspectives on fostering inclusive, ethical, and socially responsible leadership approaches that prioritise the holistic development and well-being of all stakeholders within the educational ecosystem. Ultimately, this paper endeavours to stimulate scholarly dialogue and policy deliberations to elucidate efficacious strategies for enhancing educational leadership in the epoch of AI proliferation that is cognizant of the African context.

Keywords: Artificial intelligence, school leadership, technological change, Ubuntu

Introduction

In a rapidly evolving education landscape and technological transformation, particularly artificial intelligence (AI), there are challenges and opportunities for school leadership. There is a demand for schools to keep abreast with the changes, especially in technological changes (Xhemajli et al., 2023). This demand is recognised through the refinement of policy in a way that seeks to mitigate and manage the risks and challenges surrounding the use of technology in school. Schools have now got to draft policies about the use of technology with a sharp focus on abating plagiarism and cheating in tests and assignments. To keep up with technology and at the same time regulate its usage, school leaders and teachers end up with an increase in their workload and have to carry additional responsibility. Instead of just teaching and assessing, they have to police AI usage in assessments, flag it, and report it. An even greater responsibility now lies with the school leadership,

who must draft, approve, implement and conduct disciplinary hearings and meet punitive measures for offenders.

The complexity of the leadership role in schools about AI has been reported in countries such as the United Kingdom, Japan, Canada, New Zealand and Australia (Pedro et al., 2019; Striepe et al., 2023; Yokota, 2021). Developing countries like Indonesia, Vietnam, Nigeria, Zambia, Swaziland and South Africa have also reported challenges with school leadership concerning AI (Bada et al., 2024; Butcher et al., 2021; Machmund, 2021; Mumba, 2023; Chisom et al., 2023). The fast-paced transformation in technology and the acceleration in its integration, permitted or not permitted, is aided by the explosion in technological ingenuity and the seemingly limitless reach of AI. As a result, the complexities and challenges posed by leadership demand a review of philosophies that govern leadership in light of AI

inversion or subversion. In an African context, the Philosophy of Ubuntu can be brought to the spotlight. Since time immemorial, philosophies have influenced leadership styles and continue to do so millennia later. Sulkowski et al. (2024) intimate that philosophy gives the “why” that fuels the practices and the decisions in leadership. There is a need to consider how leadership has evolved over the years, which Sulkowski et al. (2024) call the evolution of leadership. In this way, philosophical wisdom can be combined with AI to analyse the promises and challenges of AI when it comes to leadership. There is a need to delve into an analysis of philosophy and its effects on leadership, and consequently consider contexts and the philosophies around them. The context in this study is African, focusing on artificial intelligence and a theoretical framework underpinned by the African Philosophy of Ubuntu.

The Philosophy of Ubuntu about AI in schools is essential for the African context, as no education can be considered to be relevant and meaningful if it does not evolve from the people’s philosophy of life (Hapanyengwi-Chemhuru & Makuvaza, 2017). The authors add that the people’s philosophy of life must seek to resolve concrete existential conditions of the society as well as its needs. Mutanga (2022) argues that Ubuntu can inform education processes, guide curriculum and content, and implement and evaluate education as it is guided by transparency, compassion and fairness. AI has become a concrete existential condition and a need, especially among young people. This paper looks at how Ubuntu and its values can be used to navigate the seas of AI. Schools' future lies in resolving AI issues, a concrete existential condition and need. What better place to prepare for it than with a focus on school leadership?

AI is the future if what is happening at present is anything to go by. The school's leadership must now be aligned to address the ensuing challenges and manage and lead schools towards a successful future. The African school leaders should be clear about their context and adhere to philosophical premises that allow relevant and meaningful learning. As AI creeps in, the African Philosophy of Ubuntu beckons to be considered. The current study aims to identify and critically analyse the use of AI and to examine the contribution and potential of the Philosophy of Ubuntu in school leadership in leading effectively and successfully with AI in South African schools. Two questions underpin this study:

- What is the role of the African Philosophy of Ubuntu in school leadership concerning AI?

- How can the Philosophy of Ubuntu be used in leadership strategies about AI?

Review of School Leadership and AI

There is a significant body of literature that pushes for consideration of the role of school leadership in an AI era (Chassignol et al., 2018a; Chen et al., 2020; Fullan et al., 2023; Papa, 2021; Wang, 2021). However, not much literature speaks directly to school leadership and AI in relation to the African philosophy of Ubuntu and its possible role. Some key themes in school leadership and AI include fast-paced technological changes, international trends in education leadership in AI, challenges and opportunities from AI and... These are discussed below.

Fast-paced technological change

AI represents the latest catalyst for transformation in education, and education leaders have to be aware of how to work with it to harness its transformative potential. The flux in the education leadership paradigm requires education leaders to raise their awareness of this catalyst for transformation (Papa & Moran, 2021). This highlights the rapid transformative potential of AI in education and accentuates the imperative for leadership strategies based on philosophies that have stood the test of time with a sharp focus on contextualised AI integration. School leaders must embrace AI, understand its risks, and mitigate them as the AI revolution is fast-paced (Xhemajli et al., 2023). However, according to Wang (2021), little literature suggests that technology can assist educational leaders in executing routine work effectively. Despite Wang’s (2021) views, the role of the leader amidst the wake of AI needs to be visited, as AI is fast evolving, powerful and can change the education landscape (Papa & Moran, 2021).

Currently, in schools, the application of AI has gone over and above the idea of AI as a supercomputer with a computer system in it (Chen et al., 2020). AI is expressed in, for example, the creation of robots that improve students' learning experience from early childhood education (Chen et al., 2020). Teachers can now employ AI in their teaching, from the most essential things, such as pronunciation and spelling, to more complex aspects like intelligent adaptive web-based computer learning. Chassignol et al. (2018) review the convergence of AI with education and conclude that AI has impacted various aspects of teaching and learning.

International trends in education leadership and AI

Literature on education leadership and AI highlight the unequal distribution of resources and the differences in experiences of those in the global north and south. An analysis of literature from the United Kingdom, Japan, Canada, New Zealand and Australia (Pedro et al., 2019; Striepe et al., 2023; Yokota, 2021) is compared to that from some developing countries like Indonesia, Vietnam, Nigeria, Zambia, Swaziland and South Africa (Bada et al., 2024; Butcher, 2021; Machmund, 2021; Mumba, 2023; Chisom et al., 2023).

Literature from the global north on education leadership and AI is vast and shows a more excellent grasp of AI in their contexts. In a study done in Japan on education leadership, Yokota (2021) advocates more intensive and coherent professional development that is specifically designed for school leaders. This may be possible in situations where resources are not limited and where intensive training on leading in the context of AI can be done intensively and coherently. Pedro et al. (2019) in the United Kingdom highlight how school leaders can leverage AI towards improving learning and equity, policy implications and address challenges in education. This shows advances in adapting AI and efforts being made towards inclusion and efforts towards the development of AI. Reflecting on the effects of COVID-19 and the role of school leaders when faced with changes in their work environment, Striepe et al. (2023) show how care and effective communication are critical in negotiating contextual factors and dealing with change. Their work focused on New Zealand, Australia and Fiji.

In the global south, there is a challenge to the adverse effects of technology, poor distribution of AI, and a lack of policy around its use and leadership strategies. Bada et al. (2024) report on how technology, especially the Internet and the Internet of Things, causes delinquency among the youth. This highlights the need for leadership that can provide safety guidelines to prevent delinquency. In a report on AI in sub-Saharan Africa, Butcher et al. (2021) established that none of the sub-Saharan countries was to be among the top ten countries to benefit from the 4IR. This has been the case and is echoed by Chisom et al. (2023), Machmund (2021) and Mumba (2023) as they highlight the slow-paced implementation of the integration of AI in African countries despite the fast-paced evolution of AI. Some of the reasons for the poor integration point to the lack of visionary education leadership and resources and strategies to effectively manage AI.

AI: Opportunities and challenges

The stunning disruptions of AI and a whole gamut of educational and technological advancements present a unique opportunity in human life and call for human agency. On the one hand, there is a demand for skilled teachers who actively use technology to meet student's needs. On the other hand, monetising the technology industry is rapidly changing the education landscape and leaves a significant part of our lives relying on technology (Papa & Moran, 2021). As some of the end users of AI, schools have to consider the opportunities and challenges surrounding AI, and their leaders must be conscious of them.

The introduction of the Snapdragon Processing Engine, which speeds up neural networks, has provided mobile learning on mobile devices (Martinez-Alpiste et al., 2021). Processing engines created in 2016 were helpful during the COVID era when mobile devices became a source of interactive and personalised learning. This also came with the introduction of chatbots that can have an instructive conversation with the students (Smutny et al., 2020). Besides being interactive, the technology has the human capabilities to assess the student's understanding level. The effects, therefore, must be addressed and are a reason for further study. The interactive nature of AI has gone as far as using virtual learning, data analysis and prediction. These powerful applications of technology give essential feedback to teachers and learners.

Papa et al. (2021) highlight some of the disruptions of AI in schools and advocate for human urgency amidst the whole gamut that represents complex technological advancement. The classroom of the twenty-first century will be of a different form from the traditional classroom. According to the International Society for Technology in Education (2020), school leaders are encouraged to ensure that they have teachers who actively apply technology to meet the needs of the students. These are educators that Papa et al. (2021) describe as showing innovation in pedagogy by using technology appropriate to their pedagogical repertoire.

One of the challenges with technology is that the organisations that produce the software, automation and AI operate under different philosophies from schools (Papa et al., 2021). Their philosophies are often driven by selling large volumes of their products for profit and scaling up their production. The responsibility of policing ethical issues falls heavily on the school leaders. They are to make sure that the technology integration process is not an unhealthy addition that leads to addiction but a well-monitored addition with care and for the well-

being of the learners. A significant part of our learner's life is now in the hands of technological devices (Varghese & Laprinice-Ringuet, 2018); hence, while leading the embracing of technology integration, thoughts must be around protecting the children from any possible risks in its use.

AI technologies, including chat models, have increased in popularity among students as they provide educational assistance beyond personalised and discipline-specific academic assistance (Chavez et al., 2023) and revolutionising education (Jason et al., 2024). With the use of AI in education, there are huge concerns about its usage being linked to academic dishonesty, which sharply focuses on the need to guide its use and integration (Chavez et al., 2023). Literature records an increase in students submitting AI-generated essays as their work (Chan, 2023). AI has the ability of a machine or software that mimics intelligent human actions, performs rapid calculations, solves problems, and analyses new data based on prior information. It also includes machine learning. Hagendorff (2020) and Mittelstadt (2019) argue that the presence of ethical guidelines, though crucial, is inadequate in influencing an individual's ethical decision-making when using AI in education. Besides the ethical guidelines that need to be robust and made clear to the teachers and the learners, there is a need to look at how to impact an individual ethical compass in a way that facilitates ethical decision-making regarding AI (Chavez et al., 2023). The unethical dilemmas surrounding AI use and abuse intimate the need for measures to help mitigate unethical practices. The abuses of AI are also remoted in the African context as delve into issues of inequality in the distribution and use of these technological advancements, especially in developing countries, and highlight the challenge of inequality of distribution, use and availability of AI (Chisom et al., 2023). However, plagiarism and cheating stick out, as the policies and strategies for managing AI integration are deficient.

Leadership for the Digital Era

Schools cannot continue to be led in the same way they were before the advent of technology and the disruptions of AI. School leadership in a digital era has to be re-defined. The results of a survey by Dale Carnegie (2017) state that to create engagement with millennials, there are three factors required. The first factor involves the alignment of values as there is hope for a feeling of security from the leaders in which the leaders are role models rather than bosses. This denotes a leader as a mentor, a provider of a direct example. Attributes of a leader mentor include wisdom, vision, persuasive mapping, service and

empowerment. It also overlaps with the leaders as parents. The second factor is about fair recognition and appreciation, from which employees seek motivation through being appreciated, and, in turn, the millennials become less reluctant to contribute their ideas. The second factor aligns with the leader as a promoter and the leader as a partner. The attributes would include altruism, stewardship, moral development of followers and rational power. Hence, hierarchy is not considered necessary; it is a formality on paper. The third factor is transparent communication because transparency builds confidence and makes employees more comfortable while working (Carnegie, 2017). This represents the leader as a communicator reflecting humility, love, trust and credibility. Philosophies have helped leaders deal with changes and help evolve their roles.

Philosophy can be used to contextualise leadership, yet a more ambitious task is considering leadership philosophy in an AI context. Sulkowski et al. (2024) intimate that philosophy gives the "why" that fuels the practices and the decisions in leadership. There is a need to consider how leadership has evolved over the years, which Sulkowski et al. (2024) call the evolution of leadership. There is also a need to see how philosophy can be used successfully in a given context to aid leadership. In this way, philosophical wisdom may be combined with AI to analyse the promises and challenges of AI integration and leadership.

The continuous changes in leadership caught the attention of Sulkowski et al. (2024) as they highlight how evolution is about change, growth, adaptation, and progress, which mirrors the nonstationary nature of leadership. By referencing Darwin's work on evolution, Sulkowski et al. (2024) argue that leadership evolves and is shaped by philosophies that govern it. Leadership is seen to transform itself through reshaping and adapting to different cultures, challenges, times, contexts and epochs. Now, in an era of limitless possibilities in the digital revolution characterised by the rise of AI, a visit to philosophical wisdom is necessitated to address challenges and create the intersection of philosophical wisdom and current paradigms.

A brief literature review follows to clarify how philosophies have influenced leadership. There is not much literature on Ubuntu and leadership in relation to AI. Therefore, this study is pivotal in advocating a paradigmatic shift towards foregrounding AI leadership within Ubuntu. The literature review covers some ancient Eastern and Western philosophies, how they have impacted leadership, and how some continue to do so. It concludes with a review of critical philosophies on AI

in schools. This is intended to highlight the transient adaptability and applicability of wisdom bound in ancient philosophies and how they remain relevant.

Theoretical framework

The African Philosophy of Ubuntu underpins this study. Ubuntu is the root of African philosophy, especially among the sub-Saharan population, and encompasses human quality, African humanism, philosophy, ethics, and worldview (Gabe, 2011). Using Ubuntu as a theoretical framework guiding school leadership in integrating technology in an African context enables the involvement of African philosophies in the popular discourse of AI (van Norren, 2022). In order to explore school leadership about AI in an African context, Ubuntu, an African ethical framework of leadership, is applicable (Khoza, 2012; Manthalu, 2023). Ubuntu explains the connection between an African's spiritual being and social being as a moral expression. This philosophy emphasises that leaders, rather than being self-serving, serve their followers, and instead of being democratic in decision-making, decisions are made after a consensus is reached (van Norren, 2022). Khoza (2011) also highlights how humanness is vital to the spirit of Ubuntu and the importance of respect for one another. Emphasis is also on how one is being and another's being, which is essential in creating a collective being that cannot exist without individuality. Hence, Ubuntu strongly hinges on the humanism approach, which states that a person is a person because of others.

The African Philosophy of Ubuntu has long been presented orally (Khoza, 2011). A large body of literature exists on the need to give attention to African philosophies for African contexts. The African Philosophy of Ubuntu is one of the philosophies to consider, especially among the Bantu people in Southern Africa. Philosophy plays a significant role in leadership. It provides a theoretical underpinning for leaders' actions and decisions, fostering critical thinking, enhancing self-awareness, and promoting ethical conduct (Sułkowski et al., 2024). In recent years, we have seen an appreciation of the incredible depth and breadth of the proverbial wisdom in African humanism, hence an increase in empirical study on African humanism. This has encouraged a study of this nature that seeks to contribute to the growing literature that gives attention to African humanism, the African Philosophy of Ubuntu. Ubuntu falls squarely in the context of rational and ethical philosophy and is a theist as it acknowledges God as the first cause of being (Khoza, 2011). In light of this, Ubuntu assumes that we are by nature moral. The morality that governs

Ubuntu may be instrumental in providing a moral compass for navigating school leadership in an era of AI integration.

Ubuntu is part of many philosophies that affirm the dignity and worth of all, as it can determine right and wrong. Khoza (2012) explains that ethical values are effectively determined by referencing universal human qualities, which differentiate humans from animals, in other words, Ubuntu. Consequently, some traits define being human that humanists agree upon and that are universal. The African Philosophy of Ubuntu identifies these attributes as thought and reason, language and culture, consciousness and critical awareness, sense of chronological time and change (Khoza, 2012). In essence, these attributes show humans as thinkers who communicate and have a way of doing things consciously and with an understanding of their context and the effects of evolution.

The attributes of Ubuntu are in sharp contrast to the perceptions that have long surrounded the intellectual exchange between African and Western civilisations. In the previous era, the intellectual exchange was subverted by the notion that Africans were sub-human and were relegated to slavery, physical work and exploitation (Khoza, 2012). The value systems and intellectual capital of the enslaved people were considered inferior to that of their masters, and any attempt to express intellectual prowess to their capturers and masters would be met with disdain (Manthalu, 2023). This also prevailed in the relations between the colonisers and their colonies; the natives would be seen but not heard, instructed and not considered to be intellectually sound. This also influenced the perception of African philosophies as inferior to the West.

Metaphysical, Ubuntu is the statement of being the 'I am' in all of us (Khoza, 2011). A human gets a sense of being from others; persons are because of other persons. Therefore, a collective cannot be without individuality, which comes with an innate ethical sense. One has a social, ethical responsibility derived from individual moral judgement carved out through interaction with others in the community. Further, Ubuntu shows that the Almighty and our ancestors unite us, are ever present and have passed on to us what we have (Manthalu, 2023).

Demonstrating the goodness that comes from Ubuntu, Tutu (2005, p. 27) writes:

According to Ubuntu, it is not a great good to be successful through being aggressively competitive and succeeding at the expense of others. In the end, our purpose is social and

communal harmony and well-being. Ubuntu does not say, “I think, therefore I am.” Instead, it says, “I am a human because I belong, participate, and share.” Harmony, friendliness, community and great good... Anything that subverts that undermines this sought-after good is to be avoided like the plague. Anger, resentment, lust for revenge, and even success through aggressive competitiveness are corrosive of this good.

The Zimbabwean word ‘*hunhu*’ is used interchangeably with Ubuntu (Van Binsbergen, 2011). He defines ‘*hunhu*’ or ubuntu as a world view comprising of the values, beliefs and images of pre-colonial Southern Africa that has survived the test of time. Van Binsbergen (2011) asserts that ‘*huhu*’ is an *inspiring*, valuable blueprint for present and future social, economic and political life in modern environments. This means that ‘*hunhu*’ or ubuntu as the ethical benchmark of African societies, provides an ethical guide to the African man and woman in any context (Mangena, 2007).

In a paper that covers the relevance of worldviews of the global south on artificial intelligence, van Norren (2022) looks at the implications of AI when seen from the collective ontology. One of the collective ontologies for the global south is Ubuntu, a philosophy that starts from collective morals rather than individual ethics. The chief feature of Ubuntu is the assertion that no one can exist as a human being in isolation (Khoza, 2011). Interconnectedness is essential for social living and is the basis of group and individual morality. This sharply contrasts most Eastern and Western philosophies that focus on self (self-awareness, virtue and grand man theory). Ubuntu is, therefore, characterised by selflessness, connectedness and altruism, making it helpful in considering an inclusive approach to the use and distribution of AI as well as leading AI integration.

In contrast to modern and post-modern philosophies, the tenets of Ubuntu approach and conceptualise issues differently. When presented with an economic issue, Ubuntu focuses on sharing more than being competitive; hence, it goes against capitalistic logic (van Norren, 2020). From this viewpoint, Ubuntu would advocate for sharing AI resources with inclusivity in mind. Ubuntu favors transparency and consensus when making decisions and emphasises connectedness (van Norren, 2022). Consequently, the adoption of AI under Ubuntu is envisaged to push forward for tenets of the African Philosophy of Ubuntu.

Design/Methodology/Approach

This paper results from a literature review on the African philosophy of Ubuntu as applied in school leadership in the context of artificial intelligence. This study's main focus was to guide how school leadership in an African context navigate the complex terrain of artificial intelligence while employing Ubuntu in school leadership. This section presents the overarching research design and methodology for the proposed desktop study on the literature from over the last ten years on AI and school leadership. This section includes the rationale for the chosen research approach, data collection methods, and analytical techniques.

The research adopted a qualitative approach, allowing for exploring complex phenomena and enabling a nuanced understanding of the trends and experiences around school leadership in the face of AI (Creswell & Creswell, 2017). Through qualitative analysis, this study aims to explore an intricately woven relationship between leadership and AI. Search engines, Google Scholar, JSTOR, and Scopus, were used to access vast data, including scholarly articles, reports, and policy documents, providing a rich source of information pertinent to the research objectives (Hannousse, 2021).

English-language sources relevant to leadership and philosophy in AI, regardless of the source type or date of publication, were obtained (Hallinger, 2018). The relevant sources were downloaded as PDF files, including their citation information. Scholars assert that journal articles meet more consistent quality standards than reviews (Hallinger, 2018). When the articles are read, those that do not fit the topic are discarded, and those left forms databases for analysis. Thematic data analysis was done (Cresswell, 2017) with the primary goal of exploring the role of Ubuntu in school leadership about AI.

Presentation of results

The main thrust of the study was to review the literature on AI and school leadership in an African context to identify Ubuntu's roles. Literature significantly compared the global north and south contexts of AI integration. The idea was to identify the tenet of the African people's philosophy of Ubuntu that can be utilised in adopting AI. African school leaders can lean on the African Philosophy of Ubuntu for successful, informed AI stewardship. Hapanyengwi-Chemhuru and Makuvaza (2017) assert that philosophy can be considered relevant and meaningful if it involves the people's philosophy of life. Ubuntu is the people's philosophy in the sub-

Saharan region. Though this philosophy is ancient and dates back to times comparable to the Eastern and Western philosophies, it can still be applied and adapted, especially in Africa as Africa wrestles with AI (Manthalu, 2023). The people's philosophy of life seeks to resolve concrete existential conditions of society as well as its needs. In dealing with AI, Ubuntu is recommended as it focuses on awareness of humanity, collaborative learning, empathy, worth and dignity, dialogue in policy deliberation and inclusivity.

Awareness of Humanity

The African Philosophy of Ubuntu is marked by an understanding that one is because of others (Khoza, 2012). In the disruptions of AI, Ubuntu can refocus people on what it means to be human. Ubuntu speaks to what makes us different from animals; the string holds us back and keeps us human. The emphasis is on how one is being and another's being is essential in creating a collective being, and that collective hinges firmly on humanism (Khoza, 2012). The collective being created by Ubuntu allows for collective learning. In light of this, school leaders can use Ubuntu to focus on humanism as they lead in AI integration.

Collaborative learning

While some Western philosophies have given rise to capitalism, Ubuntu fosters collaboration and works for the collective. This is shown through selflessness, connectedness and altruism, making it helpful in considering an inclusive approach to using and distributing AI and leading AI integration (van Norren, 2022). While the producers of the software that operate AI work under the philosophy of profiteering and pushing volumes as capitalism would have them so, a balance (yin yang) can be in the form of Ubuntu, which confiders the collective in the learning process. Tutu (2005) refers to this as the 'common good', about sharing above the competition. Besides, the collaboration in Ubuntu is strengthened by dialogues in decision-making, in which decisions are not made through a democratic process but through consensus. These are attractive attributes that Ubuntu brings to the fore as leaders wrestle with the tumultuous effects of AI.

Empathy

In exercising Ubuntu, a leader is characterised by care for followers. This is the same as a servant leader would with followers (Greenleaf, 1977). A position of leadership under the philosophy of Ubuntu is not a position of privilege or imposing one's authority on others but an opportunity to serve

(Manthalu, 2023). In Ubuntu, values and beliefs form an ethical benchmark of African societies and provide an ethical guide to African men and women in any context (Mangena, 2007). The ethics are based on compassion, just like the compassion advocated for by Buddha and Jesus of Nazareth (Sułkowski et al., 2024). Genuine compassion allows for inclusivity, equity, and equality, which will empathise enough to distribute AI in Africa fairly and ethically. Ubuntu becomes a necessity for school leadership in an AI context.

Worth and Dignity

According to Khoza (2012), Ubuntu is a philosophy that affirms the dignity and worth of all. He explains that human worth and dignity are effectively determined by referencing universal human qualities that differentiate humans from animals. Consequently, with Ubuntu, individuals who see how their worth and dignity contribute to the collective will not bring the collective to disrepute. The idea is that the ethic called values will come from a sense of worth and dignity, hence cheating and plagiarism (Chan, 2023; Christine, 2024). can be dealt with by character change. All this is done with transparency rather than private protection.

Discussion of Findings

The advent of AI has created an ideal opportunity to revisit the African Philosophy of Ubuntu and its role in school leadership. Issues raised in the literature review reflect a severe need for reconnection between African school leadership and a powerful progressive and progressive leadership philosophy. What has been made clear is the importance of a philosophy that can be used to the people's context and needs ((Hapanyengwi-Chemhuru & Makuvaza, 2017). The philosophy of Ubuntu has become critical in navigating school leadership in Africa, especially with the advent of AI. Findings emerging from the literature review emphasise Ubuntu's potential in revitalising leadership strategies and addressing challenges and opportunities for school leadership about AI ((Butcher et al., 2021; Fullan et al., 2023; Pedro et al., 2019).

So, with the current upheavals and turbulence that AI has brought onto the school grounds, the roles of education leaders are now extended into uncharted territories. Faced with such challenges, leaders can look for effective ways to lead, stabilise and improve the lives of their schools by using philosophies (Sulkowski, 2024). As a result, philosophies, such as Ubuntu, came to the fore, proffering wisdom and teachings that will see leaders overcome many

hurdles, such as ethical dilemmas (Msngena, 2007). The African Philosophy of Ubuntu proposed frameworks and paradigms anchored in ethics, balance, strategy and self-awareness that would provide leaders with the intrinsic capacity to apply them (Khoza, 2012). The applicability and universality of the ideas allowed the leaders to go beyond their prescribed roles and find their way into handling flux in the education arena. Implementing the African Philosophy of Ubuntu articulated here will assist school leaders in navigating AI-infused educational environments.

Conclusion and recommendations

The study exploring the role of Ubuntu in school leadership about AI has shown the vast potential of Ubuntu's philosophy in shaping leadership. Philosophy in this context serves as both a compass and a mirror, directing leaders towards ethically sound decisions while prompting introspection and self-awareness (Northouse, 2021). Throughout history, philosophical principles have informed the ethos of leaders, guiding their moral compass, shaping their vision, and influencing their decision-making strategies (Sułkowski et al., 2024). Therefore, Ubuntu can be the philosophy in the African context that can inform, guide, shape the vision and influence decision-making about AI. Besides, it is the people's philosophy.

In light of the contribution from literature during this study, the current study recommends that school leaders, policymakers and parents take the Philosophy of Ubuntu seriously. There is a need to promote the philosophy of Ubuntu and revisit it as a guiding philosophy. Emphasis should be made on the potential to hat Ubuntu has in revitalising leadership strategies addressing challenges, and harnessing opportunities for school leadership about AI. This will prevent the challenges faced by leading in this new era.

Future research can follow post-review developments and check whether Ubutu is being implemented. Policy analysis studies are needed to check the ideologies and philosophies underpinning the policies on AI in Africa. It is critical to explore the policies African institutions have in place to deal with the onslaught of AI. School leaders and other stakeholders in education have to take ownership of the process of policy development, implementation and evaluation of AI.

References

- Allen, S., & Fry, L. W. (2023a). A Framework for Leader, Spiritual, and Moral Development. *Journal of Business Ethics*, 184(3), 649–663. <https://doi.org/10.1007/s10551-022-05116-y>
- Bada, B. V., Akinwale, G. A., & Ojakorotu, V. (2024). Digitalization and the Emerging Risk of Delinquency Among Emerging Adults Raised in a Wired World. *E-Bangi Journal of Social Science and Humanities*, 21(2). <https://doi.org/10.17576/ebangi.2024.2102.34>
- Bass, B. M., & R. R. E. (2006). *Transformational leadership (2nd ed.)*. (2nd ed.). Lawrence Erlbaum Associates Publishers.
- Bhandari, S. R. (2022). Amor Fati and Memento Mori in Marcus Aurelius' meditations: The synthesis of stoicism. *Journal of NELTA Gandaki*, 5(1–2), 17–29.
- Burns, J. M. (1978). *Leadership*. Harper & Row.
- Butcher, N., Wilson-Strydom, M., & Baijnath, M. (2021). *Artificial intelligence capacity in sub-Saharan Africa: Compendium report*.
- Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, 20(1), 43. <https://doi.org/10.1186/s41239-023-00411-8>
- Charmaz, K. (2017). Constructivist grounded theory. *The Journal of Positive Psychology*, 12(3), 299–300. <https://doi.org/10.1080/17439760.2016.1262612>
- Chassignol, M., Khoroshavin, A., Klimova, A., & Bilyatdinova, A. (2018). Artificial Intelligence trends in education: a narrative overview. *Procedia Computer Science*, 136, 16–24. <https://doi.org/10.1016/j.procs.2018.08.233>
- Chavez, M. R., Butler, T. S., Rekawek, P., Heo, H., & Kinzler, W. L. (2023). Chat Generative Pre-trained Transformer: why we should embrace this technology. *American Journal of Obstetrics and Gynecology*, 228(6), 706–711. <https://doi.org/10.1016/j.ajog.2023.03.010>
- Chen, H., Park, H. W., & Breazeal, C. (2020). Teaching and learning with children: Impact of reciprocal peer learning with a social robot on children's learning and emotive engagement. *Computers & Education*, 150, 103836. <https://doi.org/10.1016/j.compedu.2020.103836>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE Access*, 8, 75264–75278.

- <https://doi.org/10.1109/ACCESS.2020.2988510>
- Ciulla, J. B. , & C. J. B. (2022). *Ethics and effectiveness: The nature of good leadership. The search for ethics in leadership, business, and beyond.* (D. V. Day & J. Antonakis, Eds.).
- Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., & Liden, R. C. (2019). Servant Leadership: A systematic review and call for future research. *The Leadership Quarterly*, 30(1), 111–132. <https://doi.org/10.1016/j.leaqua.2018.07.004>
- Fullan, M., Azorín, C., Harris, A., & Jones, M. (2023). Artificial intelligence and school leadership: challenges, opportunities and implications. *School Leadership & Management*, 1–8. <https://doi.org/10.1080/13632434.2023.2246856>
- Gardner, W. L., Karam, E. P., Alvesson, M., & Einola, K. (2021). Authentic leadership theory: The case for and against. *The Leadership Quarterly*, 32(6), 101495. <https://doi.org/10.1016/j.leaqua.2021.101495>
- George, B. (2012). Authentic leadership development. *The handbook for teaching leadership: Knowing, doing, and being*, 313–327. . 2012.
- Greenleaf, R. K. (1977). *Servant leadership: A journey into the nature of legitimate power and greatness.* Paulist Press.
- Hadiyanto, H. S. (2020). *REVISITING THE PHILOSOPHY OF LEADERSHIP: LEADERSHIP IN THE DIGITAL ERA.* KATA SAMBUTAN, 29.
- Hagendorff, T. (2022). A Virtue-Based Framework to Support Putting AI Ethics into Practice. *Philosophy & Technology*, 35(3), 55. <https://doi.org/10.1007/s13347-022-00553-z>
- Hallinger, P. (2018). Surfacing a hidden literature. *Educational Management Administration & Leadership*, 46(3), 362–384. <https://doi.org/10.1177/1741143217694895>
- Hannousse, A. (2021). Searching relevant papers for software engineering secondary studies: Semantic Scholar coverage and identification role. *IET Software*, 15(1), 126–146. <https://doi.org/10.1049/sfw2.12011>
- Hapanyengwi-Chemhuru, O., & Makuvaza, N. (2017). *Re-thinking education in postcolonial Africa. In Re-thinking Postcolonial Education in Sub-Saharan Africa in the 21st Century.* Brill.
- Khoza. (2012). *Attuned leadership: African humanism as compass.* Penguin Random House South.
- Lent J. (2021). *Lent, J. (2021). The web of meaning: Integrating science and traditional wisdom to find our place in the universe.* New Society Publishers.
- Lent, J. (2021). *The web of meaning: Integrating science and traditional wisdom to find our place in the universe.* New Society Publishers.
- Lord, R. G., & B. D. J. (2003). *Leadership processes and follower self-identity.* Lawrence Erlbaum Associates.
- Luthans, F., & Avolio, B. J. (2003). Luthans, F., & Avolio, B. J. (2003). Authentic leadership development. *Positive Organizational Scholarship*, 241(258), 1-26.
- Machmud, M. T., Widiyan, A. P., & Ramadhani, N. R. (2021). The development and policies of ICT supporting educational technology in Singapore, Thailand, Indonesia, and Myanmar. *International Journal of Evaluation and Research in Education (IJERE)*, 10(1), 78. <https://doi.org/10.11591/ijere.v10i1.20786>
- Manthalu, C. H. (2023). *A Sketch of an Ubuntu Philosophy of Education* (pp. 1–16). https://doi.org/10.1007/978-3-030-77898-9_23-1
- Martinez-Alpiste, I., Golcarenenji, G., Wang, Q., & Alcaraz-Calero, J. M. (2022). Smartphone-based real-time object recognition architecture for portable and constrained systems. *Journal of Real-Time Image Processing*, 19(1), 103–115. <https://doi.org/10.1007/s11554-021-01164-1>
- Mittelstadt, B., Russell, C., & Wachter, S. (2019). Explaining Explanations in AI. *Proceedings of the Conference on Fairness, Accountability, and Transparency*, 279–288. <https://doi.org/10.1145/3287560.3287574>
- Mokoena, K. K. (2024). A holistic ubuntu artificial intelligence ethics approach in South Africa. *Verbum et Ecclesia*, 45(1). <https://doi.org/10.4102/ve.v45i1.3100>
- Mumba B. (n.d.). Technological Advancement and Changing Skills: Imperative for a Paradigm Shift in Education Delivery in Zambia. *Qeios*.
- Mutanga, O. (2022). Perceptions and experiences of teachers in Zimbabwe on inclusive education and teacher training: the value of Unhu/Ubuntu philosophy. *International Journal of Inclusive Education*, 1–20. <https://doi.org/10.1080/13603116.2022.2048102>
- Navia, L. E. (1985). *Socrates: The man and his philosophy.* University Press of America.
- Papa, R. , J. K. M. , V. J. D. , B. G. , A. D. , D. M. , & P. P. D. (2021). *AI Transforms Twentieth-*

- Century Learning. In Artificial Intelligence, Human Agency and the Educational Leader.* Springer International Publishing.
- Papa, R. J. K. M. (2021). *Artificial Intelligence, Human Agency and the Educational Leader* (R. Papa & K. Moran Jackson, Eds.). Springer International Publishing. <https://doi.org/10.1007/978-3-030-77610-7>
- Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). *Artificial intelligence in education: Challenges and opportunities for sustainable development.*
- Smutny, P., & Schreiberova, P. (2020). Chatbots for learning: A review of educational chatbots for the Facebook Messenger. *Computers & Education*, 151, 103862. <https://doi.org/10.1016/j.compedu.2020.103862>
- Striepe, M., Thompson, P., Robertson, S., Devi, M., Gurr, D., Longmuir, F., Taylor, A., & Cunningham, C. (2023). Responsive, adaptive, and future-centred leadership in response to crisis: findings from Australia, Fiji, and New Zealand. *School Leadership & Management*, 43(2), 104–124. <https://doi.org/10.1080/13632434.2023.2171005>
- Sugiharto, S. (2007). New directions in contrastive rhetoric: Some implications for teachers of writing in multilingual contexts. *Journal of Asia TEFL*, 4(1).
- Sułkowski, Ł., Dacko-Pikiewicz, Z., & Szczepańska-Woszczyzna, K. (2024). *Philosophy and Leadership.* Routledge. <https://doi.org/10.4324/9781003490470>
- van Norren, D. E. (2022). African Ubuntu and Sustainable Development Goals: seeking human mutual relations and service in development. *Third World Quarterly*, 43(12), 2791–2810. <https://doi.org/10.1080/01436597.2022.2109458>
- Wang, Y. (2021). Artificial intelligence in educational leadership: a symbiotic role of human-artificial intelligence decision-making. *Journal of Educational Administration*, 59(3), 256–270. <https://doi.org/10.1108/JEA-10-2020-0216>
- Xhemajli, A., Malaj, F., & Mehmeti, L. (2023). Current Challenges of Implementing the new Curriculum in Primary Education. *International Journal of Educational Reform*, 105678792311458. <https://doi.org/10.1177/10567879231145896>
- Yokota, H. (2021). School leadership development practices in Japan. *International Journal of Leadership in Education*, 1–30. <https://doi.org/10.1080/13603124.2021.1972164>