Perceptions on Utilisation of Artificial Intelligence among Secondary School Agriculture Teachers in Eswatini

Nokuthula Ngabisa Dlamini[1], Vincent Chidindu Asogwa[2]

Department of Agricultural Education and Extension, Faculty of Agriculture, University of Eswatini Manzini, Eswatini

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ABSTRACT

The integration of artificial intelligence (AI) in education, particularly in applied science subjects like agriculture has emerged as a transformative force bringing customised learning, simulations and real-time feedback. Despite its potential, the adoption of AI tools in the teaching of agriculture at secondary school level in Eswatini remains limited due to factors such as, lack of awareness, inadequate resources and inefficient teacher training on the use of AI. This research examined agriculture teachers' perceptions on the utilisation of AI for teaching agriculture at secondary school in Eswatini. A survey design was used with a sample of 94 agriculture teachers from the Manzini Region of Eswatini. Data were collected with a structured questionnaire and were analysed using descriptive statistics. Findings revealed a low level of teacher knowledge regarding AI tools in the teaching of agriculture. Most teachers lack familiarity with AI application, including Nomfundo AI which was launched by the government of the Kingdom of Eswatini through the Ministry of Education and Training. The perceptions of AI's potential benefit, however, was generally positive, with teachers recognising the value of AI in enhancing student engagement and offering personalised learning experiences. The research revealed that there is need for targeted professional development programmes to improve agriculture teachers' understanding and application of AI in teaching of the subject. This study contributes to the broader discourse on AI's role in agricultural education, especially in a resource limited country like Eswatini, and it further provides insights for policy and practice to optimize the use of AI in agricultural education.

Keywords: Nomfundo AI, AI tools, AI technologies, agricultural education, agriculture teacher, professional development

INTRODUCTION

Society's expectation of teacher's is that they hold the ability to maintain good teaching practices and stay relevant within the ever-evolving education system and world. Artificial intelligence (AI) has gained attention as an innovative technology which has the potential to transform most aspects of society or industries (Binns, 2017; Aguolu, 2019; & Flavian & Casalo, 2021), including education (Kukulska-Hulme, 2020; Olaogun & Oyediran 2023). According to Olaogun and Oyediran (2023), this technology can potentially improve efficiency and reduce burdens placed on teachers. This technology bears most benefits (Hutchins, 2021), however, they may also have negative consequences in educational settings (Kautz et al., 2021), especially with secondary school learners. Another factor not to be overlooked, is that teachers are responsible for preparing students to enter a workforce where AI utilisation will become inevitable as an essential innovation. Without the skills to effectively integrate IA into teaching and learning process, teachers may compromise the quality of education they provide to their clients.

This study was necessitated by the realisation that AI, in its early stages, is casting a veil of uncertainty over the education field, catching teachers and stakeholders off guard. According to Dusseault and Lee (2023), specifically, in secondary school agricultural education, there is lack of understanding of what teachers know about AI, their beliefs and attitudes toward it and how they currently integrate it into their teaching practices of agriculture. The study addresses these unknowns associated with AI and its position in secondary school agricultural education in Eswatini. The study further provides recommendations for professional development.

Findings from this study can help the Ministry of Education and Training (INSET Department), institutions of higher education where agriculture teachers are trained and the teachers to create professional development policies for managing AI ethically and effectively.

1.1 Statement of the Problem

Despite the significance of AI in personifying, improving engagement and efficiency in teaching and learning, it still shows that there are still some lapses with regards to teacher utilisation of AI. The UNESCO framework on Gen AI in education provide a clear guide to controversies that surround generative AI and ethical educational considerations. The framework emphasises human agency, inclusion, equity and cultural diversity (Blonder & Feldman-Maggor, 2024). This development could be caused by the level of knowlegde and readiness to integrate AI into education practices (Amoah et al., 2020). As highlighted in literature, efforts to incorporate AI into teaching and learning have been made, but, the success rate of implementation on new instructional technologies is closely related to the attitudes of the educators who lead the lessons. Teachers' perceptions of utilisation of AI have been studied by very few scholars who revealed that teachers lack awareness and experience with regards to the use of AI tools for teaching. The government of Eswatini is making efforts to incorporate ICT and AI to education, but the adoption rate is unknown. Some teachers lack knowledge of how and where these AI tools could be accessed and even applied to guide their classroom instruction.

1.2 Purpose and objectives

The purpose of the study was to determine perceptions on utilisation of AI technology among secondary school agriculture teachers in Eswatini. The aim extends even into identifying professional development needs of the teachers regarding the use of AI and objectives were to:

1. describe the current utilisation of AI in secondary school's agricultural education in Eswatini,
2. describe the perceptions of agriculture teachers regarding utilisation of AI in teaching agriculture at secondary school in Eswatini,
3. identify professional development needs of agriculture teachers regarding the use of AI for secondary school agricultural education in Eswatini,
4. compare current utilisation of AI by the agriculture teachers with their demographic characteristics.

1.3 Limitations

The sample for this study was small compared to the population of agriculture teachers in Eswatini. The geographic area covered included only schools in the Manzini Region, which can be extended to the other three regions of the Kingdom. The data collected for this study were through a hand delivered questionnaire, other means and tools can also be considered.

Literature Review and Theory relevant to the study

2.1 Utilisation of AI by schools in Eswatini

AI has been adopted in some African education systems to assist learning and as an instructional course. For example, a Namibian study by Shipepe et al. (2021) showed that a course had been designed to include African indigenous knowledge as part of problem solving. While such studies have illustrated how AI is embraced for course development to support teaching and learning, there is still insufficient publication evidence on its use in agricultural education at secondary school level in Eswatini. Cisse (2018)'s work emphasises that diversity plays a pivotal role in the use of AI. However, a bulk of AI expertise in concentrated in North America, Europe and Asia, with limited representation from Africa. Consequently, broadening the geographic scope of AI research and fostering diversity within the field of AI technology can serve as a vital strategy to mitigate challenges and enhance AI adoption and utilisation.

Literature provides evidence that AI at secondary school level has already been adopted. For example, the Ministry of education and Training (MoET) has explicitly included AI integration in its education reform agenda where, entailed is the development of a four-year secondary school education programme. This programme combines AI, modern infrastructure and competency-based learning. According to MoEt (2025), this reform aims to support teachers with technology and provide students with individualised and adaptive learning experiences. MoET also pledged to support the integration of ICT and AI in both traditional and distant learning approaches. This reflects a strategic commitment to digital transformation in education.

There are support initiatives in place to accelerate AI adoption in the country. Eswatini has established several rapports with international bodies to support AI education. For instance, the Kingdom of Eswatini collaborates with big institutions such as Google to drive digital transformation, youth empowerment and digital skills development which include access to AI powered educational tools and teachers training (Google Africa, 2024). When it comes to curriculum development and teacher training there is a partnership between Government, United Nations Development Programme (UNDP) and the University of Eswatini (UNESWA) to promote AI in research and education (UNESWA AI Academy, 2025). To add on these, there is an initiative known as AI Indaba, organised by United Nations and the Ministry of ICT. This initiative's aim is to build AI skills among youth, including secondary school students. These trainings are done through workshops and awareness campaigns (United Nations Eswatini, 2024). Currently, there are AI tools and platforms that are used at secondary school in Eswatini. One example of such is "Nomfundo AI" a digital education assistant that is used in Eswatini education system. As presented in this chapter, a lot has been done in terms of AI implementation, but literature indicates that there is no much teacher engagement for the adoption of IA. The issue is, the AI tools are already there in the education sustyem. For them to be appreciated by the end users (teachers and students), they need to be accepted. Acceptance of any innovation depends on attitude and perception about the change. This study was necessary to determine the perceptions of agriculture teachers regarding the use of AI for teaching and further predict the adoption rate of this innovation in the education sector.

2.2 Teacher training and development needs for the use of AI

The training of teachers in emerging technologies is very crucial for successful adoption and utilisation in education. Several initiatives to train teachers in AI and digital skills have been launched. For example, in June 2025, over 100 teachers participated in a week-long generative AI training workshop (UNESWA AI Academy, 2025) to leverage AI in online and distance learning. There are ongoing programmes for digital skills and AI training for education inspectors and education leaders (UNESCO IICCBA & KIX Africa 19Hub, 2024). According to UNESCO IICCBA & KIX Africa 19Hub, all national dialogues emphasise the necessity for continued professional development in digital and AI literacy and integration in education.

Some schools actively use AI technologies in the classroom. According to VOA Africa (2024), research highlighted that there is student engagement and some teachers' resistance in the utilisation of AI for teaching and learning. This indicates the real-world implementation and the challenges that are faced with regards to the use of AI in education. Dladla et al. (2025) revealed that in the Lubombo Region, academic research documented the use of AI to integrate indigenous knowledge systems into science education. This enhances cultural relevance and student engagement. Dladla emphasised the importance of this approach in personifying what is taught to secondary school learners in various subjects. Dladla also explored the integration of AI and indigenous knowledge in science education. The study emphasised the potential for AI to create inclusive and culturally relevant learning environment. Evidence is contained by certain publications such as VOA (2024) and Eswatini Observer (2025). These publications have reported on the adoption of AI in secondary schools, government investments in AI powered teachers' trainings and the broader impact of AI in education in Eswatini. As much as Eswatini is making significant progress, there are challenges that remain still. These challenges include teacher resistance, the need for ongoing in-service training for teachers and infrastructure limitations especially in schools that are located in rural areas (VAO). But with such a study to solicit teachers' perceptions of the use of AI, most challenges can be solved through better derived strategies for improved use of AI in schools. This study will create insight to stakeholders responsible for the implementation of AI technology in schools and in-service training of agriculture teachers to improve adoption and utilisation AI for teaching agriculture at secondary school in Eswatini.

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2.3 Theoretical Framework

This study was guided by the technology acceptance model (TAM) by Davis (1986). This framework suggests that when individuals are presented with a new technology such as AI tools, several factors influence their decision about adopting it, including its perceived usefulness, perceived ease of use and attitudes toward it (Davis, 1986). If the technology acceptance model holds true, a teacher's belief that AI can help them perform more efficiently in their job would increase perceived usefulness and most likely, the adoption of this new technology would increase. Perceived ease of use is defined as the difficulty level of using the new technology. The more difficult the technology is to use or integrate or the training required, the less likely it is to be adopted. Lastly, attitudes mean the individual's willingness to learn to use the new technology. It also refers to the social perceptions surrounding the utilisation of the new technology. For example, teachers who perceive AI primarily as a tool for students to use for cheating will have negative social views towards the new technology. Each of these factors plays a role in the teacher's intent to use AI as well as their willingness and perceived needs for self-learning and professional development.

The technology acceptance model has been widely used across diverse domains, providing a comprehensive understanding of users' behavioural intentions and actual adoption patterns. It the context of research which focuses on the utilisation of AI by agriculture teachers, perceptions and professional development needs, the TAM serves as a useful framework for understanding the factors that influence secondary school agriculture teachers' acceptance of AI tools and gauging their attitudes and perceptions of AI integration within agricultural education at secondary school level.

METHODOLOGY

This quantitative study employed a descriptive survey research design. The target population were agriculture teachers at secondary school in Eswatini. The Manzini Region was used as a geographic space for the study where 125 agriculture teachers (N = 125) and a sample of 94 (n = 94) was used in the study. The sample size was determined through a SurveyMonkey calculator as suggested by SurveyMonkey (n.d.). This calculator suggested that a sample size of 94 is sufficient in survey when the population is 125. A list of teachers from MoET was used to randomly select the target population because it maintains an active accurate database of teachers in Eswatini.

3.1 Instrument

The instrument that was used for data collection in study was a questionnaire. The questionnaire was developed by the researcher using the research instrument format from Seevers and Rosencrans (2001) and Shermon and Sorensen (2020) that measured AI utilisation, perceptions, and AI training needs of chemistry teachers. Items specific to chemistry teachers were replaced by AI for agricultural education specific content which were derived from literature. The questionnaire consisted four domains or sections. These sections were: 1) description of current AI utilisation in Eswatini Secondary schools, 2) perceptions of agriculture teachers towards AI utilisation for teaching at secondary school in Eswatini, 3) Professional development needs of agriculture teachers and 4) demographic characteristics of respondents.

3.1.1 Reliability and Validity

A post-hoc reliability analysis of the instrument was conducted and it produced a sufficiently high reliability coefficient, Cronbach alpha of .88 (Table 1). The quality review of the study focused on internal and face validity. The questionnaire was reviewed by one agriculture inspector, one agriculture teacher who completed a one-week course in AI that was offered by UNESWA AI Academy. These two served as experts in the construction of the instrument as they are believed to be having expertise in survey research and the basic principles to expect in AI technology as applied in the teaching of agriculture. They reviewed the questionnaire flow, face and content before the instrument passed for data collection.

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Table 1. Reliability analysis results

Domains	No. of items	Cronbach alpha coefficient
Current utilisation of AC tools by agriculture teachers	14	.88
Perceptions of agriculture teachers regarding use of AI for teaching	16	.85
Professional development needs of agriculture teachers in AI for teaching	10	.91
Total	**40**	**.88**

3.2 Ethical consideration

The study ensured that ethical consideration principles were observed. These principles included permission to conduct research, informed consent, voluntary participation, anonymity, confidentiality, potential of harm and data safety. This aspect was critical to be addressed as the study involved interaction with people who were participants, so as suggested by (Bayer & Fischer, 2021), it is the role of the research to protect participants from any form of harm (psychological, financial, and social harm) in some unintended way. The researcher carefully evaluated the potential harm to arise and ensured that respondents were safe. The respondents of the study were informed about the study's purpose, objectives, procedures and potential risks. This information was shared with respondents through a letter. The respondents were made aware that that participation in the study was voluntary and were also informed that they could withdraw from the study at any point if they felt they needed to. Respondents were further assured that they were no consequences of withdrawing from the study. The data was meant for this study and will remain protected from any kind of misuse.

RESULTS

This paper aimed to determine the perceptions of agriculture teachers in the utilisation of AI for teaching at secondary school in Eswatini. This section presents the findings and begins with the description of the demographic characteristics of the respondents to lay a foundation for sound discussion of the findings as per the objectives of the study. A total of 94 agriculture teachers responded to the survey.

Demographic characteristics

Participants in the study were agriculture teachers for secondary school in Eswatini, including 58 (61.70%) male teachers and 36 (38.30%) female teachers from various schools in the Manzini Region in Eswatini. In the highest education level of the participants, 57 (60.64%) had bachelors' degree and 37 (39.36%) had masters' degree as the highest qualification.

In the age distribution, the largest group of respondents fell within 36 to 40 age groups, comprising 32 (34.04%). This was closely followed by the age group of 31 to 35 who made up 25 (26.60%) respondents, followed by those who were aged 41 to 456 years who were 12 (12.77%), while those who were aged 46 years and above were 11 (11.70%), followed by those aged between 26 and 30 which were 9 (9.57%) and the group that formed a smallest portion was age group 20 to 25 years with 5 (5.32%) respondents.

The survey also explored the years of teaching experience among respondents. The majority, 34 teachers (36.17%) reported having 11 to 20 years in teaching. This significant portion indicates a well-established workforce with considerable experience. Teachers with 21 to 30 years accounted for 32 (34.04%). Those with 0 to 10 years teaching experience made up 22 (23.40%) respondents, while those with over 31 years of teaching made up 6 (6.38%) respondents. This data highlights the range of expertise and tenure present within the community of agricultural education at secondary school level in Eswatini, from new teachers to seasoned veterans.

Furthermore, the analysis included the level of education of the respondents, divided into bachelors' degree and masters' degree. A substantial majority, 67 (71.28%) were bachelors' degree holders and 27 (28.72%) had masters' degree as the highest level of education. This distinction is crucial for understanding the different educational experiences, exposure and how these factors might influence the data obtained in the study.

Table 2. Demographic characteristics of Respondents

Demographic characteristics of respondents		*F*	%
Gender	Male	58	61.70
	Female	36	38.30
Age	20 – 25 years	5	7.45
	26 – 30 years	9	9.57
	31 – 35 years	25	26.60
	36 – 40 years	32	40.43
	41 – 45 years	12	11.70
	46 years and above	11	7.45
Work experience	0 - 10 years	22	23.40
	11 – 20 years	34	36.17
	21 – 30 years	32	34.04
	31 years and above	6	6.38
Highest education level	Bachelor's degree	67	71.28
	Master's degree	27	28.72

Description of current utilisation of AI in secondary school's agricultural education in Eswatini

The findings of objective one (1) of the study which investigated the extent to which AI is used by teacher in teaching agriculture at secondary school in Eswatini was analysed using descriptive statistics (mean and standard deviation). The outcome of objective one revealed that participants reported a negative predisposition when it comes to the use of AI for agricultural education at secondary school level in Eswatini. The respondents disagreed that they use AI as observed in each item of the domain. In table 3, the highest mean was 2.41 with a standard deviation of 1.13, while the lowest item attained a 1.01 (mean) and 1.19 (standard deviation). The overall mean was 1.70 with standard deviation being 1.19. When going back to the Likert scale type that was used to capture the data, 1 represented strongly disagree, 2 represented disagree, 3 represented slightly disagree, 4 represented slightly agree, 5 represented agree and 6 represented strongly agree. To interpret the analysis of the data for this objective, it can be observed that responses of agriculture teachers ranged from strongly disagree (1.01) to disagree (2.41). The results indicate that agriculture teachers do not use AI in teaching agriculture at secondary school in Eswatini. The standard deviation also showed that responses are not widely dispersed from the mean.

Table 3. Description of current utilisation of AI in secondary school's agricultural education in Eswatini

Use of AI	**Mean**	**SD**
I use artificial intelligence (AI) tools easily in my teaching	2.41	1.13
I use AI to evaluate my teaching	2.38	1.18
AI reduces my workload	2.35	1.07
AI tools save time in completing my work	2.32	1.18

Government supports the use of AI	2.31	1.20
School administration supports the use of AI	2.25	1.19
I use AI to formulate learner specific content to improve learner understanding	1.66	1.34
I identify appropriate AI tools to evaluate students' performance	1.25	1.20
I use AI tools to solve problems I encounter in teaching	1.22	1.22
I prepare lesson content using AI tools	1.20	1.13
I use AI to deliver lessons in class	1.19	1.23
I understand how AI is used in the teaching and learning of agriculture	1.14	1.18
I teach my learners to use AI	1.04	1.18
I'm conversant with the simulations in Nomfundo AI as a tool used for teaching and learning	1.03	1.38
I consider the relevant learning outcomes when choosing the AI tools to use.	1.01	1.15
TOTAL	**1.70**	**1.19**

Perceptions of agriculture teachers towards AI utilisation for teaching at secondary school in Eswatini

Findings of the second objective of the study, objective two, are presented in table 4 that follows. This objective intended to describe perceptions of agriculture teachers regarding utilisation of AI in the teaching of agriculture at secondary school in Eswatini. The data were analysed using mean and standard deviation. The outcome of the objective revealed that agriculture teachers reported both a negative perceptions and positive perceptions at the same time. The highest mean was 4.47 with standard deviation being 1.05, while the lowest mean was 2.66 with standard deviation1.38. The overall mean was 3.80 with standard deviation 1.12. However, it is important to highlight that some items in this domain expressed a similar idea, but the means vary significantly. For example, on the item that said "the use of AI tools in education positively affects students 'attitude towards the lesson", this item obtained the highest mean (M = 4.47) in the domain, while another item with a similar idea, "I think AI tools enhance the quality of education" obtained the lowest mean (M = 2.66) in the domain. This indicates that agriculture teachers believe that learners' attitudes change for the better with the use of AI in the lesson but they do not believe in AI tools enhancing the quality of education.

Table 4. Perceptions of agriculture teachers towards AI utilisation for teaching at secondary school in Eswatini

Agriculture teachers' perceptions about AI	**STD**	**D**
The use of AI tools in education positively affects students' attitudes towards the lesson.	4.47	1.05
I believe that it is necessary to use AI tools for teaching	4.42	1.01
AI tools are important for education	4.41	1.06
AI will replace teachers	4.41	1.13
AI enables teachers to access information faster	4.40	1.04
I think AI tools save time.	4.39	1.03
I am willing to prepare teaching materials using AI tools	4.37	1.03
AI helps students in agriculture to have a more individualized learning experience	4.35	1.03
Virtual labs and simulations are examples of AI tools that can aid students in comprehending difficult concepts	3.32	1.18

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AI creates an inclusiveness in the education system	3.25	1.20
The concept of Artificial Intelligence is well familiar to me	3.23	1.22
Learning agriculture can be made more engaging for students by AI	3.20	1.12
AI requires more money to implement	3.19	1.23
AI enhances the intellectual capability of learners	3.14	1.18
I think AI tools are not suitable for me	3.04	1.15
I think artificial intelligence tools enhances the quality of education	2.66	1.38
TOTAL	**3.80**	**1.12**

Professional development needs of agriculture teachers regarding the use of AI for secondary school agricultural education in Eswatini

The third objective of the study sought to identify professional development needs of agriculture teachers regarding the use of AI for teaching agriculture at secondary school in Eswatini. Findings of this objective are presented in table 5. Results revealed that agriculture teachers need professional development in all the areas that were presented by this domain. The highest mean was 4.66 (agree) with a standard deviation of 1.04, indicating that responses did not deviate much from the mean. The lowest mean was 3.69 which also indicates agreement. The overall mean was 4.39 (agree) with standard deviation being 1.00. This analysis reveals that agriculture needs capacitation or training on AI so that they can use it for teaching. This explains the reason why teachers do not use AI tool for teaching agriculture as observed in objective 1.

Table 5. Professional development needs of agriculture teachers regarding the use of AI for secondary school agricultural education in Eswatini

Use of AI	**STD**	**D**
Agricultural education students' training on ethical considerations in the use of AI for teaching	4.66	1.04
Part-time/ traditional structured course on AI for teachers	4.57	.95
Peer collaborations for teachers to share experiences and best practices in the use of AI	4.54	1.07
Encouraging teachers to use AI tools that contribute to their professional development	4.49	1.05
Training of the readily available AI tool in Eswatini, Nomfundo AI	4.47	1.03
Online structured courses on AI for teachers	4.42	1.05
Agricultural education students' training (at tertiary level) about potential benefits of AI in education	4.38	.92
AI awareness campaigns to disseminate information about AI to all stakeholders of education	4.33	.99
Regular refresher course on the use of AI for education	4.31	.98
AI education at tertiary level for pre-service training of teachers	3.69	.98
TOTAL	**4.39**	**1.00**

Summary of differences in utilisation of AI for agricultural education at secondary school in Eswatini

Independent t-test and one-way analysis of variance (ANOVA) were used to determine if there was any significant difference in the demographic characteristics of respondents and the utilisation of AI for agricultural

education at secondary school in Eswatini. The independent t-test indicated that there was a significant difference in the use of AI and the gender of respondents (t = .24, p = .033) and level of education of teachers (t = 1.23, p = .028). With ANOVA, it was revealed that there was no significant difference between the utilisation of AI for teaching and the teaching experience in years.

Table 6. Summary of differences in utilisation of AI for agricultural education at secondary school in Eswatini

Characteristic	N	Mean use of AI	Test statistic	P
Gender:				
Male	58	2.51	t = .243	.033*
Female	36	.89		
Education level:				
Bachelors' degree	57	.96	t = 1.233	.028*
Masters' degree	37	2.44		

6 (highest score) to 1 (lowest score) Positive (means $\geq$ 3.45); Negative (means $\leq$ 3.44); p $\leq$.05

SUMMARY

The utilisation of technology has become an important part of human lives. Most sectors, organisations and humans are dependent on machines and technologies to get things done faster and easier, therefore, technologies such as AI have become a part and parcel of daily activities of individuals and societies. Regarding this fast-growing trend, this study was carried out to determine the perceptions of agriculture teachers in the use of AI in the teaching of the subject at secondary school level in Eswatini. The analysis of the data collected in the study revealed that, although agriculture teachers are aware of the positive impact of the use of AI in education, they do not use the AI tools for teaching. Factors responsible for teachers not to use AI tools include: gender and level of education and it appeared that there is fear of displacement. To conclude, teachers' perceptions play a crucial role in accelerating the use of AI for teaching in schools. Even though the benefits of the use of AI are duly recognised, there are also notable concerns that need to be addressed. By addressing some concerns and some teachers' needs through support and professional development, teachers can harness the potential of AI to enhance teaching and learning of agriculture at secondary school in Eswatini.

In relation to the TAM model for technology acceptance, the findings are in agreement with its explanation. As presented in literature, this framework suggests that when individuals are presented with a new technology such as AI tools, several factors influence their decision about adopting it, including its perceived usefulness, perceived ease of use and attitudes toward it (Davis, 1986). In this study, the findings show that the technology acceptance model holds true, agriculture teacher's belief that AI can help them perform more efficiently in their job increased perceived usefulness and they have the potential to adopt this new technology but they require professional training. The model further explains that the more difficult the technology is to use or integrate or the training required, the less likely it is to be adopted. As observed in the study, the AI tools are not utilised by agriculture teachers as they lack knowledge about the AI, especially Nomfundo AI which was launched by the Ministry of Education and Training (MoET). Lastly, when it comes to the attitudes of agriculture teachers, they are willing to learn to use the new technology. This lead to them suggesting possible training strategies that can be employed in teacher professional development for an improved utilisation of AI in agricultural education at secondary school level in Eswatini.

RECOMMENDATIONS

Based on the findings of the study, it is recommended that:

1. Agriculture teachers in Eswatini be sensitised of the importance of AI in teaching and how it would promote the standing of education in the country.

2. The government of Eswatini, Ministry of Education and Training should have a policy that regulates the inculpation of AI into all levels of education in Eswatini (this includes tertiary institutions where agriculture teachers are trained, such as University of Eswatini (UNESWA), William Pitcher and Ngwane Teachers' Training College).

3. MoET (INSET Department) should craft and implement continual trainings for agriculture teachers in AI use for educational purpose, especially for teaching.

4. For future research, studies should focus on exploring strategies to improve agriculture teachers' acceptance and adoption of AI technologies as well as investigating the long-term impact of AI in teaching practices and students' learning outcomes. On top of that, policy makers and educational institutions need to develop guidelines and regulations to safeguard student privacy and ensure their ethical use of AI in education.

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