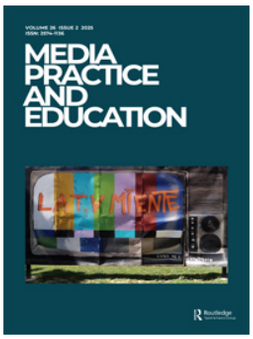

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'Mind the gap': artificial intelligence and journalism training in Southern African journalism schools

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ABSTRACT

This article examines journalism schools (J-schools) responses to the Artificial Intelligence (AI) 'disruption'. It critically provides an exploratory examination of how J-Schools in Southern Africa are responding to the AI wave in their journalism curriculums. We answer the question: How are Southern African J-Schools responding to AI in their curriculums? Using a disruptive innovation theoretical lens and through documentary review of university teaching initiatives and accredited journalism curriculums, augmented by in-depth interviews, we demonstrate that AI has opened up new horizons for journalism training in multi-dimensional ways. However, this has brought challenges, including covert forms of resistance to AI integration by some Journalism educators. Furthermore, resource constraints and the obduracy of J-schools' curriculums also contribute to the slow introduction of AI in J-schools. We argue that lack of clarity on what AI is and what can be taught about AI within J-Schools, as well as fear of the unknown has led to a trust deficit among journalism instructors. We further argue that with better training and exposure, journalism educators in Southern Africa can leverage AI technologies to strengthen journalism training.

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Introduction

AI has opened new horizons of journalism curriculum innovation. Simultaneously, AI presents J- Schools and newsrooms with a different set of dilemmas. As the gamut of AI technologies spread fast across newsrooms, little is understood about what it really means and what it stands for, especially in African contexts where newsrooms are largely net importers of these technologies. Journalists and senior managers do not clearly understand what AI

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means exactly (Munoriyarwa, Chiumbu and Motsaathebe 2023). Questions are being asked: Is AI a critical news infrastructure that cannot be dispensed with? Is it just a 'system' or set of technologies that newsrooms can cherry-pick as and when they want? All these questions have not been answered with clarity and certainty in existing discourses about AI within newsrooms. This means newsrooms and newsmaking institutions have not been able to transmit their expectations about AI back to J-Schools. For J-schools to maintain curriculum innovation and produce critical journalists, they need this feedback from news organisations about the skills and demands of the newsrooms so that they are able to translate them into existing curriculums for new breeds of journalists. A survey by Beckett (2019) in 71 countries ascertain how news organisations are meeting the need for education and training to change newsroom cultures and successfully adopt AI. An enduring revelation is that there is an acknowledgement of a holistic approach to AI education in journalism schools. It is, hence, agreed that J- Schools have no option but to widen their curriculum and prepare for AI adoption in curriculums. Broussard (2019) argues that AI is a journalist's best friend, but only if it is fully integrated into every class course and semester.

In this paper, we explore how J-Schools in Botswana, Namibia, South Africa and Zimbabwe, have responded to the AI buzz that has recently (at least between November 2022 up to 2025) overwhelmed journalism. Therefore, it is critical to examine how J-Schools in these countries are responding to the AI wave in order to make their curricula remain relevant. Literature on AI and its impact on journalism in Africa is still emerging. Existing literature on AI in Africa has largely focused on how AI is being integrated within African newsrooms and the perceptions of journalists to these technologies (see for example, Makwambeni, Matsilele, and Bulani 2023; Munoriyarwa, Chiumbu and Motsaathebe 2023; Oniang'o 2023; Radoli 2024). Furthermore, extant literature has focused on journalists' perception of AI in newsrooms, noting that some journalists are skeptical about how AI would help news reporting (Munoriyarwa 2024) others fear job losses (Chibuwe, Munoriyarwa, and Maodza 2024), while others largely see AI as inconsequential to news production (Radoli 2024). Little to nothing has been written on how J-schools respond to the AI disruption. This leaves a critical gap in J-Schools whose curriculum responses are key to determining the future of AI - whether it will be accepted or challenged and whether it will be deemed useful or not.

Literature review and conceptual framework

Extant work on AI and journalism education (see, for instance, Luttrell et al. 2019; Arzuaga, 2022) agree that J-schools are struggling to re-invent themselves in the face of transformational changes like AI expanding into newsrooms. AI is not just a tool but a fundamental addition to journalism education, preparing students to work in an industry increasingly reliant on it. What are the issues to consider when dealing with AI and education? There is no single answer to this, as each journalism context raises its own issues. However, Luttrell et al. (2019) argue that central issues to consider include the ethics of AI and creating partnerships between J-Schools and journalism institutions to benefit journalists (Luttrell et al. 2019). Gomez-Diago argues that while it is important to teach AI in J-Schools, a critical perspective is important that pays attention to the social consequences of AI use in the media context. Gomez-Diago further argues that AI in J-schools should aim to impart three competencies: automated content creation, data creation and verification.

Bosley and Vallance-Jones (2022) see tensions between the old journalism curriculum and the AI-driven skills demanded. Bosley and Vallance-Jones (2022) also argue that this tension emanates from the technical instructions and the development of softer skills, such as critical thinking and interviewing skills required by journalists (quoted in Arzuaga 2022).

In China, Luan and He (2019) assert that Chinese journalism and communication have radically changed due to the advent of AI. Course titles have been reviewed to bring the technical and critical thinking perspective into conversation (Luan and He 2019). In the same Chinese context, Luan and He (2019) note that Chinese universities have introduced AI literacy, big data, and virtual simulation as main categories of new university education, underscoring the specific changes brought about by AI in journalism education. These changes include a shift towards more technical and data-driven courses and a greater emphasis on critical thinking and ethical considerations in the use of AI in journalism. Radoli (2024) agrees with Gomez-Diago and Luttrell et al. (2019) in arguing that AI education in J-Schools should prepare journalism graduates to report on the coming technology-driven transformation in journalism and be part of this transformation, among other issues and shape the conversations around it. Marconi (2020) notes that the technology-driven transformation of journalism is inevitable, and J-schools should prepare for it. Marconi (2020) further adds that J-Schools should, hence, start delivering technical skills in journalism to meet the current needs of journalism.

There is need to incorporate AI into journalism training curriculums. This is in response to the adoption of AI by news media organisations, which has demonstrated its transformative impact on the journalism landscape (Radoli 2024). The shift from traditional journalism to human-machine interactions has become a common practice in Africa and the global north (Radoli 2024). Human-machine interactions refer to integrating technology in performing journalistic tasks, such as creating news articles, reports, summaries, and other journalistic content (Carlson 2021). Other AI functions in journalistic practices include transcription, translation, fact-checking, and content recommendation (Anderson 2018; Friedland 2020). The rise of AI has emphasised the need to train journalism students in navigating the changing technological landscape and leveraging the capabilities of AI (Radoli 2024). Marconi (2020) also posits that the current needs and status of the industry highlight the importance of integrating AI-related technical skills and critical thinking into the education of future journalists. However, the question of ethics regarding the integration of AI in journalism training remains a critical standpoint (Hansen et al. 2017; Radoli 2024). Radoli (2024) argues that incorporating AI tools in journalism training will enhance interactive storytelling formats. Ogola's (2023) report laments that journalism training has focused primarily on traditional reporting skills, with little attention given to the changing professional practices influenced by technology. The report further argues that journalism schools have lacked the technical infrastructure and skills capacity among staff to deliver effective training on AI and its intersection with journalism. This paper aims to address the gap in existing literature by focusing on schools of journalism in Botswana, Namibia, South Africa and Zimbabwe as countries that have adopted AI in their journalism practices.

The disruptive innovation theory informs this article. This theory is built on how technological innovations disrupt normalised everyday activities in a manner that threatens already existing practices (see Yu and Hang 2010). It views digital disruption as a

special kind of disruptive innovation and holds that there are 'differences in the physical and digital domain' (Haase et al. 2017, 2). The idea of digital disruption refers to rapid advancements and or changes in digital technologies that upset traditional practices. The low cost of entry and easy availability of digital tools make AI extremely disruptive (Haase et al. 2017).

From this perspective, we consider generative AI a special disruption to journalism teaching and learning. We, therefore, like Chibuwe and Munoriyarwa (2023), deploy the theory (digital) disruption innovation to journalism education. Further, we consider AI as both disruptive and sustaining innovation to journalism education. AI thus threatens the very definition of journalism teaching and learning. It potentially redefines education as we know it.

In the context of this study, we seek to understand the sustaining and disruptive capabilities of AI and how journalism educators have sought to mitigate against the disruptions whilst leveraging the sustaining innovations of AI. We thus seek to answer the following question: How are Southern African journalism training schools responding to AI integration in their curriculums? In answering this question, we logically address related questions, for instance, the opportunities and challenges journalism educators have encountered? Similarly, disruption may also vary from country to country such that what is considered disruptive in Zimbabwe's media and journalism training may not be considered as such in the Botswana, South African and or Namibian contexts. Consequently, we do not treat disruption as uniform but as context-specific.

Methodology

This is a qualitative and interpretive research where data were collected using documentary reviews, in-depth interviews and informal interviews with key informants drawn from J-schools[1] in Botswana, Namibia, South Africa and Zimbabwe. The document review method involved analysing university teaching materials and accredited journalism curricula to understand current educational initiatives around AI in J-Schools. This provided a foundation for evaluating how AI is positioned within journalism training. We collected relevant documentation, such as course outlines from the selected universities. Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted to elicit meaning, gain understanding, and develop empirical knowledge (Corbin and Strauss 2008; see also Rapley 2007) as cited by (Bowen 2009). Analysed course outlines were accessed from the websites of the universities under study. We analysed the documents in order to assess the extent to which AI has been integrated in the journalism training menus.

In addition to document analysis, in-depth interviews were conducted with key informants, including journalism educators or lecturers from different universities offering journalism studies degrees in the countries involved. These interviews aimed to capture first-hand experiences and insights from educators about how they are integrating AI in journalism training. The semi-structured nature of the interviews allowed for open-ended discussions, allowing participants to discuss the progress made and the hurdles they faced. The interviews helped to shed light on underlying attitudes and resistance to AI's introduction, revealing practical concerns surrounding AI in journalism.

Participants were selected using purposive sampling from J-Schools in universities from Southern African countries under study. We conducted interviews with 17 educators from

Botswana, Namibia, South Africa and Zimbabwe, focusing on their experiences and observations regarding AI adoption in their J-Schools. The findings are anonymized with respondents from Zimbabwe coded as LZ, South Africa – LS, Namibia – LN. The respondents from each country are differentiated by a number for example, LZ1, LZ2 or LS1, LS2 etc. For Botswana we largely relied on informal conversations and our own observations.

We also rely on our experiences as Journalism educators in some of these J-Schools. This brings about issues of reflexivity. Advocates of ethnography argue against the possibility of 'unbiased' scholarship and view reflexivity as 'a tool to enhance awareness of our situatedness and, subsequently, to be more receptive to perspectives that approach the world from a different position' (Saukko 2003: 62). Therefore, due care was taken to understand how our experiences, concerns and beliefs could influence the research process. The integration of data from both documentary reviews and interviews enabled triangulation, enhancing the validity of the findings. Data was analysed using thematic analysis that identifies patterns within and across data in relation to participants' lived experiences, views and perspectives, and behaviour and practices; 'experiential' research seeks to understand what participants think, feel, and do (Clarke and Braun 2017).

Findings

The first section which is based on document analysis of AI-related journalism and Communication courses offered in selected universities. Secondly, we discuss how Journalism instructors respond to the AI wave. The third theme focuses on resource constraints and ethical dilemmas in the integration of AI in J-Schools curricula. These three sections, though partially analytic, are largely descriptive whilst the fourth part; the discussion, analyses and interprets the findings. The fifth and last part; the conclusion, concludes the study. Our findings broadly confirm that journalism educators are dealing with several challenges confronting them in the age of AI. These include the very nature of AI technologies themselves. Educators question the relevance of largely global South-manufactured technologies in African newsrooms. They, furthermore, question the ethics of these technologies, their unethical data harvesting approaches, the lack of references during text production that some of these technologies engage in, and how these technologies undermine the already precarious financial power of traditional journalism.

Integration of AI into journalism and media curriculum

Empirical data indicates that the integration of AI into journalism curricula is still in the infancy stages in selected universities across Southern Africa. From the courses and modules whose content we analysed, we noticed that there are no fully-fledged courses by the nomenclature AI and journalism or AI and communication. The, inclusion of AI is not explicitly stated. We are witnessing a gradual process of improvisation. Some modules incorporate AI as a component of their course outlines. For instance, the data journalism courses at the University of Johannesburg and the journalism courses at Tshwane University of Technology leave room for the integration of AI components. At Walter Sisulu University, a new course, 'Big Data, Journalism, and Society', includes AI components. Similarly, Introduction to Data driven Reporting, Current Issues in African Media and Science and Health Reporting courses from the University of Botswana have

AI components. While data journalism and AI have distinct characteristics, these modules are the closest to fully integrating AI. Among all other journalism courses, data journalism is a field that can incorporate AI more easily. So, incorporating AI components is often easy where data journalism has already been developed. Elements of data journalism provide a rich ground around which AI modules can be modelled. Most of the J-Schools in Botswana, Namibia, South Africa and Zimbabwe have Data journalism courses both at the undergraduate and postgraduate levels.

While very few modules have integrated AI into their course outlines, research into the subject has exploded across Southern African universities by undergraduate, Masters and PhD students. University faculty members have also researched the intersections of AI and journalism. Systematic studies on AI are ongoing in universities like the University of Johannesburg, Tshwane University of Technology (TUT), and the University of Botswana. At Walter Sisulu University (WSU). A research sub-niche area that integrates AI and its multiple temporalities has been proposed in the Journalism Unit at WSU. On-going studies range from ethnographical studies of AI uptake in newsrooms, the intersection of AI and journalism ethics, journalistic role perception of AI within newsrooms, and socio-technological barriers to AI integration across Southern African newsrooms. These developments point to a possibility that in the near future, revised curriculums that incorporate AI might emerge quickly in these universities because by promoting postgraduate research on AI and journalism/media, they are already growing the human expertise required for the instruction of these modules in the future. As Gomez-Diago, cited in Arzuaga (2022, p.85) notes, most universities have found it relatively easy to '… provide ways to introduce artificial intelligence in the curriculum of the degrees and masters in journalism and communication …'. In the southern African context, we surmise that this is because of punishing bureaucratic processes that accompany changing a structured qualification. This would include both external and internal actors. Yet, postgraduate qualifications like Masters and PhDs do not necessarily require such protocols. This explains why AI-related courses have not yet been filtered in undergraduate qualifications of sampled universities. However, even at postgraduate levels of Masters and PhDs, there are no taught courses on AI. For example, at the University of Botswana, even though they have a taught qualification at the Masters level, they do not have a module devoted to AI and journalism. The same is true at the Midlands State University in Zimbabwe. There is a taught qualification in M.A., but it offers no taught module in AI. However, these universities have Data Journalism modules both at undergraduate and Masters level.

There are several dilemmas with regards to AI integration in sampled university curriculums. The first dilemma is about expertise. AI just 'erupted' on the scene so much recently. The generative AI version only came onto the scene in around November 2022. Some faculty members are still grappling with understanding what AI is. This means there is limited expertise to develop these modules at the faculty level. For these faculty members, it means that what they know about AI is through self-training. One respondent said, '… everyone is amused by AI asking questions such as; Do you know what AI can do?' (LS1, South Africa). This raises pertinent questions around: what kind of AI curriculum can be introduced? Should the AI curriculum be practical or critical, or is it one that merely describes the adoption in journalism ecosystems? Should it be about AI or the generative AI versions, or both? These are critical questions that arise

Table 1. Shows AI-related courses for journalism and communication students offered in selected universities.

Course	Institution	Remarks
Big data, society and journalism	Walter Sisulu University	The course has several aspects of AI-driven journalism but does not offer technical aspects.
Big data and society	University of Johannesburg	The course offers aspects of big data; and leaves room for discussion on AI and other contemporary journalism developments.
Data Journalism	Midlands State University	The module is offered at undergraduate level. It introduces students to big data, data mining, cleaning and analysis using software and how to use visualisation in news reporting.
Multimedia Journalism	Tshwane University of Technology	The prospectus does not include AI components. The course may examine the use of AI in multimedia storytelling.
English for Journalists	Tshwane University of Technology	The prospectus does not include AI components. However, AI tools can be incorporated in the module.
Introduction to Journalism	University of Botswana	The course leans towards traditional journalism practice. AI is not given salience.
Introduction to Broadcasting	University of Botswana	Technical aspects of AI are not offered.
Investigative Journalism	University of Botswana	The use of AI in investigative journalism practice is given peripheral treatment.
Concept Development & Design	University of Botswana	AI tools eg AI image generator are used for design purposes.
Current Issues in African Media	University of Botswana	AI is examined from a theoretical perspective. Focus is on its disruptive impacts.
Mobile Journalism	University of Namibia	AI tools are used in the production of stories and images.
New media technologies	University of Namibia	Discussion of AI is largely theoretical
Investigative and Computer-Assisted reporting	University of Namibia	AI tools have been integrated in this course

about AI inception in journalism and Media curriculums. Therefore, it is not certain what would constitute the key elements of AI pedagogy in university curriculums.

We can surmise that an AI pedagogy can, arguably, include elements of algorithms and how they curate news and function to dictate its consumption. Furthermore, such a course would include generative AI, how it generates texts and stories, and how AI can filter news and automation. An ideal AI pedagogy would also incorporate how AI and human expertise complement each other in news gathering, production and reporting. However, there are also questions that the various faculties should settle contextually. For example, should AI pedagogy include technical issues in journalism training activities? For instance, should journalists know about how AI processes, like natural language processes, work? Should journalists know how AI deep neural systems work? Therefore, the question of what constitutes key elements of AI pedagogy in university curriculums will differ from one context to another.

Table 1 above clearly shows that the treatment of AI in most Journalism courses is very peripheral. In essence the integration of AI is more implied rather than implicit. Critically, AI features in some theoretical and practical courses as an anecdote or afterthought.

The adoption of AI in the curriculums of journalism and media departments: instructors overview

We note that that in Botswana, Namibia, South Africa and Zimbabwe, journalism and media departments have not yet established a comprehensive standard operating procedure (SOPs) for AI integration in their curriculums. However, conversations around

integration of AI into Journalism training are gaining momentum and efforts are in motion. For example, NL1 noted that their department lacks an agreed-upon strategy, but the issue is currently under discussion. In Zimbabwe, LZ2 noted that their department is beginning to incorporate AI discussions into the curriculum, particularly around ethical issues and practical skills. However, there is no robust engagement on how AI can best be harnessed to improve journalism training. In South Africa, there are also some variances. LS1 highlighted that their school is yet to fully embrace AI, while LS2 shared that their institution is moving toward a strategic approach, focusing on providing students with AI awareness and skills relevant to journalism. At the University of Botswana, the Media Studies department is yet to come up with a policy on how AI can best be integrated in journalism training. However, individual lecturers are encouraged to come up with ways of fusing AI in their course outlines. We also note that the University of Namibia (UNAM) has actively integrated AI into its curriculum, particularly through courses offered by the Centre of Innovation in Learning and Teaching, which aim to equip educators to use AI effectively for teaching and assessment. Such a response at the university level has also allowed UNAM's Media department to infuse AI into its journalism menu, albeit the process is still ongoing.

Our study also notes that the integration of AI into Journalism curricula is largely at individual rather than departmental level. In essence, some of the interviewees indicated that in the absence of an agreed departmental position on AI use, they use their discretion on how to apply it in training. For example, one of the respondents noted. *'I have included AI as a theme in my multimedia journalism course in which I discuss the impact of AI on journalism and how AI can contribute to news production (LS4)'*. There was a general agreement that AI knowledge and training are lacking among educators. Similarly, AI remains largely excluded from the universities' journalism curricula. It is left to the individual lecturer to integrate AI in teaching and learning. For example, respondent LS1 argues, 'Normally … students are always ahead, the university might be slow … implementing [AI] … So … as an individual … I have already started getting to know what AI is and interacting with AI … I've started using AI … ' In order to cope with the AI wave, lecturers are making efforts at the individual level to learn and acquire AI skills which can be productive in their teaching. One of the interviewees noted, '*I am also making efforts to upgrade my AI knowledge and skills through learning via YouTube (LZ2)'*. Since AI integration is largely at the individual level, not all journalism educators feel compelled to integrate this important aspect in the teaching and learning process.

It is evident from the findings that schools of journalism are not against the inclusion of AI in their curriculums. However, respondents across Botswana, Namibia, South Africa and Zimbabwe expressed mixed feelings about their training and resources for AI integration. It is evident that the lack of training and an established framework for guiding AI in teaching and learning is a hindrance. *'The human resource itself lack knowledge in teaching issues around AI and there is need for retraining to ensure their skills are responsive to an AI society (LZ2)'*. Another respondent added*, 'We need to train the lecturers to recognise AI, and how to use AI positively. So, the first step is to train lecturers how to recognise AI and use AI in the curriculum (LS2)'*. Overall, respondents reported limited formal training in AI tools, and they expressed the need for more robust AI training, citing concerns that, while self-taught to some extent, they need professional guidance to maximise AI's educational value. We argue that the concept of self-reliance in AI learning highlights the necessity of institutional support in the four countries to enable educators to adopt AI technologies effectively.

Challenges, opportunities and scepticism

Most of the interviewees viewed lack of AI training and knowledge amongst lecturers and students as a hindrance to the integration of AI into journalism curricula. Some South African educators highlighted this challenge, and suggested workshops to train lecturers and students on AI. It was noted that ' … the human resource itself lacks knowledge in teaching core issues around AI, and there is a need for retraining to ensure their skills are responsive to an AI society … … ' (Respondent LZ1). This lack of knowledge, LZ1 further observed, 'denies students access into the AI world'. The rapid pace of technological change often leaves educators like myself *feeling overwhelmed* (emphasis ours), and there is a notable gap in training programmes specifically focused on AI in journalism. The lack of training, coupled with the fast pace of the technological changes, prejudices the students and places a psychological strain on lecturers who feel 'overwhelmed'. Similarly, Botswana, South African and Namibian educators noted the issue of lack of training but did not foreground it. The feelings of being overwhelmed by AI were also mentioned by a Namibian educator (LN2) who stated that the need to fact-check AI AI-generated work constantly can sometimes be overwhelming. The lack of knowledge and training in AI arguably leads some educators to emphasise challenges and not benefits of AI.

Journalism educators from Botswana and Zimbabwe blamed the absence of departmental and institutional policies on integrating AI into the curriculums. The absence of institutional policies that can provide a structured route to AI integration into journalism curriculums is not happening in a vacuum. It exists in a context where journalism trainers are already sceptical about the gamut of AI technologies already in existence. For example, some trainers feel that journalists can abuse AI or that the generative AI version can destroy storytelling, which is the essence of journalism. Underlying this scepticism, respondent LN1 said, 'AI tools plagiarise content. It does not acknowledge its source of information. If it acknowledges, these are usually misleading, or at best, inaccurate'. Training journalists, according to respondents, on how to use these tools in the newsroom was dangerous to the survival of 'true journalism', often human-driven, with little intervention like the one AI would train them for. Other journalism Lecturers argued that AI promotes laziness and hampers students' intellectual capacity as machines now do everything. As respondent LN3 argued, 'Over-reliance on AI tools can limit students' creativity and ultimately affect the quality of storytelling'. LN1 added that ' … ChatGPT produces generic, mechanical content which lacks context and nuance'. This dependence may also lead to a decline in essential journalistic skills like writing, critical thinking, and sound judgment'. In other words, AI leads to the production of poorly trained journalists as it does everything. Due to such perspectives, some journalism educators are hostile to the idea of integrating AI in training. According to some educators, the essence of this hostility was the protection of journalism itself.

We note embedded resistance to AI integration in journalism curriculums in some contexts. However, according to respondents, one of the underlying sources for this resistance is that educators are concerned that imported AI technologies are not designed to serve indigenous language journalism. Some educators view AI as prejudiced against indigenous languages and cultures as it was invented in a different cultural context: the Western context. Consequently, AI cannot comprehend Indigenous languages and cultures, making its adoption in journalism training challenging. As

respondent LZ3 argued, 'There is a language and cultural barrier, particularly when it comes to African languages. It is not inclusive as other perspectives from other cultures are not represented. AI misinterpret other cultural contexts'. Similarly, LZ4 asserted that '… all the information generated from AI is because someone seated in an office somewhere would have uploaded their works, failure of which AI is irrelevant. A case in point is the current failure of AI to function in indigenous languages such as [Setswana], ChiShona or IsiNdebele. What it means is that AI is designed to function in English which raises serious issues relating to its political economy. One respondent, noted, I find AI as a Euro-centered tool designed to harvest information for Eurocentric reasons'. Furthermore, respondent LZ2 implies the challenges the contextual differences between the Global North and Global South present to AI. The concerns raised by these educators are not new. There are already wider debates about the Eurocentric nature of most AI technologies (Adams 2021). There is a need to ensure that these technologies, which finally filter in newsrooms across the world, are 'decolonized' (Adams 2021) to ensure, for instance, that they are trained using African languages and contexts. Therefore, educators in this instance, are not homogenously sceptical about AI. Rather, they are alive to these wider debates that seek to make Africa not only a centre of consumption but a place whose own concerns about AI are taken seriously into consideration by the providers of AI technologies.

We also note that lack of resources was viewed as a challenge to the integration of AI tools amongst educators, especially in Zimbabwe, Botswana and, to an extent, Namibia. There was no mention of resource constraints amongst SA respondents. In countries where resource constraints were raised, it was noted that integrating AI in journalism curriculums would mean access to the tools in order to achieve effective integration. A theoretical approach to integrating AI in journalism curriculums would not help journalists understand the nuances of its application in the newsrooms. Yet, access to AI technologies remain a challenge in Africa, where the majority of newsrooms import these technologies. One respondent summed up the challenge thus,

> 'Another major challenge at my institution is that some of the AI tools must be paid for to gain access to their usage. The university/department struggles to procure them owing to resource constraints considering the fact that the Zimbabwean economy has been limping for decades, which ailment in turn affects institutions of higher learning … ' (LZ1).

Some of the interviewees averred that ethical challenges in domesticating AI tools for journalism training revolve around issues of bias, accountability, transparency, and privacy. For example, LN2 stated that, 'AI algorithms determine the content provided, which can perpetuate bias and lead to unbalanced reporting'. It is thus arguable that Western biases against the global south may be embedded in AI, and there is a palpable fear that these biases may be reproduced by trainers and embedded permanently into African newsrooms. This may end up reproducing biases and or prejudices.

Respondent LS3 suggested that there was a need for the university to hold workshops to teach lecturers how to use AI before they can even start teaching it in journalism curriculums. In addition to this fear, journalism lecturers had concerns on surveillance, fake news and AI's inability to navigate ethics around data handling, which are challenges that come 'naturally' with AI. LZ4 noted that AI is used as a surveillance tool. He claimed that AI is a tool 'designed to harvest information for Eurocentric reasons … *I*

still believe AI is a surveillance tool for countries from the South (Emphasis ours)' (LZ4, online interview, 10 October 2024). From this perspective, Africa is surveilled through the consumption of Western-produced AI. The genesis of these ethical challenges should be traced back to the nature of AI technology production currently obtaining. There is stiff and cutthroat competition by big techs in the production of AI technologies. The speed at which these technologies are 'dumped' on the journalism market is difficult to understand. ChatGPT, for instance, now contends with Deepseek, released on 10 January 2025 and then surpassed by Qwen 2.5, released on January 20, 2025. The competition has no regard for ethical AI technologies nor a measure of transparency as to where the data used to train these AI models is coming from. This explains why educators are sceptical but not resistant to AI models that do not consider African ethical values.

Thus, the fear of integrating AI emanated from educators' concerns that some of the educators blame the technologies for amplifying the production and sharing of fake news and disinformation. As part of the challenges that may arise from both educators' and students' lack of understanding about 'the ethical implications of using AI', LZ2 listed 'concerns about bias in algorithms, which can lead to misinformation if not properly managed'. These concerns about bias were noted across contexts. Referring to photojournalism, some of the interviewees blamed AI technologies for exacerbating the intentional production of fake photos, or unintentional through algorithmic bias. Respondent LS2 said, 'I'm sure you know photos have been faked in the past in big newspapers and companies … [but] AI can also be used to recognise duplicate photos or photos that are fake'. Respondent LN5 stated that AI poses the challenge of 'Advanced/improved practices of plagiarism, misinformation, disinformation etc.' And LZ2 asserted that, 'bias in algorithms … .can lead to misinformation if not properly managed'. However, respondent LS2 also, in the same sentence, mentions the positives of AI which is to recognise duplicate or fake photos. Implied is that whereas AI can be used to generate fake photos, it can also be used to fact-check and distinguish authentic from false photos. Thus, AI raised its own dilemmas amongst journalism educators.

Discussion

In this article, we answered the questions: How are Southern African journalism schools departments responding to AI integration in their curriculums? We note that AI is generally viewed as a disruption to J-Schools curriculums, and we have explored the reasons in the preceding sections of this paper. Several issues have emerged from our data. We note that ethical dilemmas emerge from AI use stood out as one of the reasons why some Journalism educators shun AI integration in their curriculum. Most of our respondents also indicated incidences of intellectual property and copyright law violations, and many other unpalatable incidents cannot be ignored if AI practices are to be integrated into Journalism education curricula.

We note that J-schools struggle to re-invent themselves in the face of transformation changes like AI expanding into newsrooms. Technological disruptions vary according to contexts, an argument which our article agrees with. For example, in the South African educators largely viewed AI as a sustaining innovation whilst Zimbabwean educators largely viewed it as disruptive. We argue that AI has opened up new horizons for journalism training, but journalism institutions are struggling to integrate it in their curriculums

in order to respond to the need for 'new' journalists with skills that meet the AI-driven news reportage. Machado and Teixeira (2016) note that J-schools are engaged in a perpetual struggle to add courses informed by new technologies. Our findings demonstrate some notable similarities and differences across the countries and J-Schools studied. To begin with, most of the J-schools in Botswana, Namibia, South Africa, and Zimbabwe lack a unified response to the adoption of AI into their curriculums. The integration is largely at the individual lecturer level rather than the department or university level. From the course outlines analysed, it is very evident that AI is largely marginalised in the current Journalism programmes. In essence, for theoretical Journalism and Media studies courses, AI appears as a topic, or its discussion is implied. Our observation is that most J-schools from the institutions studied are yet to formally come up with strategies or solutions to integrate AI in their curricular. As articulated by most of our interviewees, conversations around AI in J-schools especially in Botswana and Zimbabwe are largely premised on attempting to combat perceived threats posed by AI. In such contexts, there is limited effort to adopt AI technologies in their curricular. Of course, we noted that in South Africa and Namibia there are efforts to bring AI into the curricula, albeit the pace still remains low.

In making our argument, we noticed that several factors explain the 'cautious optimism' surrounding AI uptake in journalism training. African journalism trainers are not overtly resistant and pessimistic. Rather, they are cautious that there are issues about AI technologies themselves that need addressing, or at least, measures of transparency before they accept AI. We cannot understand these concerns. As we have noted throughout the paper, these concerns include questions of ethics around AI technologies. Educators are concerned about how these technologies are trained, and the data used. There is also a view that permeates throughout the paper that AI technologies may undermine the very same job it claims to protect- journalism. Therefore, educators are concerned that the health and integrity of journalism as an industry, is threatened by a gamut of technologies whose modus operandi is not known, nor accountable, to anyone. Critically, educators note that western-centric AI technologies are not compatible with African contexts.

Furthermore, the slow adoption and integration of AI in J-school curricula can also be attributed to the bureaucratic nature of curriculum development in these schools. Critically, in the southern African context, there are a lot of bureaucratic processes that accompany changing a structured qualification. Committee systems run universities. Introducing new modules or courses is a process which starts from the department and cascades up to Senate level. Most Southern African universities are teaching-intensive institutions, with the exception of South Africa. It is not unusual to find individual lecturers teaching four or five modules per semester. Therefore, revising curricula is a taxing exercise in contexts where lecturers are already overburdened by teaching loads. We also noted ethical issues at the individual journalism lecturer level exerting an influence on such decisions. Furthermore, values and individual predilections of what journalism is and how it should look like are important determinants of the decision to integrate AI into the journalism curriculum by several lecturers. Resource constraints have also contributed to the obduracy of curriculums in some of the J-schools'. For example, some J-schools still teach traditional photojournalism or cinematography. AI driven photography is yet to be integrated into their curricula.

We note that AI-driven cameras such as the Canon R1 mirrorless camera and drones are beyond the reach of most journalism training departments, especially in Zimbabwe, where the economic environment is hostile. Most journalism and media departments in Botswana, Namibia and Zimbabwe still use DSRL cameras- which consist of a mirror on the camera body. Of course, the University of Botswana Media studies department have one drone. This is unlike in South Africa where most J-schools can afford drones and mirrorless cameras. We argue that South African J-schools are ahead of their counterparts in the region when it comes to the adoption of AI technologies in Journalism training. As earlier stated, AI technologies are largely imported from the United States of America, United Kingdom, China, among other countries. Due to financial challenges, most J-schools struggle to acquire the latest technologies and softwares. Such challenges also militate against introducing AI journalism modules in the curricula.

Despite the evident 'invisibilisation' of AI in the current AI curricula in most J-schools, we note that the discourse has excited significant research in most J-Schools. To begin with, there are several ongoing AI researches, for example, in universities like the University of Johannesburg, University of Walter Sisulu, Tswane University of Technology (South Africa), Midlands State University (Zimbabwe), University of Namibia and the University of Botswana on AI. These range from ethnographical studies of AI uptake in newsrooms, the intersection of AI and journalism ethics, journalistic role perception of AI within newsrooms, and Cosio-technological barriers to AI integration across Southern African newsrooms. Undergraduate, Masters and PhD dissertations are also focusing on AI and journalism in most of the J-Schools studied. We argue that the current ongoing research on the subject is likely to inform the integration of AI in Journalism curricula of these schools.

What, then, does these findings mean from a disruption perspective? While journalism education has, over time, withered several disruptions, as we already mentioned, AI represents an unusual form of disruption. AI disruption makes journalism pedagogy a contested space. The contestations lie in the doubts and frictions amongst journalism educators on what an AI-receptive journalism pedagogy would look like. AI, for a start, is a gamut of technologies, each with its own designers who gave it a frame embedded within its design. Embedded in the design, these frames are important interpretive lenses for AI educators. But because AI technologies carry different designs (i.e. some can produce journalism texts, other visuals, others detect disinformation, etc.), journalism instructors within J -Schools bring this myriad of interpretations of AI. Thus, there is no unified vision of what this can do for journalism. This reminds us of the famous parable of the six blind men and an elephant (Goldstein 2010). Each journalism instructor understands AI according to which version they have 'touched'. Some instructors may fail to see the utility of journalism because they have not fully grasped and understood it. In our data, we have interacted with powerful (mis) interpretations of AI, which ultimately colours how journalism educators interpret AI's essence in journalism. AI represents a 'Tower of Babel' for J-Schools, each carrying many beliefs about it. It is no doubt that it is a force that, for good or bad, upends journalism. However, if we trace the genesis of the doubts with AI that we succinctly capture in our findings, we note that when AI came to the fore, it was forever associated with a disruptive discourse (Munoriyarwa and Chiumbu, 2024). This disruption discourse, we argue, reinforced journalism educators' imaginaries of AI as limiting in terms of the ultimate journalists it would produce. This explains why some of our respondents argue that AI will hurt storytelling. Furthermore,

the disruption discourse accompanying AI in journalism limits journalism trainers' pedagogical imaginaries around effectively integrating it into their journalism curriculums.

Our findings show that when we think about disruption to journalism education, we should do this within the orbit of what journalism educators are expected to do. Disruption can be understood in juxtaposition to expected roles and responsibilities. As we have noted through empirical data, journalism educators see themselves as tasked with the production of 'products' that can watch over society (watchdog journalism and the journalists). This means journalists and educators produce products that have institutional and societal power. For instance, the power of the investigative journalist is present both in the newsroom and society. Yet, as we have noted in the discussion, new technologies like AI are new entrants to a field with a great capacity to disrupt it, as demonstrated here. This disruption has been noted by scholars, for example, Fiore-Gartland and Neff (2019), who argue that new technologies can disrupt extant institutions of power. As we have noted, journalism educators are social actors whose (journalism) education skills cascade down to the journalist (the product). This, the entrance of AI into the journalism field, has, as we argued, begun to make journalism educators (re) imagine their roles as educators and ask themselves questions about whether this new technology spells an end to their roles as journalism trainers and to the end of the J-School and all its existing institutional power that gave it capital. Journalism educators, as we noted, begin to think that if their institutional power is disrupted by AI, which, in the first place, is not designed with J-Schools pedagogy in mind, then it might spell an end to their role as journalism educators. As one trainer from South Africa noted, 'We are not sure whether we are dealing with a friend or foe in this regard … the last thing we want is to hand a loaded shotgun to a competitor … (LN3).

Furthermore, J-Schools always argue that they produce journalists who question, critique, and publicly scorn institutions that do not serve the public. But there is a dilemma in this disruption wrought by AI. Here is a technology produced for journalism by the same institutions (big techs) that journalism has critiqued for destroying the essence of the profession (see Munoriyarwa 2024) and serving capital ahead of society. Are these AI technologies not going to reproduce old institutional power alignments instead of (re)inventing power alignments that liberate journalism? These well-founded fears eat at the heart of a coordinated attempt to reform J-Schools' curriculums to integrate AI. Another South African respondent noted that AI might be a 'Russian roulette kind of a game where, if embraced in J-Schools unquestionably, might destroy the essence of what journalism training is in the not-so-distant future'. What journalism Schools require, we argue, are technologies that democratise J-training and democratise access to information (see Chibuwe, Munoriyarwa, and Maodza 2024). Currently, it is not known if AI will do this to J-Schools. Thus, enduring pessimism with AI in J-Schools, which we have explored above, is well-founded.

Conclusion

This study contributes to the emerging literature on AI and journalism curriculum innovation in resource constrained African contexts. The study provides valuable exploratory insights into the complex relationship between journalism education and AI in Southern Africa. We demonstrate that AI disruptions on Journalism curricula in Southern Africa are

context-specific, albeit the experiences are generally comparable. Critically, the integration of AI into mainstream Journalism curricula in Southern Africa is very slow. South Africa and Namibia J-schools are ahead of their counterparts in Botswana and Zimbabwe due to a plethora of factors discussed above. We argue that with better training and exposure, journalism educators in Southern Africa can leverage AI technologies to strengthen training. We further argue that if AI is raised to the level of an unassailable and unavoidable newsroom infrastructure, resistance amongst journalism educators to its integration in the curriculum will increase, as they see it as a momentary disruption to journalism training. AI transparency issues need to be addressed for AI to be wholly adaptable in African Schools. Much thought also needs to be invested in how AI models are trained and whose data is used. For journalism educators, imported technologies that do not take into cognisance the African experience will not, in the long run, conjure much confidence in African J-Schools. Perhaps it is now imperative to talk about Afro-biased big techs that invent Afrocentric AIs, catering for the needs of African newsrooms.

Note

1. Interviewees were sampled form the following Universities
   1.University of Johannesburg
   2.National University of Science and technology (NUST) Namibia
   3.University of Namibia
   4.Midlands State University, Zimbabwe
   5.Zimbabwe Open University
   6.Two Universities in South Africa whose respondents were not comfortable with their institutions being named because of the obvious work they are doing
   7. Our informal conversations data was drawn largely form a University in Botswana.

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