



SELF-AWARENESS SKILLS AS A PREDICTOR FOR ARTIFICIAL INTELLIGENCE AND DELIVERY OF BUSINESS EDUCATION IN THE UNIVERSITIES IN SOUTH-SOUTH NIGERIA

Dr Sampson Wagbara

*Department of Business Education
Ignatius Ajuru University of Education,
Port Harcourt Rivers State
08037025279*

Egajivwie Odiri Frank

*Department of Business Education
University of Delta Agbor, Delta State
08034486753*

odiri.egajivwie@unidel.edu.ng lymonfranky80@gmail.com

Abstract

This study was conducted to examine self-awareness skills as a predictor for AI and delivery of business education programme. The study adopted correlation research design. The population of the study comprised 176 lecturers in business education programme in universities in South-South Nigeria. Census sampling was adopted for the study because it is of manageable size. The instrument for data collection was a 27-item structured questionnaire partitioned into two parts, titled: Self Awareness Skills Questionnaire (SASQ), and Artificial Intelligence and Delivery Business Education programme Questionnaire (AIDBEPQ), and which was structured on four point rating scale. The instrument was validated by three experts. The reliability of the instrument was established using Cronbach Alpha method, and coefficient of 0.67 and 0.69 was obtained. Google form questionnaire was used and administered by the researchers through online. A total of 169 respondents out of the 176 of the population responded to the questionnaire. The data collected were analyzed using Pearson Product Moment Correlation Coefficient, while Simple Linear Regression Analysis was used to test the hypotheses at 0.05 level of significance. The findings revealed among others that business educators' ability to adapt to and implement AI tools in business education programmes is attributed to their emotional, physical and cognitive self awareness skills. It was concluded that emotional, physical and cognitive self-awareness skills are veritable tools for effective AI delivery in business education programmes, the skills are crucial to better utilization of AI tools in teaching and learning as well as effective learner's engagement.. It was recommended among others that emotional self-awareness skills should be developed and integrated into modules or workshops focused on both business educators and the learners.

Keywords: Self-Awareness, Predictor, Artificial Intelligence, Delivery, Business Education,

Introduction

The business landscape has undergone significant changes over time. Factors like rapid globalization, technological advancements, and the shift towards knowledge-based and service-oriented economies have reshaped the expectations placed on professionals (Egajivwie, 2024). In recent years, artificial intelligence (AI) has emerged as a transformative force in various sectors, including education. AI is increasingly being integrated into educational systems to enhance teaching and learning processes. AI tools can provide personalized learning experiences, automate



administrative tasks, and offer data-driven insights into student performance (Holmes et al., 2019). The integration of Artificial Intelligence in education is seemingly driven by advancements in digital technologies, machine learning, natural language processing, and cognitive computing. AI-powered educational technologies such as intelligent tutoring systems, adaptive learning platforms, and virtual assistants have gained traction in enhancing teaching and learning experiences across diverse disciplines, including business education. AI is seen as programs designed with human like intelligence and structured in the forms of computers, robots, or other machine to aid in the provision of any kind of service or tasks to improve the social economic and political development of the society (Raji & Amadi, 2023). Artificial Intelligence is an application, collections of systems, packages and program designed into digital computers or computer controlled robots to carry out assignments and tasks with human-like intelligence (Ogunode, et al 2023). Artificial Intelligence has continued to develop new ways of application in education which include; customized/personalized learning, smarter content, improved learning effectiveness and efficiency in administration (Chen et al, (2020). As Blikstein and Worsley, (2016) succinctly posited that AI holds immense potential to revolutionize instructional delivery in, education, particularly business education through personalized learning experiences, real-time feedback mechanisms, and data-driven insights. Thus, the integration of Artificial Intelligence into a business education programme depends largely on the lecturer's level of self-awareness skills and competency for effective utilization in instructional delivery.

Self-awareness is defined as the ability to recognize and understand one's own emotions, strengths, weaknesses, and how these factors affect one's performance, can significantly impact on others. Morin (2011) defined self-awareness as the capacity to recognize and reflect upon one's own mental and emotional states. It involves an awareness of one's own thoughts, feelings, and behaviours, and how these internal states align with one's self-concept. Self-awareness is also described as the ability to recognize and understand one's own emotions and their effect on one's behaviour and thoughts. It is considered a crucial component for effective interpersonal communication and emotional regulation (Goleman, 2013). In same vein, Duval and Wicklund (2020) defined self-awareness as the ability to perceive oneself from an external perspective, including how one is perceived by others and how one's actions affect social relationships. This form of self-awareness is linked to social skills and self-regulation. Those who are self-aware are better at recognizing their strengths and limitations and seeking out resources to overcome them, including AI tools. For instance, self-aware individuals are more likely to understand the value of AI tools in addressing their weaknesses or complementing their strengths, leading to more effective integration and utilization in educational settings. Self-awareness skills emphasize emotional intelligence, meta-cognitive abilities, and self-regulation, reflecting a multifaceted understanding of how individuals recognize and manage their emotions and cognitive processes. Flavell (1979) defines self-awareness skills in terms of meta-cognition as the capacity to reflect on one's own cognitive processes. This involves understanding one's own learning styles and strategies, and regulating one's cognitive activities to enhance learning and problem-solving capabilities. Meta-cognitive self-awareness enables individuals to assess their cognitive strengths and limitations, and adjust their approaches accordingly.

Cognitive self-awareness, a component of metacognition, refers to the ability to recognize and understand one's own cognitive processes. This includes being aware of one's thinking, learning strategies, and problem-solving approaches. Cognitive self-awareness plays a significant role in the development of artificial intelligence (AI) and the delivery of business education programmes. Cognitive self-awareness can enhance the design and functionality of AI systems. AI systems that incorporate principles of cognitive self-awareness can more effectively model human-



like reasoning and decision-making processes. For instance, AI algorithms that simulate metacognitive processes can adaptively modify their strategies based on performance feedback, leading to improved problem-solving capabilities (Heath, 2020). This approach is particularly relevant in areas such as autonomous systems and adaptive learning technologies. Also, cognitive self-awareness is crucial for developing AI systems that provide personalized learning experiences. AI systems that understand users' cognitive states can tailor educational content to individual learning needs and preferences. For example, intelligent tutoring systems that incorporate cognitive self-awareness can monitor students' understanding and adjust the difficulty of tasks accordingly, thereby enhancing learning outcomes (Woolf et al., 2018).

Similarly, emotional self-awareness is a key component of emotional intelligence, and it has become increasingly relevant in various domains, including artificial intelligence (AI) and business education programmes. The development of AI that can recognize and respond to human emotions is a growing field. AI systems equipped with emotion recognition capabilities, such as sentiment analysis algorithms, can deliver more personalized and engaging interactions. Emotional self-awareness in AI models involves training these systems to not only detect emotional cues but also to understand and simulate appropriate emotional responses (Kumar et al., 2022). This can be particularly useful in applications such as virtual assistants and effective classroom interactions support systems. In this context, emotional self-awareness can significantly impact the effectiveness of AI systems and the delivery of business education. As clearly posited by Chen and Lee (2020) that emotional self-awareness is increasingly recognized as a valuable skill in business education. Educators who possess high emotional self-awareness can create more engaging and supportive learning environments. This includes recognizing and addressing the emotional needs of students, which can enhance their motivation and engagement. For example, instructors who are aware of their own emotional states can better manage classroom dynamics and provide more effective feedback. Incorporating emotional self-awareness into business education curricula can improve programme outcomes. For example, courses designed to enhance emotional intelligence skills can help students develop better interpersonal skills, conflict resolution abilities, and resilience (Bar-On & Parker, 2022). Programs that include training in emotional self-awareness can better prepare students for the emotional demands of the business world.

Physical self-awareness is equally fundamental to AI application in business education. It involves understanding and managing one's own physical states and bodily functions, plays an emerging role in both the development of artificial intelligence (AI) and the delivery of business education programs. This type of self-awareness can influence how AI systems interact with users and how business education programmes are structured to enhance learning outcomes and well-being. Physical self-awareness is integral to the development of wearable technologies that monitor health metrics. AI systems embedded in wearables, such as fitness trackers and smart-watches, use data on physical states—like heart rate, sleep patterns, and physical activity—to provide users with insights and recommendations for improving their health (Pardo et al., 2018). The effectiveness of these AI systems relies on their ability to accurately interpret and respond to users' physical states, thereby enhancing user engagement and health outcomes which is very crucial to physical alertness and stability of business educators in delivery of effective education programmes. Also, AI systems that incorporate physical self-awareness can improve human-computer interaction by creating more intuitive and responsive interfaces. For instance, systems that adapt to users' physical states, such as their posture or stress levels, can offer more personalized and contextually appropriate responses. Research has explored how incorporating physical feedback into AI interactions can enhance user satisfaction and usability (Gellersen et al., 2019). This includes adapting interfaces based on users' physical comfort or fatigue levels.



Consequently, integrating physical self-awareness into business education can significantly enhance students' well-being and productivity. Business education programmes that emphasize the importance of physical health—such as through ergonomics, stress management and physical fitness—can improve students' overall performance. Research indicates that physical well-being is linked to cognitive function and academic success, suggesting that programs that address physical self-awareness can enhance learning outcomes (Gonzalez et al., 2019).

In the context of artificial intelligence (AI) and business education programmes, the above discussed dimensions of self-awareness skills can play a crucial role in predicting and shaping the effectiveness of AI technologies. Self-awareness in AI primarily refers to the system's ability to monitor, evaluate, and adjust its performance. Although AI does not possess self-awareness in the human sense, the development of systems with adaptive and reflective capabilities can be influenced by principles akin to self-awareness. Self-awareness skills in AI are analogous to adaptive learning systems, where AI models can adjust their learning strategies based on performance feedback. This is critical for improving accuracy and efficiency in tasks such as predictive analytics and decision-making. For instance, reinforcement learning algorithms, which adapt based on rewards and penalties, exhibit a form of algorithmic self-awareness (Sutton & Barto, 2018). Also, AI systems equipped with self-monitoring capabilities can detect and correct errors in real-time, akin to self-regulation in humans. This ability enhances the reliability and robustness of AI applications. Research by Zhang et al. (2021) highlighted how AI systems that integrate feedback mechanisms can improve their performance over time, demonstrating a form of self-awareness. Meta-learning, or learning to learn, involves AI systems that optimize their learning processes based on past experiences. This approach reflects a type of self-awareness where the AI system refines its learning strategies. Studies by Andrychowicz et al. (2016) illustrate how meta-learning algorithms enable AI to generalize better across tasks by adjusting their learning paradigms. Self-awareness skills are increasingly recognized as pivotal in the development and implementation of artificial intelligence (AI) tools in diverse fields of studies, especially business education programmes. These skills influence various aspects of AI tool creation, including ethical considerations, bias mitigation, effective integration, and continuous improvement. Self-aware individuals are more likely to reflect on the potential consequences of their AI systems, considering issues such as privacy, data security, and the broader societal impact of their technologies (Floridi et al, 2020). This reflection can lead to the development of more ethical AI tools that align with the values and goals of business education programmes. Also, Self-awareness affects how AI tools are integrated into business education programmes. Educators who understand their own limitations and biases are better equipped to select and implement AI tools that meet educational objectives effectively. As Luckin et al (2016) clearly submitted that Self-aware educators are more likely to critically evaluate AI tools to ensure they align with the specific needs of their students and the goals of the curriculum.

Self-awareness skills support continuous improvement by encouraging ongoing learning and adaptation. Business educators who are self-aware recognize the importance of staying updated with AI advancements and integrating feedback to refine AI tools for effective instructional delivery. Self-aware individuals with a growth mindset are more open to feedback and willing to update their approaches based on new information and evolving needs. This iterative process leads to the refinement and enhancement of AI tools over time (Wang et al 2021). In same vein, self-aware business educators are better equipped to understand the capabilities and limitations of AI-driven business education platforms. This awareness helps them make informed decisions about how to use these tools effectively in their teaching. Business educators who are self-aware are more likely to critically assess AI tools, understand their functionalities, and align them with



educational goals. This can lead to more effective use of these tools, enhancing the learning experience for students (Luckin et al, 2016). Educators with high self-awareness are more adept at modifying AI tools to fit the specific needs of their students, thereby enhancing the personalization of learning experiences and increasing the overall effectiveness of the platforms. Self-awareness skills may also enhance business educators' communication and collaboration skills. This is crucial for working with AI developers and other stakeholders in education to ensure that AI-driven platforms are integrated effectively into business education programmes. This alignment ensures that AI systems are not only technologically advanced but also pedagogically sound, enhancing their success in delivering personalized education (Chou & Min, 2019). Similarly, Self-aware business educators are more likely to align AI tools with the specific educational objectives of their programmes. When educators understand their own educational philosophies and goals, they can design AI tools that better support these goals. For example, if an educator is aware of their inclination towards experiential learning, they might design AI tools that provide simulations and interactive scenarios to enhance teaching and learning (Brown et al., 2017). Moreso, business education curriculum developers with strong self-awareness are better positioned to design contents and align AI technologies that are tailored to the specific needs of business education. They understand the nuances of the curriculum and can better customize AI tools to address the varying needs of students. This leads to more effective personalization, enhancing the relevance and effectiveness of the educational content delivered through AI (Zhao et al., 2020).

In addition, self-awareness skills help learners understand their strengths, weaknesses, and learning preferences. In AI-supported business education programmes, this self-knowledge allows for more effective utilization of adaptive learning technologies that customize content and recommendations based on individual needs (Li & Li, 2018). This personalization keeps learners more engaged as they receive tailored content that aligns with their personal goals and learning styles. Learners with high self-awareness are better at setting realistic and achievable goals. AI tools that monitor progress and provide feedback can be more effective when learners are aware of their personal goals and motivations (VanLehn, 2019). Self-aware learners are likely to stay more engaged as they can align AI feedback with their personal aspirations. Self-awareness contributes to better self-regulation and time management skills. AI-supported platforms often include features for tracking progress and managing tasks. Learners who are self-aware can use these tools more effectively to stay organized and motivated, leading to increased engagement (Chen et al., 2020). Self-awareness fosters critical thinking and active learning by encouraging learners to reflect on their understanding and approach to problems. AI tools that facilitate simulations and case studies benefit from this reflective approach as learners engage more deeply with the content (Xie et al., 2021). This reflection enhances the overall learning experience and engagement.

The researchers are of the view that the integration of self-awareness AI in instructional delivery within business education programmes may hold significant potential to revolutionize teaching and learning processes. AI-powered educational platforms can adapt content and delivery methods based on individual student preferences, learning styles, and performance metrics. Self-aware AI algorithms can analyze student interactions, assess comprehension levels, and provide personalized feedback in real-time, thereby optimizing the learning experience and promoting deeper understanding of business concepts and principles.

Statement of Problem

In the evolving landscape of business education, the integration of Artificial Intelligence (AI) tools has become pivotal in enhancing instructional delivery and learner engagement. This development necessitates a nuanced understanding of self-awareness skills- emotional, physical,



and cognitive as predictors of successful AI implementation and pedagogical efficacy. The importance of these dimensions in shaping both educational outcomes and the effective deployment of AI technologies in business education programmes cannot be underscored. As Scherer (2019) expressly posited that emotional self-awareness enables educators and students to manage their responses to AI-enhanced learning environments, which can impact engagement and satisfaction. For educators, emotional self-awareness involves recognizing their feelings about AI's role in the classroom and adjusting their instructional strategies accordingly. For students, it entails being conscious of how AI-driven tools affect their learning experiences emotionally, thereby facilitating a more adaptive approach to technology (Cai & Lee, 2021). AI systems that consider emotional feedback can create a more supportive learning environment, ultimately leading to better educational outcomes. Also, prolonged use of AI-driven interfaces without attention to physical comfort can lead to fatigue and reduced productivity. Hence, incorporating ergonomic design principles into AI applications can mitigate these issues, ensuring that physical well-being is maintained and that the learning experience remains productive and engaging (Huang & Liu, 2023). According to Lin et al. (2021), cognitive self-awareness allows learners to better understand their own learning preferences and cognitive biases, which can be critical for leveraging AI's adaptive capabilities. AI systems in education that adapt to individual learning styles can enhance educational outcomes by providing personalized feedback and resources tailored to cognitive strengths and weaknesses.

Notwithstanding the above authors' positions, there seems to be lack of empirical evidence linking self-awareness skills with the outcomes of AI-supported business education programmes. This has necessitated the need for further examination of the extent business educators' emotional, physical and cognitive self-awareness predict the effectiveness of AI-driven business education programmes. Specifically, it aims to examine whether business educator's emotional self-awareness correlate their ability to adapt to and implement AI tools in business education; how physical self-awareness correlate with an business educator's overall productivity and effectiveness in managing AI technologies and delivering business education; and how cognitive self-awareness correlate business educator's ability to utilize AI for data analysis and decision-making in business education. This exploration will contribute to the optimization of AI applications in education and enhance the overall effectiveness of business training programmes.

Research Question

1. To what extent do business educators' emotional self-awareness skills correlate their ability to adapt to and implement AI tools in business education programmes in universities in South-South Nigeria?
2. To what extent business educators' physical self-awareness skills correlate their overall productivity and effectiveness in managing AI technologies and delivering business education programmes in universities in South-South Nigeria?
3. To what extent do business educators' cognitive self-awareness skills correlate their ability to utilize AI technologies for data analysis and decision-making in business education programmes in universities in South-South Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant relationship between business educators' emotional self-awareness skills and their ability to adapt to and implement AI tools in business education programmes in the universities in South-South Nigeria.



2. There is no significant relationship between business educators' physical self-awareness skills and their overall productivity and effectiveness in managing AI technologies and delivering business education programmes in the universities in South-South Nigeria.
3. There is no significant relationship between business educators' cognitive self-awareness skills and their ability to utilize AI technologies for data analysis and decision-making in business education programmes in universities in South-South Nigeria.

Methodology

The study adopted predictive correlation research design. The design was considered appropriate for this study because it was used to ascertain the perceptions of business education lecturers on the relationship between self-awareness skills as a predictor for AI and delivery of business education programme. Grove et al (2021) defined predictive correlation research design as a methodological approach which aims at examining the relationship between variables to future outcomes. This study was conducted in South-South geo-political zone of Nigeria. The population of the study comprised 176 lecturers in business education programme in federal and state universities in South-South Nigeria. Census sampling was adopted for the study because the population is of manageable size. This is in line with Agboola (2018) who posited that it is ideal to study the entire population when such population is of a manageable size. The instrument for data collection was a 27-item structured questionnaire. The questionnaire was partitioned into two parts, titled: Self Awareness Skills Questionnaire (SASQ) and Artificial Intelligence in Delivery Business Education programme Questionnaire (AIDBEPQ). The Questionnaire was on two sections, Section A was for respondents' Bio-data while section B was to elicit information from the respondents regarding the questions posed and which was structured on four point Likert rating scale of Very High Extent (4), High Extent (3), Low Extent (2), and Very Low Extent (1). The instrument was face and content validated by three experts. The reliability of the instrument was established using Cronbach Alpha method, and coefficient 0.67 and 0.69 for SASQ and AIDBEPQ respectively was obtained. The Google form questionnaire was used and administered by the researchers through online. A total of 159 copies of the questionnaire were received (90.3%) and used for the study. The data collected were analyzed using Pearson Product Moment Correlation Coefficient to answer research questions while Linear Regression Analysis was used to test the null hypotheses at 0.05 level of significance. The decision rule was interpreted as: 0.00 ± 0.19 – very weak correlation; 0.20 to ± 0.39 – weak correlation; 0.40 to ± 0.59 – moderate correlation; 0.60 to ± 0.79 – Strong correlation; and 0.80 to ± 1.00 very strong correlation. That is Items that scored that ranged from $0.60 - 1.00$ was regarded as positive correlation, $0.40 - 0.59$ was regarded as moderate correlation while $0.00 - 0.39$ was regarded weak correlation. Also, the null hypothesis was rejected where the p-value is less than the significant level of $0.05 (p \leq 0.05)$, and it was retained where the p-value is equal to or greater than the significant level of $0.05 (p \geq 0.05)$.

Results and Discussion

Research Question 1: To what extent do business educators' emotional self-awareness skills correlate their ability to adapt to and implement AI tools in business education programmes in universities in South-South Nigeria?



Table 1: Summary of Pearson Product Moment Correlation (PPMC) for Coefficient of Business Educators' Emotional Self-awareness Skills and their Ability to Adapt to and Implement AI Tools in Business Education Programmes in the Universities in South-South Nigeria.

		PSAS	EMAITDBE
ESAS	Pearson Correlation	1	.852**
	Sig. (2-tailed)		.000
	N	169	169
AAIAI	Pearson Correlation	.852**	1
	Sig. (2-tailed)	.000	
	N	169	169

*. Correlation is significant at the 0.05 level (2-tailed)

Emotion Self awareness skills (ESAS) and Ability to Adapt and Implement AI (AAIAI), Number of respondents (N), Pearson Product Moment Correlation (r)

The analysis in table 1 shows the computed PPMC to describe the coefficient of relationship between the extent business educators' emotional self-awareness skills correlate their ability to adapt to and implement AI tools in business education programmes. The result indicates that the coefficient relationship between self-awareness skills correlate with the effectiveness of AI delivery in business education programmes was a coefficient of $r = 0.85$ which is positive and falls within the coefficient threshold of $\pm 0.61-0.80$ indicating high correlation between the observed variables. This implies that business educators' ability to adapt to and implement AI tools in business education programmes is attributed to their emotional self awareness skills.

Research Question 2: To what extent business educators' physical self-awareness skills correlate their overall productivity and effectiveness in managing AI technologies and delivering business education programmes in universities in South-South Nigeria?

Table 2: Summary of Pearson Product Moment Correlation(PPMC) for Coefficient of Business Educators' Physical Self-Awareness Skills Acquisitions and their Overall Productivity and Effectiveness in Managing AI Technologies and Delivering of Business Education Programmes in Universities in South-South Nigeria

		Correlations	
		PSAS	EMAITDBE
PSAS	Pearson Correlation	1	.713**
	Sig. (2-tailed)		.000
	N	169	169
EMAITDBE	Pearson Correlation	.713**	1
	Sig. (2-tailed)	.000	
	N	169	169

*. Correlation is significant at the 0.05 level (2-tailed)

Physical Self awareness skills acquisition (PSAS), Effectiveness in Managing AI Technologies and Delivering of Business Education (EMAITDBE), Number of respondents (N), Pearson Product Moment Correlation (r)



The data in table 2 shows the computed PPMC coefficient of relationship between the extent business educators' physical self-awareness skills correlate their overall productivity and effectiveness in managing AI technologies and delivering business education programmes. The result indicates that the coefficient relationship between business education lecturer's self-awareness skills acquisitions correlate with better utilization of AI tools in teaching business education courses was 0.71 which was positive and falls within the coefficient threshold of +/-0.61-0.80 indicating high correlation between the observed variables. This implies that business educators overall productivity and effectiveness in managing AI technologies and delivering business education programmes is attributed to their physical self-awareness skills.

Research Question 3: To what extent do business educators' cognitive self-awareness skills correlate their ability to utilize AI technologies for data analysis and decision-making in business education programmes in universities in South-South Nigeria?

Table 3: Summary of Pearson Product Moment Correlation (PPMC) for Coefficient of Business Educators' Cognitive Self-Awareness Skills and their Ability to Utilize AI Technologies for Data Analysis and Decision-Making in Business Education Programmes in Universities in South-South Nigeria.

		Correlations	
		CSAS	AUAITBE
CSAS	Pearson Correlation	1	.773**
	Sig. (2-tailed)		.000
	N	169	169
AUAITBE	Pearson Correlation	.773**	1
	Sig. (2-tailed)	.000	
	N	169	169

*. Correlation is significant at the 0.05 level (2-tailed)

Cognitive Self awareness skills acquisition (CSAS) and Ability to Utilize AI Technologies in delivering Business Education (AUAITBE), Number of respondents (N), Pearson Product Moment Correlation (r)

The data in table 3 shows the computed PPMC coefficient of relationship between the extent business educators' cognitive self-awareness skills correlate their ability to utilize AI technologies for data analysis and decision-making in business education programmes. The result indicates that the coefficient relationship between self-awareness skills correlate with effective learner engagement was 0.81 which was positive and falls within the coefficient threshold of +/-0.81-0.91 indicating high correlation between the observed variables. This implies that business educators' ability to utilize AI technologies for data analysis and decision-making in business education programmes is attributed to self-awareness skills.

Testing of Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

Hypotheses 1: There is no significant relationship between business educators' emotional self-awareness skills and their ability to adapt to and implement AI tools in business education programmes in the universities in South-South Nigeria.



Table 4: Summary of Simple Linear Regression Analysis of the Coefficient of Relationship between Business Educators' Emotional Self-Awareness Skills and their Ability to Adapt to and Implement AI Tools in Business Education Programmes in the Universities in South-South Nigeria.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	8.978	1	8.978	4.196	.042 ^b
Residual	357.353	167	2.140		
Total	366.331	168			

- **Dependent Variable: ESAS**
- **Predictors: (Constant):AAIAI**

The data in table 4 above shows the computed simple linear regression to show the significance of coefficient of relationship between business educators' emotional self-awareness skills and their ability to adapt to and implement AI tools in business education programmes. The result indicates that the p-value is .042 at degree of freedom of 167 is less than the alpha level of significance of 0.05. The null hypothesis was therefore rejected which means that there is a significant relationship between business educators' emotional self-awareness skills and their ability to adapt to and implement AI tools in business education programmes

Hypotheses 2: There is no significant relationship between business educators' physical self-awareness skills and their overall productivity and effectiveness in managing AI technologies and delivering business education programmes in the universities in South-South Nigeria.

Table 5: Summary Simple Linear Regression Analysis of the Coefficient of Relationship between Business Educators' Physical Self-Awareness Skills and their Overall Productivity and effectiveness in Managing AI Technologies and Delivering Business Education Programmes in the Universities in South-South Nigeria.

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	89.570	1	89.570	54.198	.000 ^b
Residual	275.992	167	1.653		
Total	365.562	168			

- **Dependent Variable: EMAITDBE**
- **Predictors: (Constant), PSAS**

The data in table 5 above shows the computed the simple linear regression to show the significance of coefficient of relationship between business educators' physical self-awareness skills and their overall productivity and effectiveness in managing AI technologies and delivering business education programmes. The result indicates that the p-value is .000 at degree of freedom of 167 is less than the alpha level of significance of 0.05. The null hypothesis was therefore rejected, thus, there is a significant relationship between business educators' physical self-awareness skills and their overall productivity and effectiveness in managing AI technologies and delivering business education programmes.

Hypotheses 3: There is no significant relationship between business educators' cognitive self-awareness skills and their ability to utilize AI technologies for data analysis and decision-making in business education programmes in universities in South-South Nigeria.

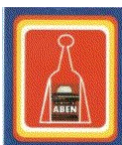


Table 6: Summary of Simple Linear Regression Analysis of the Coefficient of Relationship between Business Educators' Cognitive Self-Awareness Skills and their Ability to Utilize AI Technologies for Data Analysis and Decision-Making in Business Education Programmes in Universities in South-South Nigeria.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	167.600	1	167.600	108.228	.000 ^b
	Residual	258.613	167	1.549		
	Total	426.213	168			

- a. Dependent Variable: AUAITDBE
- b. Predictors: (Constant), CSAS

The data in table 6 above shows the computed simple linear regression statistics to show the significance of coefficient of relationship between business educators' cognitive self-awareness skills and their ability to utilize AI technologies for data analysis and decision-making in business education programmes in universities in South-South Nigeria. The result indicates that the p-value of .000 at degree of freedom of 167 is less than the alpha level of significance of 0.05. The null hypothesis was therefore rejected which means that there is a significant relationship between business educators' cognitive self-awareness skills and their ability to utilize AI technologies for data analysis and decision-making in business education programmes.

Discussion of Findings

The findings in research question one revealed that business educators' ability to adapt to and implement AI tools in business education programmes is attributed to their emotional self-awareness skills. The tested hypothesis clearly shows a significant relationship between business educators' emotional self-awareness skills and their ability to adapt to and implement AI tools in business education programmes. The findings concurred with Chen and Lee (2020) who clearly posited that emotional self-awareness is increasingly recognized as a valuable skill in business education, and educators who possess high emotional self-awareness can create more engaging and supportive learning environments. This includes recognizing and addressing the emotional needs of students, which can enhance their motivation and engagement. For example, instructors who are aware of their own emotional states can better manage classroom dynamics and provide more effective feedback. In addition, the findings aligned with Scherer (2019) and (Cai and Lee, 2021) who expressly asserted that emotional self-awareness enables educators and students to manage their responses to AI-enhanced learning environments, which can impact engagement and satisfaction. For educators, emotional self-awareness involves recognizing their feelings about AI's role in the classroom and adjusting their instructional strategies accordingly. For students, it entails being conscious of how AI-driven tools affect their learning experiences emotionally, thereby facilitating a more adaptive approach to technology.

The findings in research question two revealed that the business educators overall productivity and effectiveness in managing AI technologies and delivering business education programmes is attributed to their physical self-awareness skills. The tested hypothesis showed a significant relationship between business educators' physical self-awareness skills and their overall productivity and effectiveness in managing AI technologies and delivering business education programmes. The findings agreed with the study of Gonzalez et al (2019) that physical well-being is linked to cognitive function and academic success, suggesting that education programmes that address physical self-awareness can enhance learning outcomes. The findings equally showed similarity to Huang and Liu (2023) study who revealed that prolonged use of AI-driven interfaces



without attention to physical comfort can lead to fatigue and reduced productivity. Hence, incorporating ergonomic design principles into AI applications can mitigate these issues, ensuring that physical well-being is maintained and that the learning experience remains productive and engaging.

The findings in research question three revealed that business educators' ability to utilize AI technologies for data analysis and decision-making in business education programmes is attributed to self-awareness skills. And the tested hypothesis revealed that there is a significant relationship between business educators' cognitive self-awareness skills and their ability to utilize AI technologies for data analysis and decision-making in business education programmes. The findings confirmed the findings of (Heath, 2020) and (Woolf et al., 2018) which showed that AI systems that incorporate principles of cognitive self-awareness can more effectively model human-like reasoning and decision-making processes. For instance, AI algorithms that simulate metacognitive processes can adaptively modify their strategies based on performance feedback; leading to improved problem-solving capabilities. This approach is particularly relevant in areas such as autonomous systems and adaptive learning technologies. Also, cognitive self-awareness is crucial for developing AI systems that provide personalized learning experiences. AI systems that understand users' cognitive states can tailor educational content to individual learning needs and preferences. For example, intelligent tutoring systems that incorporate cognitive self-awareness can monitor students' understanding and adjust the difficulty of tasks accordingly, thereby enhancing learning outcomes.

Conclusion

It is observed from the study that emotional, physical and cognitive self-awareness skills are veritable tools for effective AI delivery in business education programmes, the skills are crucial to better utilization of AI tools in teaching and learning as well as effective learner engagement. Business educators and curriculum developers with self-awareness skills are more positioned to align AI tools with the specific educational objectives of their programmes, and with significant potential to revolutionize teaching and learning processes.

Recommendations

Sequel to the findings of this study, the following recommendations are made.

1. Curriculum planners and educational managers should develop and integrate emotional self-awareness skills into modules or workshops for both business educators and learners. These should include reflective practices, emotional intelligence training, and mindfulness exercises, to improve overall engagement and effectiveness in AI-supported business education learning environments.
2. Business educators should always be conscious of their physical self-awareness when using AI tools to enable them effectively engage learners in a way that enhances both teaching and learning outcomes.
3. Business Education practitioners should incorporate and emphasize cognitive self-awareness principles to enhance learners' critical reasoning, problem-solving and informed decision making in business education programmes.



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