

DIGITAL PEDAGOGY AS A PREDICTOR OF SELF-ESTEEM AND EMOTIONAL ADJUSTMENT OF SECONDARY SCHOOL STUDENTS IN OBOLLO AFOR EDUCATIONAL ZONE

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Abstract

The study investigated the digital Pedagogy as a Predictor of Self-Esteem and Emotional Adjustment of Secondary School Students in Obollo Afor Educational Zone. Two research questions and two hypotheses guided the study. The study adopted a correlation survey research design with a population of 4,812 SSII students in 233 public primary schools in Rivers State. The sample for the study was 481 SSII students drawn through simple random sampling technique representing 10% of the population of teachers. Three self-report measures titled Digital Pedagogy Scale (DPS), Self-Esteem Scale (SES) and Teachers' Emotional Adjustment Scale (TEAS) were used for data collection. The measures were validated by three validators, one in Measurement and Evaluation and two in Educational Foundations all from University of Nigeria, Nsukka. The internal consistency reliability coefficients of 0.83, 0.88 and 0.81 were obtained for Digital Pedagogy Scale (DPS), Self-Esteem Scale (SES) and Teachers' Emotional Adjustment Scale (TEAS) respectively through Cronbach alpha method. Linear regression was used to answer the research questions while t-test associated with linear regression was used to test the hypotheses at 0.05 level of significance. The study concluded that digital pedagogy is essential and indispensable in the enhancement of students' self-esteem and emotional adjustment in secondary schools in Obollo Afor Local Government Area of Enugu State. Based on the findings of this study, it was recommended that the school administrators should procure more digital facilities that can enhance the teaching processes in order to bring about self-esteem. The students should be exposed to the use of digital platforms in order to promote students' emotional adjustment.

Keywords: Digital pedagogy, self-esteem, emotional adjustment, secondary school students

Introduction

The twenty-first century has brought about remarkable changes in education, largely thanks to the rise of digital technologies in both teaching and learning. With the swift evolution of information and communication technologies (ICT), artificial intelligence, digital learning platforms, virtual classrooms, and multimedia resources, the way teachers instruct and students learn has been completely transformed. The swift evolution of information and communication technologies (ICT) has dramatically reshaped the educational scene worldwide. We're seeing a shift away from traditional, teacher-centered methods towards more learner-focused approaches that weave in digital technologies to boost both teaching and learning. This shift has led to the emergence of digital pedagogy, which highlights the intentional use of digital tools, online resources, and engaging learning environments to enrich students' academic journeys and personal growth. But it's not just about better grades; digital pedagogy plays a crucial role in enhancing students' psychological well-being, especially their self-esteem. As schools and universities increasingly embrace digital learning spaces, exploring how digital pedagogy impacts students' self-esteem has become a vital focus for educational research (Bond et al., 2024).

Digital pedagogy is all about thoughtfully weaving digital technologies, online resources, multimedia tools, and virtual learning spaces into the fabric of teaching to

enhance learning outcomes (Ryan et al., 2020). Unlike the more traditional, teacher-focused methods, digital pedagogy encourages a learner-centered approach that fosters collaboration, creativity, critical thinking, and active engagement through digital platforms. As we see more of this approach in secondary education, it's clear that integrating digital pedagogy is crucial. It not only helps students develop essential skills for the twenty-first century but also supports their academic success and personal growth (Otchie & Pedaste, 2020).

After the COVID-19 pandemic hit, schools and universities all over the globe, including those in Nigeria, quickly embraced digital technologies in their teaching methods. This shift marked a move away from traditional in-person classes to tech-savvy learning environments where students engage with digital devices, educational software, virtual classrooms, online assessments, and multimedia resources (Ryan et al., 2020). As a result, educational researchers have increasingly pointed out that the benefits of digital teaching go beyond just boosting academic results; they also play a crucial role in enhancing students' confidence, motivation, emotional health, and social skills (Tsortanidou & Daradoumis, 2022). Digital pedagogy goes way beyond just using computers or digital devices in the classroom. It's all about crafting meaningful learning experiences with digital tools that encourage collaboration, creativity, communication, critical thinking, and active participation from learners. As Kimmons (2024) points out, digital pedagogy is the thoughtful use of digital technologies alongside pedagogical principles to create engaging, inclusive, and learner-focused educational experiences. The emphasis is on how technology enhances effective teaching, rather than the technology itself. In a similar vein, Redecker (2022) noted that digital pedagogy includes teaching strategies that help learners build their digital skills while also boosting their cognitive, emotional, and social learning outcomes.

Bringing digital pedagogy into secondary education is becoming more crucial as today's students are so digitally savvy. Most high schoolers today have grown up surrounded by smartphones, social media, online learning platforms, and various digital communication tools. As a result, learning environments that make good use of these technologies can really boost students' motivation, engagement, confidence, and sense of belonging. According to UNESCO (2023), effective digital teaching practices promote active learning, foster learner independence, encourage collaboration, and ensure everyone has a voice, all of which help create educational spaces that support students' emotional and psychological growth.

Self-esteem is all about how we evaluate our own worth, skills, and value as individuals. It shapes the way we see ourselves and our ability to tackle tasks, connect with others, and face challenges head-on. Students who have high self-esteem usually show a lot of confidence, bounce back from setbacks, maintain a positive self-image, and are eager to get involved in classroom activities. On the flip side, those with low self-esteem often struggle with self-doubt, anxiety, a fear of failing, and may find it hard to engage academically or stay motivated. As noted by Orth and Robins (2022), self-esteem is essentially a personal assessment of one's worth and is a key factor in determining psychological well-being, academic achievement, and overall happiness. When students feel good about themselves, they tend to handle academic pressures and social situations much better, whereas low self-esteem can really hold back both their academic and personal growth.

Self-esteem plays a crucial role in shaping students' academic achievements, relationships with others, emotional health, and overall happiness. It's all about how individuals assess their own worth, skills, and abilities (Sezgin & Güler, 2020). Students

who have high self-esteem tend to be more confident, motivated in their studies, resilient in the face of challenges, and socially adept. On the flip side, those with low self-esteem often struggle with anxiety, fear of failing, poor grades, and emotional turmoil (Orben, 2020). During the teenage years, self-esteem experiences significant changes as students navigate a variety of academic, social, and emotional situations that influence how they view their own worth.

The school environment plays a crucial role in shaping how students view themselves. Among the many factors at play, the methods teachers use and the experiences students have in the classroom stand out as key influences on their self-perception. Digital teaching approaches open up avenues for personalized learning, instant feedback, teamwork, and mastery of subjects, all of which help boost students' self-evaluation. When students tackle digital learning tasks successfully, get timely praise through online platforms, and engage in interactive activities, they build a stronger sense of confidence in their academic skills. These positive experiences not only reinforce their feelings of competence but also enhance their self-worth, ultimately leading to improved self-esteem (Schleicher, 2023).

Digital pedagogy is gaining recognition as a key player in boosting students' self-esteem. With interactive digital learning environments, students can enjoy personalized instruction, work together with peers, receive instant feedback, and learn at their own pace. All of these elements work together to build students' confidence in academic skills (Ryan et al., 2020). Digital platforms encourage students to dive into classroom discussions, tackle engaging assignments, explore a variety of learning resources, and showcase their abilities through different learning styles. These enriching experiences help students feel a sense of achievement, which in turn enhances their academic self-concept and overall self-esteem (Sezgin & Güler, 2020). While digital pedagogy has its perks, it can also take a toll on students' self-esteem, especially when the tech resources fall short or aren't used effectively. Students struggling with digital learning platforms, facing limited internet access, or lacking essential digital skills might find themselves feeling frustrated and inadequate. On top of that, constantly comparing themselves to their peers in online settings or dealing with negative interactions can really chip away at their confidence and sense of self-worth (Orben, 2020). So, the success of digital pedagogy really hinges on how well teachers design, implement, and support these tech-driven learning experiences.

One of the standout features of digital pedagogy is its ability to tailor learning experiences to each student. Unlike traditional classroom settings, digital learning platforms can adjust the instructional content to fit individual learning styles and speeds. This personalized approach helps to ease the frustration that often comes with learning challenges, allowing students to enjoy repeated successes that boost their self-esteem. As noted by the OECD (2023), personalized digital learning environments enhance students' feelings of competence and independence, which in turn fosters a positive academic self-image and overall psychological well-being. Digital pedagogy really shines when it comes to fostering collaborative learning. Through discussion forums, virtual classrooms, group projects, and online communities, students can come together to share ideas, tackle problems as a team, and lean on each other for support. These positive interactions with peers and teachers play a crucial role in building healthy self-esteem, as students feel accepted, respected, and valued in their learning environments. Bond et al. (2024) found that when collaboration is supported digitally, it significantly boosts students' engagement, confidence, and sense of belonging, all of which are key ingredients for enhancing self-esteem.

On top of that, digital pedagogy encourages active learning by transforming students from mere recipients of information into active creators of knowledge. With tools like interactive simulations, educational games, virtual labs, multimedia presentations, and project-based digital activities, students get the chance to showcase their skills and creativity. These experiences help build self-efficacy, which is essential for nurturing healthy self-esteem. As Bandura's social cognitive theory suggests, having repeated successful experiences reinforces individuals' beliefs in their abilities, ultimately boosting their confidence and self-worth (Schunk & DiBenedetto, 2023).

The quick feedback offered by digital assessment platforms really boosts students' self-esteem. Unlike the traditional methods that often keep students waiting for results, digital tools give instant insights into how they're doing. This immediate feedback helps learners spot their strengths and weaknesses right away, allowing them to make improvements and see ongoing academic growth. Such constructive feedback not only reinforces a positive self-image but also encourages students to tackle challenging tasks with confidence. Hattie (2023) pointed out that timely and meaningful feedback is one of the key factors in enhancing both academic success and students' self-assurance. Digital pedagogy also plays a vital role in supporting inclusive education by catering to learners with a variety of educational needs. With features like assistive technologies, multimedia content, adaptive learning software, captioned videos, text-to-speech applications, and flexible learning pathways, students of all abilities can engage actively in classroom activities. This inclusive approach helps reduce feelings of exclusion and boosts self-worth among learners. UNESCO (2023) highlighted that inclusive digital learning environments promote equity, participation, and psychological empowerment, ultimately strengthening students' self-esteem.

While there are many benefits to digital pedagogy, if it's not implemented effectively, it can really take a toll on students' self-esteem. Issues like teachers lacking digital skills, poor tech infrastructure, unequal access to devices, unreliable internet, and subpar online instruction can leave learners feeling frustrated and less confident. When students find it hard to navigate digital platforms, they might start feeling inadequate, helpless, and anxious about their academic performance. UNESCO (2023) has pointed out that the digital divide continues to create educational inequalities that could seriously impact students' confidence and mental well-being if we don't tackle these issues head-on. Moreover, relying too much on digital technologies can lead students into negative online experiences, such as cyberbullying, unhealthy comparisons with others, digital burnout, and distractions. These challenges can chip away at self-esteem by fostering unrealistic comparisons with peers and amplifying feelings of loneliness or inadequacy. The American Psychological Association (2023) emphasizes that a balanced approach to digital engagement, paired with solid digital citizenship education, is crucial for supporting healthy psychological growth in adolescents.

In countries like Nigeria, digital pedagogy is starting to make waves, thanks to government initiatives focused on boosting ICT integration in education. Yet, challenges like inadequate infrastructure, unprepared teachers, inconsistent electricity, and limited internet access still hold back effective implementation, especially in rural areas. As a result, many secondary school students miss out on the digital learning opportunities that could significantly improve their academic performance and even their self-esteem. This highlights the urgent need for research that looks into how digital pedagogy can influence students' self-esteem in specific educational settings, such as the Obollo Afor Education Zone.

Digital pedagogy is truly a game-changer in education, offering a fresh way to enhance students' cognitive, social, emotional, and psychological growth. By focusing on personalized instruction, collaborative learning, interactive engagement, inclusive participation, and timely feedback, it crafts enriching learning experiences that boost students' confidence and self-worth. However, to fully tap into these advantages, we need solid technological infrastructure, skilled teachers, fair access to digital resources, and supportive educational policies. That's why exploring how digital pedagogy impacts secondary school students' self-esteem is so important it can guide us in shaping educational practices and policies that nurture well-rounded development in learners. When we talk about students' learning experiences, self-esteem isn't the only psychological factor that matters; emotional adjustment plays a crucial role too. So, what exactly is emotional adjustment? It's all about how well someone can manage their emotions, handle stress, adapt to new situations, and keep their mental balance even when life throws challenges their way (Espoz-Lazo et al., 2020). Students who are emotionally adjusted can tackle academic pressures, nurture positive friendships, resolve conflicts with peers, and face school-related challenges in a constructive manner. This aspect of emotional health is especially vital during adolescence, a time filled with rapid changes in physical, psychological, cognitive, and social realms.

Digital pedagogy has a fantastic ability to help students adjust emotionally by fostering engaging, supportive, and inclusive learning spaces. When technology supports collaborative learning, it allows students to connect with their peers, share their ideas with confidence, and receive ongoing encouragement from both teachers and classmates (Van de Sande et al., 2020). On a similar note, personalized digital learning environments let students learn at their own pace, which can ease academic anxiety and boost their emotional security. Educational technologies that promote creativity, collaboration, and learner independence play a crucial role in building students' emotional resilience and adaptability (Tsorantidou & Daradoumis, 2022). Self-esteem and emotional adjustment are closely intertwined psychological concepts. Students with high self-esteem tend to handle emotional adjustments better because they face academic challenges with confidence, bounce back quickly from setbacks, and maintain a positive outlook on learning (Espoz-Lazo et al., 2020). In the same vein, students who are emotionally adjusted are more likely to cultivate healthy self-perceptions through successful coping strategies and positive social interactions. Therefore, teaching methods like digital pedagogy that boost students' confidence, participation, and engagement can effectively enhance both their self-esteem and emotional adjustment.

In Nigeria, the push for digital pedagogy is gaining momentum, thanks to a boost in government funding for educational technology, better internet access, digital teaching resources, and training for teachers. However, there are still quite a few hurdles to overcome, such as poor technological infrastructure, unreliable electricity, a lack of digital skills among both teachers and students, and unequal access to tech devices. These issues could impact how effectively digital pedagogy supports students' psychological growth, especially in areas like self-esteem and emotional adjustment (Ryan et al., 2020). In the Obollo Afor Educational Zone of Enugu State, secondary school students face a range of academic, social, and emotional challenges that come with adolescence, including exam stress, peer pressure, family expectations, and adapting to new digital learning environments. While digital pedagogy is slowly being integrated into teaching practices in many secondary schools in the area, there's still a lack of solid evidence on how it affects students' self-esteem and emotional adjustment. This gap in understanding highlights the need for the current study.

Thus, it's crucial to explore how digital pedagogy can predict self-esteem and emotional adjustment among secondary school students in the Obollo Afor Educational Zone. The results of this study will offer valuable insights that can help teachers, school leaders, counselors, curriculum developers, and education policymakers create and implement tech-enhanced teaching methods that not only boost academic success but also support students' psychological health and overall development.

Purpose of the Study

The main purpose of this study is to investigate the digital pedagogy as a predictor of self-esteem and emotional adjustment of secondary school students in Obollo-Afor Educational Zone. Specifically, the study determined the predictive power of:

1. Digital Pedagogy on self-esteem of secondary school students in Obollo-Afor Educational Zone.
2. Digital Pedagogy on emotional adjustment of secondary school students in Obollo-Afor Educational Zone

Research Questions

The following research questions were answered

1. What is the predictive power of digital Pedagogy on self-esteem of secondary school students in Obollo-Afor Educational Zone?
2. What is the predictive power of digital Pedagogy on emotional adjustment of secondary school students in Obollo-Afor Educational Zone?

Hypotheses

The following hypotheses is tested at 0.05 level of significance

1. digital pedagogy does not significantly predict self-esteem of secondary school students in Obollo-Afor Educational Zone.
2. digital pedagogy does not significantly predict emotional adjustment of secondary school students in Obollo-Afor Educational Zone.

Methods

The study adopted a correlation survey research design with a population of 4,812 SSII students in 233 public primary schools in Rivers State. The sample for the study was 481 SSII students drawn through simple random sampling technique representing 10% of the population of teachers. The sample size was arrived at through balloting. Names of the respondents were folded on pieces of paper. At random, any paper picked had the name there as one of the respondents. Three self-report measures titled Digital Pedagogy Scale (DPS), Self-Esteem Scale (SES) and Teachers' Emotional Adjustment Scale (TEAS) were used for data collection. The measures were designed with response options of Very High Extent (4), High Extent (3), Low Extent (2) and Very Low Extent (1).

The titled Digital Pedagogy Scale (DPS) has 15 items with minimum and maximum response scores are 15(1*15-items) and 60(4*15items). The second instrument Self-Esteem Scale (SES) has 15 items on with response options of Very High Extent (4), High Extent (3), Low Extent (2) and Very Low Extent (1). The titled Digital Pedagogy Scale (DPS) has 15 items with minimum and maximum response scores are 15(1*15-items) and 60(4*15items). Teachers' Emotional Adjustment Scale (TEAS) has 15 items on with response options of Very High Extent (4), High Extent (3), Low Extent (2) and Very Low Extent (1). The titled Digital Pedagogy Scale (DPS) has 15 items with minimum and maximum response scores are 15(1*15-items) and 60(4*15items).

The measures were validated by three validators, one in Measurement and Evaluation and two in Educational Foundations all from University of Nigeria, Nsukka. The internal consistency reliability coefficients of 0.83, 0.88 and 0.81 were obtained for Digital Pedagogy Scale (DPS), Self-Esteem Scale (SES) and Teachers' Emotional

Adjustment Scale (TEAS) respectively through Cronbach alpha method. Linear regression was used to answer the research questions while t-test associated with linear regression was used to test the hypotheses at 0.05 level of significance. Nworgu (2015) categorization as follows: 0.00 – 0.20 (Very Low), 0.20 – 0.40 (Low), 0.40 – 0.60 (Medium), 0.60 – 0.80 (High) and 0.80 and above (Very High).

Results

Research question 1: What is the predictive power of digital Pedagogy on self-esteem of secondary school students in Obollo-Afor Educational Zone?

Table 1: linear regression of the predictive power of digital Pedagogy on self-esteem of secondary school students in Obollo-Afor Educational Zone

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.879 ^a	.773	.725	5.38642

Data on table 1 shows that the regression and regression coefficients of .879 and .773 respectively. The coefficient of determinism of 77.3% showed that digital pedagogy to a high extent predicted self-esteem of secondary school students in Obollo-Afor Educational Zone. The 22.7% variance of self-esteem is not accounted by digital pedagogy.

Hypothesis 1: digital pedagogy does not significantly predict self-esteem of secondary school students in Obollo-Afor Educational Zone.

Table 2: t-test associated with linear regression of the predictive power of digital Pedagogy on self-esteem of secondary school students in Obollo-Afor Educational Zone

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	57.700	2.640		21.855	.000
	digital pedagogy	.827	.060	.879	2.093	.038

Data on table 2 shows that the t-test value associated with linear regression is give as $t = 2.093$. The hypothesis is rejected because the significant value of 0.038 is less than the probability value of 0.05. Therefore, digital pedagogy significantly predicted self-esteem of secondary school students in Obollo-Afor Educational Zone.

Research question 2: What is the predictive power of digital pedagogy on emotional adjustment of secondary school students in Obollo-Afor Educational Zone?

Table 3: linear regression of the predictive power of digital Pedagogy on emotional adjustment of secondary school students in Obollo-Afor Educational Zone

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.833 ^a	.694	.693	5.42578

Data on table 3 shows that the regression and regression coefficients of .833 and .694 respectively. The coefficient of determinism of 69.4% showed that digital pedagogy to a high extent predicted emotional adjustment of secondary school students in Obollo-Afor Educational Zone. The 30.6% variance in emotional adjustment is not accounted by digital pedagogy.

Hypothesis 2: digital pedagogy does not significantly predict emotional adjustment of secondary school students in Obollo-Afor Educational Zone.

Table 4: t-test associated with linear regression of the predictive power of digital Pedagogy on emotional adjustment of secondary school students in Obollo-Afor Educational Zone

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	57.928	3.692		15.691	.000
	digital pedagogy	.832	.074	.833	4.548	.000

Data on table 4 shows that the t-test value associated with linear regression is give as $t = 4.548$. The hypothesis is rejected because the significant value of 0.000 is less than the probability value of 0.05. Therefore, digital pedagogy significantly predicted emotional adjustment of secondary school students in Obollo-Afor Educational Zone.

Discussion of Findings

The finding showed that digital pedagogy to a high extent predicted self-esteem of secondary school students in Obollo-Afor Educational Zone. The finding also showed that digital pedagogy significantly predicted self-esteem of secondary school students in Obollo-Afor Education Zone. This highlights how effectively weaving digital technologies into classroom teaching can really boost students' self-perception, confidence, and sense of competence. When teachers use learner-centered digital strategies like interactive multimedia, online collaborative learning, educational apps, and tech-assisted feedback students get the chance to dive into their learning, build digital skills, and achieve academic success. These enriching experiences not only enhance students' self-worth and confidence but also give a significant lift to their self-esteem. Digital pedagogy fosters this kind of engagement by crafting flexible, collaborative, and personalized learning spaces that encourage students to take an active role in their education instead of just passively absorbing information. As students tackle digital learning tasks and receive instant feedback, they grow more confident in their academic abilities, which in turn positively impacts their self-esteem. This suggests that by boosting teachers' digital teaching skills and broadening access to digital learning tools, we can further enhance students' self-esteem by nurturing supportive, engaging, and achievement-focused learning environments. Therefore, it's crucial for educational stakeholders to keep investing in digital infrastructure, teacher training, and learner-centered digital teaching practices to support students' psychological and academic growth. The finding of this study buttressed that of Ryan et al. (2020) which revealed that digital pedagogy can impact students' psychological growth, especially in areas like self-esteem and emotional adjustment.

The finding showed that digital pedagogy to a high extent predicted self-esteem of secondary school students in Obollo-Afor Educational Zone. The finding also showed that digital pedagogy significantly predicted self-esteem of secondary school students in Obollo-Afor Educational Zone. This suggests that the way teachers weave digital technologies into their teaching can have a big impact on how students view their self-worth, confidence, and overall value in the school setting. The findings indicate that effective digital teaching methods foster learning experiences that motivate students to engage actively, learn independently, think creatively, collaborate with others, and achieve academically all of which play a role in building positive self-esteem. The strong predictive link identified in this study implies that enhancing digital teaching practices is likely to lead to boosts in students' self-esteem. This could be because digital pedagogy

opens up various avenues for students to express themselves, tackle problems on their own, work together with classmates, and get timely feedback from their teachers. These experiences help students feel more competent and accomplished, making them feel more capable and appreciated. Additionally, digital learning platforms cater to different learning styles and individual needs, allowing students who might find traditional classrooms challenging to showcase their skills effectively, which in turn bolsters their self-worth.

The outcome can also be linked to how comfortable secondary school students are becoming with digital technologies in today's world. Many students find that classrooms equipped with technology feel more engaging, relevant, interactive, and motivating compared to the old-school, teacher-led approach. When digital tools are woven into classroom activities in a meaningful way, students tend to dive deeper into their learning, achieve better academic results, and build a stronger belief in their own abilities. These uplifting learning experiences help shape a positive self-image, ultimately boosting their self-esteem. The finding of this study is consistent with that of Tsortanidou and Daradoumis (2022) which showed that educational technologies promotes creativity, collaboration, and learner independence play a crucial role in building students' emotional resilience and adaptability.

Conclusion

The study concluded that digital pedagogy is essential and indispensable in the enhancement of students' self-esteem and emotional adjustment in secondary schools in Obollo Afor Local Government Area of Enugu State.

Recommendations

Based on the findings of this study, it was recommended that:

1. the school administrators should procure more digital facilities that can enhance the teaching processes in order to bring about self-esteem.
2. The students should be exposed to the use of digital platforms in order to promote students' emotional adjustment.

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