









Exploring the efficacy of media literacy on online political participation of learners in adult and vocational education in Nigeria

Mengeksplorasi efektivitas literasi media terhadap partisipasi politik online pembelajar dalam pendidikan orang dewasa dan vokasional di Nigeria

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Abstract

The benefits of Information and Communication Technology (ICT) in societal growth are well-documented; however, its application in developing countries such as Nigeria has been limited due to a lack of knowledge. This study investigates media literacy's impact on learners' online political participation in adult and vocational education in Nigeria. It adopted a non-equivalent control type of quasi-experimental research design involving experimental and control groups. The sample consisted of 196 learners selected from public adult and vocational education centers across Nigeria. The "Online Political Participation Test" (OPPT) was the data collection instrument. The findings indicate that the mean online political participation scores of learners trained in media literacy did not differ significantly from those trained in basic literacy. Additionally, the mean online political participation scores of learners using cooperative learning styles were not significantly different from those using solitary learning styles. Regarding the interaction effects, there were no significant differences in the mean online political participation scores based on the learning styles adopted by the learners. The study concluded that basic literacy had a more positive impact than media literacy in informal learning environments in developing countries.

Keywords: adult and vocational education; online political participation; media literacy

Abstrak

Manfaat Teknologi Informasi dan Komunikasi (TIK) dalam pertumbuhan masyarakat telah banyak didokumentasikan; namun, penerapannya di negara berkembang seperti Nigeria masih terbatas akibat kurangnya pengetahuan. Penelitian ini menyelidiki dampak literasi media terhadap partisipasi politik online pembelajar dalam pendidikan orang dewasa dan vokasional di Nigeria. Penelitian ini mengadopsi desain penelitian kuasi-eksperimental jenis kontrol non-ekuivalen yang melibatkan kelompok eksperimen dan kontrol. Sampel penelitian terdiri dari 196 pembelajar yang dipilih dari pusat pendidikan orang dewasa dan vokasional di Nigeria. Instrumen pengumpulan data yang digunakan adalah "Tes Partisipasi Politik Online" (OPPT). Temuan penelitian menunjukkan bahwa rata-rata skor partisipasi politik online pembelajar yang dilatih dalam literasi media tidak berbeda secara signifikan dengan mereka yang dilatih dalam literasi dasar. Selain itu, rata-rata skor partisipasi politik online pembelajar yang menggunakan gaya belajar kooperatif tidak berbeda secara signifikan dengan mereka yang menggunakan gaya belajar soliter. Dalam hal efek interaksi, tidak terdapat perbedaan signifikan dalam rata-rata skor partisipasi politik online berdasarkan gaya belajar yang digunakan oleh para pembelajar. Studi ini menyimpulkan bahwa literasi dasar memiliki dampak yang lebih positif dibandingkan dengan literasi media dalam lingkungan pembelajaran informal di negara berkembang.

Kata kunci: pendidikan orang dewasa dan vokasional; partisipasi politik online; literasi media

Introduction

The rapid expansion of technology in the 21st century has introduced a new channel for participating in an online environment. Research shows that media literacy is linked to increased political engagement online and greater exposure to diverse viewpoints (Oxstrand 2009, Kahne et al. 2012, Kahne & Bowyer 2019,

Römer et al. 2023). Media literacy encompasses the ability to access and make informed choices about media content, understand how media is created, analyse media techniques and messages, use media for communication, avoid harmful media content and services, and utilize media for democratic rights and civic purposes. This highlights the importance of media literacy in today's society (Bachmair & Bazalgette 2007).

However, despite the usefulness of media literacy on online political participation, there have been almost no quantitative assessments of its possible impacts on adult learners in informal learning settings and most developing countries, such as Nigeria. In addition, many adult learners remain ill-equipped to competently read and respond to the political messages received online (James & Reynolds 2017). Research also attests that the relationship between media literacy and political participation is complex, with no clear link and generational differences (Van Aelst et al. 2017, Vozab 2023). Given these reports, the present study draws on a unique panel data set of a diverse group of learners in adult and vocational education.

Thus, media literacy has expanded over more than a decade to not only include those previously identified skills but also to include a critical understanding of the role media plays in society, in self-expression, and the democratic process (Mihailidis & Thevenin 2013, Kellner & Jeff 2019). The core competence of citizens of all ages living in digitalized societies (Petranova 2013). The recognition of all categories of individuals (Area 2012, Fedorov et al. 2016) makes it imperative for the present study and its scope in both formal and informal settings (Ciurel 2016). Media literacy occupies a pivotal part in achieving a media and information society by helping to analyse and understand the media environment (Svyrydenko & Terepyshchyi 2020).

Media literacy constitutes a range of cognitive, technical, and social skills, knowledge, and confidence to make informed choices about the content and information daily by individuals through interaction, contributions, and participation in media environments. Participating in a media environment makes the study of media literacy germane in online politics among adult learners. Hence, media literacy involves distinguishing information from propaganda, deconstructing media communication and mindfully interacting with social media (Area & Pessoa 2012). These scholars affirm that media literacy is a crucial tool for individuals, enhancing their understanding of media and promoting online political participation in society.

Traditionally, media literacy involves the acceptance, analysis, composition, evaluation, and reformation of the various contents or knowledge from the media related to audio-visual media (Potter 2013). Media literacy plays a crucial role for adult learners, as it empowers them to critically analyse and navigate the complex media landscape (Svyrydenko & Terepyshchyi 2020). By developing these skills, individuals are better equipped to discern the credibility of information, identify underlying biases, and understand the influence of various media channels. This enhanced understanding fosters a more informed and engaged citizenry, enabling learners to make thoughtful decisions and participate actively in society. However, the participation of learners with low media literacy skills in online political platforms could be obstructive, as its effectiveness lies in shaping the platform design according to people's abilities (Santini & Carvallo 2019, Vozab 2023). Aligning with the people's abilities for effective online political participation requires the rudimentary basic knowledge of literacy, suggesting its relevance in the study, especially in Nigeria, as a developing nation with media literacy competencies still at the infant stage.

Research indicates that basic literacy positively influences political participation and online engagement (Stromquist 2008). Despite the significant importance of literacy, few studies are exploring the connection between literacy and these areas (Kerfoot 2009), suggesting that many scholars may not prioritize this topic. In the 21st century, basic literacy has evolved beyond the traditional concepts of reading, writing, and arithmetic. It now encompasses identification, understanding, interpretation, creation, and communication in an increasingly digital, information-rich, and rapidly changing world (UNESCO 2019).

Modern literacy encompasses four essential skills: digital age literacy, inventive thinking, effective communication, and high productivity (Sheng 2004). These skills enhance traditional literacy by providing learners with the adaptability needed to navigate daily challenges and succeed in their various pursuits. They represent a range of learning opportunities that equip individuals with the necessary expertise to handle difficulties in their endeavors. Empirical evidence indicates that there is a connection between adult literacy and online political participation. Specifically, involvement in adult literacy

programs is linked to higher income and improved political status (Kolawole 2012). This increase in political status among participants is thought to be related to the use of effective learning styles.

Learning styles are generic concepts that comprise cognitive style, personality, and sensory mode (Boyd & Murphey 2004). It refers to how learners absorb, process, and store new information and master new skills. Learning styles encompass cognitive, emotional, and psychological factors that influence how individuals engage with and provide feedback on their learning environment (Duff 2000). It involves the actions taken by learners to facilitate the acquisition, storage, extraction, and utilization of information (Jiang 2000).

Traditionally, learning styles refer to the habits people use to process, store, and adapt information. In essence, they indicate an individual's preferred learning method (Santo 2008). Research has shown that learning styles are significantly linked to online participation (Rakap 2010, Gary & Chau 2016). These studies highlight the crucial role of learning styles in online political participation and the importance of individual constructivism and social interaction for effective online learning. Learning styles play a significant role in the social structure of online learning environments (Cela et al. 2016). This suggests that incorporating various learning styles can influence dynamics within an online social forum. Consequently, the study focuses on solitary and cooperative learning styles, given the context and circumstances surrounding adult and vocational education learners.

The solitary learning style involves a learners working independently, giving them the freedom to choose when, what, how, and where to study the vast amount of information available (Sood & Sarin 2021). This approach is well-suited for adult learners who view themselves as self-directed and independent, taking control of their educational journey (Malone 2014). One important aspect of individualized learning is its significant impact on the academic performance of adult students (Khat 2017).

Montuoro & Lewis (2014) emphasize that this style supports self-directed learning by enabling learners to define, plan, and assess their educational needs, leveraging their existing knowledge and experiences. The importance of trust in institutional sources and values of openness to change in fostering civic engagement could be influenced by the individual's socio-political forms of activity (Ostling 2010). Additionally, solitary learning highlights the importance of customizing educational experiences to meet individual learners' needs, which, in turn, fosters their cognitive development. While this learning style is believed to promote the self-efficacy of the learners in political participation, the need for the incorporation of diverse views is required for effective participation. An eclectic view recognizes a place for a more holistic learning style.

The cooperative learning style involves working together in a group small enough that everyone can participate in a collective task that has been assigned. It encompasses a wide range of strategies for promoting academic learning through peer cooperation and communication. The promotion of team spirit among learners is believed to promote the political participation of learners. For instance, the promotion of social justice and transformative experiences in civic learning has been facilitated through cooperative learning (Llewellyn et al. 2010, Price-Mitchell 2010). Cooperative learning implies that the students help each other learn, share ideas and resources, and plan cooperatively what and how to study. The benefits of cooperative learning include increased cooperation and more well-developed social skills, motivation, academic achievements, retention of knowledge, and class participation (Davidson & Major 2014).

Hence, the learning style effectively contributes to problem solving, leading to a better understanding of the subjects (Davidson & Major 2014). It is a set of instructional methods in which students are encouraged or required to work together. Increasing learner engagement and performance in various subjects, including biology and Research has further shown that the learning style encourages learners' participation, academic achievement, and democratic values, global awareness and develops critical thinking and communication skills (Ferguson-Patrick 2020), political science (Sugiharto 2020, Wondimu & Banteamlak 2020). These studies underscore the pivotal place of cooperative learning in promoting online political participation of learners. The direct relationship of this learning style with political participation implies that with enhanced team spirit among learners, the stride for online participation in politics in Nigeria, with 26 years of uninterrupted democracy, will be enhanced.

Accordingly, the literature confirms the enormous benefits of the use of literacy across various endeavors. The current study aims to contribute to the existing literature by empirically investigating the effectiveness of media literacy in promoting online political participation among learners in adult and vocational education in Nigeria. This research builds on previous studies that have explored various topics, including politics (Stromquist 2008, Hargittai & Shaw 2013), social capital (Diep et al. 2016), public service (Evans & Gomes 2017), entrepreneurship (Morris & James 2017, Kawamorita et al. 2020), religion (Susilawate et al. 2021), lifestyle (Oh et al. 2021), social issues (Podgorny & Volokhova 2022) and civic engagement (Bessong et al. 2024).

Media literacy is a multifaceted concept encompassing the ability to access, analyse, evaluate, and create media messages across various contexts (Livingstone 2004, Vanwysberghe et al. 2011). Suffice it to say that media literacy encapsulates the ability to effectively access information, analyse, evaluate, and create media in various forms. It involves understanding, comprehending, critiquing, and creating media materials (Higgins & Begoray 2012). This suggests that literacy has evolved from traditional print and audiovisual media to include digital technologies and the internet (Livingstone 2004, Hobbs 2019). Media literacy is the knowledge, competencies, and life skills needed to participate in contemporary society by accessing, analysing, evaluating, and creating media messages (Hobbs 2019). By this view, the authors acknowledge the veracity of media literacy in various areas of human endeavor. Thus, the skills prepare and equip the learner for active participation in society. It allows the audience to develop independent judgments about media content, thereby promoting the acquisition of critical thinking skills (Silverblatt 2001).

The concept of media literacy has evolved significantly over the past decade. It now encompasses not only the skills previously identified but also a deeper understanding of the role media plays in society, self-expression, and the democratic process (Mihailidis & Thevenin 2013, Kellner & Jeff 2019). It can be inferred that media literacy, while subject to various debates regarding the enhancement of skills, the building of knowledge, and the practical application of these elements, is fundamentally a multidimensional concept aimed at improving individuals' cognitive, attitudinal, emotional, and psychological behaviors in an increasingly technological society. The skill of media literacy has also extended to learners' participation in online politics.

Online political participation has become a prominent area of research, with studies examining its various forms and impacts. Researchers believe that the diverse definitions of political participation have contributed to differing research outcomes (Oser & Hooghe 2018). In today's media landscape and civil society, the definition of political participation now includes social media as a new medium. Online opportunities for political engagement have emerged as essential avenues for citizen participation, especially in stable democracies (Stanley et al. 2003, Mossberger & Tolbert 2008, Yamamoto et al. 2015). Studies indicate that social networks are positively associated with web-based political engagement (Valenzuela et al. 2012). In recent years, online participation has expanded beyond politics, encompassing cultural, business, education, and health sectors (Lutz et al. 2014). However, since multiple areas are influenced by online participation, this study will focus specifically on political participation. Thus, political participation is defined as both online and offline activities undertaken by citizens to influence the outcomes of political institutions or their structures, and it is supported by civic engagement.

Numerous studies have been conducted by scholars to assess the contributions of media literacy. For example, a study by Se-Hoon et al. (2012) found that media literacy interventions positively influenced various outcomes, such as media knowledge, critical thinking, perceived realism, perceived influence, behavioral beliefs, attitudes, self-efficacy, and actual behavior, with an effect size of $d = .37$. Additionally, research by Akintolu & Adedokun (2016) indicated that knowledge of mobile phones significantly impacted adult learners' achievements in literacy programs in Ibadan, Oyo State. A more recent study by Moore & Hancock (2022) revealed that older adults who received training on digital media intervention were more likely to adopt strategies for identifying misinformation online compared to both pre-intervention participants and those in a control group. Furthermore, the study by Squires et al. (2023) demonstrated that students exhibited critical media health literacy skills when engaging with peers on Twitter, more so

than when directly evaluating information from online news media. Lastly, research by Morris & James (2017) and Oroka et al. (2024) reported a positive effect of media literacy on entrepreneurial development.

The studies regarding the significant contributions of media literacy indicate that this concept is well-researched by scholars. However, there is still a lack of substantial research on its effects on online political participation among learners in informal settings, particularly in developing countries like Nigeria. This study is important because it highlights this critical issue and provides an opportunity to evaluate how media literacy impacts the online political participation of learners within informal learning environments in a developing nation like Nigeria, where proficiency in digital technology is still in its early stages. In light of this, the following research questions have been posed: (1) How does the online political participation of learners trained using media literacy differ from learners trained in basic literacy? (2) What is the influence of learning styles of learners on online political participation? (3) What is the interaction effect of the training programs (media and basic literacy programs) and learning styles on learners' online political participation?

Research Method

The following hypotheses were formulated in the study: (1) The mean online political participation scores of learners trained using media literacy differ significantly from learners trained in basic literacy; (2) The mean online political participation scores of learners trained using cooperative learning style differ significantly from learners trained using solitary learning styles; and (3) The mean online political participation scores of learners differ significantly from the interaction effect of training programs and learning styles.

The study employed a quasi-experimental research design, specifically using a non-equivalent control group approach. This design enabled the researchers to manipulate the assignment of participants to the treatment condition. Consequently, the study involved two groups: the experimental group, which received the treatment, and the control group, which did not. The term "non-equivalent" is used because the groups were not assigned randomly. The design is denoted by:

Experimental Group	$0_1 \times 0_2$
Control Group	$0_1 \dots 0_2$

where 0_1 – Pre-tests
 x – Treatment for group 1
 0_2 – Post tests.

The sample of 196 adult learners consisting of 89 females and 107 males was drawn from two adult and vocational education centers using the convenience sampling technique. This technique offers easy access to participants (Dickson et al. 2014). In addition, empirical evidence suggests that it provides valid results for experimental treatment effects, often replicating across more representative samples (Krupnikov et al. 2021). Out of this sample, 98 learners were assigned to the control and experimental groups. The control group was exposed to basic literacy training using both moderating variables (solitary and cooperative learning styles) and the conventional method of teaching. The learners were introduced to the concept of online political participation. The topics covered included the institutional features of online media, the characteristics of mainstream online environments, and the established social patterns of usage within those environments (Dahlgren 2011). Additional areas of focus included civic communication skills, issues related to politics and society in the online realm, civic participation, social media platforms, electoral participation, party activities, outreach efforts, and consumer engagement.

The conventional method assumes that, having been provided with the needed information about online political participation, learners can study at their own pace for independent progress. On the other hand, the experimental group was exposed to media literacy, referred to as the treatment, accompanied by both learning styles using the personalized instruction method, which encourages the application of blended learning and the promotion of teamwork. The training program lasts for 20 weeks, running from July 1,

2023, to October 31, 2023. This program aims to equip participants with a comprehensive understanding of online political participation. Over the first 18 weeks, learners were engaged in a total of 107 hours of training. The final two weeks were dedicated to training the facilitators on how to implement the program, as well as conducting a mock assessment with the learners to evaluate their knowledge level.

Before the start of the study, the researchers obtained ethical approval from the University of Nigeria, Nsukka Ethical Committee. To minimize experimental errors, they trained facilitators from two selected adult and vocational education centers for two weeks. These trained facilitators served as research assistants. As part of the initial assessment, the research assistants administered a pre-test to both the control and experimental groups to evaluate the learners' general knowledge of civic engagement. This pre-test was conducted to determine the level of homogeneity between the groups before the treatment began. Following the pre-test, the experimental group received online political participation training using the personalized instruction method. The topics featured online media, the characteristics of mainstream online environments, and the established social patterns of usage within those environments (Dahlgren 2011). Additional areas of focus included civic communication skills, issues related to politics and society in the online realm, civic participation, social media platforms, electoral participation, party activities, outreach efforts, and consumer engagement.

The training content was structured as follows: (1) Weeks 1-4: Focused on three key topics including, the institutional features of online media, characteristics of mainstream online environments, and social patterns of usage within those environments. This segment consisted of six hours of instruction per week, totaling 24 hours. (2) Weeks 5-8: Covered topics including civic communication skills and issues related to politics and society in the online realm, also totaling 36 hours. (3) Weeks 9-12: Explored civic participation and social media platforms, contributing another 24 hours of instruction. (4) Weeks 13-17: Addressed electoral participation, party activities, outreach efforts, and consumer engagement, resulting in 30 hours of training. (5) Week 18: Concluded with three hours dedicated to revision and practical exercises.

After completing the training, a post-test was conducted by the facilitators to evaluate the effectiveness of the program. Participants in both the experimental and control groups were not informed about the research process to ensure their behavior remained natural. This step was taken to minimize treatment bias. Meanwhile, a reliability coefficient of 0.79 was obtained using the Kuder-Richardson Formula 21 (Kr-21). Data analysis was done using mean, standard deviation, and analysis of covariance.

Results and Discussion

The sub-heading presents the results obtained from the pre-test and post-test in tables for analysis and subsequent discussion based on the questions. Over 95 per cent of learners demonstrate some online political participation characteristics. These features include their involvement in several social media platforms discussing politics and the creation of political platforms to register their views regarding their choice of candidate.

Online political participation mean scores of learners trained using media literacy and those trained using basic literacy

Table 1 illustrates that learners who received media literacy training had mean scores of 37.39 on the pre-test and 41.62 on the post-test for online political participation, resulting in a mean difference of 4.23. In contrast, learners who underwent basic literacy training achieved a pre-test score of 36.80 and a post-test score of 42.53, yielding a mean difference of 5.73. This outcome indicates that learners taught basic literacy had higher mean scores in online political participation compared to those taught media literacy.

Table 2 demonstrates that at both the pre-test and post-test stages, there was no significant difference in online political participation between the media literacy group and the basic literacy control group. The calculated t-values were -1.46 with a p-value of .43 for the pre-test, and 1.41 with a p-value of .54 for the post-test. This indicates that the online political participation scores of learners taught using media literacy were not significantly different from those taught using basic literacy.

Table 1.
Pre-test and post-test online political participation mean scores of
participants taught using media and basic literacy

Groups	N	Pre-test		Post-test		Mean Difference
		\bar{x}	SD	\bar{x}	SD	
Experimental (Media)	98	37.39	4.59	41.62	4.40	4.23
Control (Basic)	98	36.80	2.64	42.53	4.59	5.73

Source: Test results

Table 2.
T-test comparison of the pre-test and post-test online political participation of learners
in media and basic literacy

Group	N	Mean (\bar{x})	SD	Df	t _{value}	p _{value}	Decision
Media (pre-test)	98	37.39	4.59				
Basic (pre-test)	98	36.80	2.64	194	-1.46	.43	ns
Media(post-test)	98	41.62	4.40				
Basic (post-test)	98	42.53	4.59	194	1.41	.54	Ns

s – significant, significant at $p < 0.05$

Source: Test results

In conclusion, the study indicates that learners who received training in basic literacy scored higher on measures of online political participation compared to those who were taught media literacy. There was no significant difference between the two groups in both the pre-test and post-test stages. This lack of a significant difference supports the validity of media literacy as a means of equipping learners with the skills necessary for active engagement in societal issues, as demonstrated in various studies (Se-Hoon et al. 2012, Morris & James 2017, Squires et al. 2023, Oroka et al. 2024). These studies highlight the unique effectiveness of media literacy in addressing numerous issues, including online political participation, a point acknowledged by several scholars (Oxstrand 2009, Kahne et al. 2012, Kahne & Bowyer 2019, Römer et al. 2023).

Recognizing the importance of media literacy, the study suggests that acquiring media skills extends beyond the formal education system and incorporates informal learning methods. It posits that acknowledging media literacy as a valuable tool in a digital landscape could enhance the ability to navigate information effectively (Moore & Hancock 2022). Given the limited discussion surrounding the effectiveness of media literacy in informal learning environments in developing countries like Nigeria, this study contributes to existing literature by emphasizing its relevance in such contexts.

Influence of learning styles of learners on online political participation

Table 3 illustrates that learners who employed a cooperative learning style had mean scores of 37.44 for online political participation on the pre-test and 42.42 on the post-test, resulting in a mean increase of 4.98. In contrast, learners with a solitary learning style recorded a pre-test mean score of 36.75 and a post-test mean score of 41.74, leading to a mean difference of 4.99. This finding indicates that learners with a solitary learning style had a higher mean score for online political participation compared to those who utilized a cooperative learning style.

Table 4 shows that there was no significant difference in the results between the two learning styles at both the pre-test stage ($t\text{-cal} = -1.72$, $p\text{-value} = .35$) and the post-test stage ($t\text{-cal} = -1.06$, $p\text{-value} = .75$). This suggests that the two learning styles exhibit similar characteristics regarding online political participation at both stages of testing.

Table 3.
Pre-test and post-test online political participation mean scores of learners
on cooperative and solitary learning styles

Groups	N	Pre-test		Post-test		Mean Difference
		\bar{x}	SD	\bar{x}	SD	
Cooperative	98	37.44	3.02	42.42	4.62	4.98
Solitary	98	36.75	2.63	41.74	4.39	4.99

Source: Test results

Table 4.
T-test comparison of the pre-test and post-test online political participation mean scores
of learners using cooperative and solitary learning styles

Group	N	Mean (\bar{x})	SD	Df	t _{value}	p _{value}	Decision
Cooperative(pre-test)	98	37.44	3.02				
Solitary (pre-test)	98	36.75	2.63	194	-1.72	.35	ns
Cooperative(post-test)	98	42.42	4.62				
Solitary (post-test)	98	41.74	4.39	194	-1.06	.75	ns

ns – not significant, s – significant, significant at $p < 0.05$

Source: Test results

The study indicates that there is no significant difference in online political participation between learners who use solitary and cooperative learning styles in Nigeria. Researchers acknowledge that learning styles significantly influence the social dynamics within online learning environments (Cela et al. 2016). Although learners who preferred solitary learning exhibited a slightly higher mean score in online political participation, it is important to note that political engagement is often tied to individual choices that reflect fundamental rights in decision-making. Adult learners, in particular, tend to see themselves as self-directed and independent, actively managing their educational experiences (Malone 2014). The study suggests that while cooperative learning styles are often viewed as fostering social justice and transformative experiences in civic education (Llewellyn et al. 2010, Price-Mitchell 2010), selecting the appropriate learning style is crucial for effectively understanding a given concept.

This research provides empirical evidence supporting the integration of suitable learning styles to enhance online political participation among adult learners in vocational education. Additionally, the acceptance of the null hypothesis at both the pre-test and post-test stages further confirms the benefits of adopting appropriate learning styles. These benefits include increased learner participation, improved academic achievement, enhanced democratic values, greater global awareness, and the development of critical thinking and communication skills (Ferguson-Patrick 2020, Wondimu & Banteamlak 2020, Sugiharto 2020). Furthermore, the study highlights that each learning style is distinct and should be chosen based on the subject matter being addressed.

Interaction effect of the training programs and learning styles of learners on online political participation

Table 5 illustrates the effect of different learning styles on online political participation among learners. Those in media literacy who employed a cooperative learning style had a pre-test mean score of 37.96 and a post-test mean score of 42.51, resulting in an adjusted mean of 4.55. In contrast, learners with a solitary learning style achieved a pre-test mean score of 36.81 and a post-test mean score of 40.74, leading to an adjusted mean of 3.93. For basic literacy, learners using a cooperative learning style had a pre-test mean score of 36.92 and a post-test mean score of 42.33, which resulted in an adjusted mean of 5.41. Conversely, those adopting a solitary learning style scored a mean of 36.67 on the pre-test and 42.73 on the post-test, yielding an adjusted mean of 6.06. The results indicate that the mean difference in media literacy was 0.62, while the mean difference in basic literacy was 0.65. This suggests that basic literacy had a more positive effect on learners' online political participation than media literacy.

Table 5.
Mean interaction effect of training programs and learning styles
on online political participation of learners

Treatment	Learning styles	N	Pre-test		Post-test		Mean Gain	Mean difference
			\bar{x}	SD	\bar{x}	SD		
Media	Cooperative	49	37.96	3.20	42.51	4.35	4.55	0.62
	Solitary	49	36.81	2.74	40.74	4.31	3.93	
Basic	Cooperative	49	36.92	2.77	42.33	4.92	5.41	0.65
	Solitary	49	36.67	2.53	42.73	4.28	6.06	

Source: Test results

Table 6 shows an f-ratio of 1.241 and a significance value of 0.267, which is above the 0.05 significance level. As a result, we accept the null hypothesis. This indicates that there is no significant difference in the mean scores of learners' online political participation concerning the interaction between training programmes and learning styles.

Table 6.
Analysis of covariance (ANCOVA) on the interaction effect of training programs and learning styles on
online political participation

Source	Type III sum of squares	Df	Mean scores	F	Sig	Decision
Corrected model	50.633 ^a	3	16.878	2.121	.099	Ns
Intercept	269657.653	1	269657.653	33890.021	.000	
Program	17.163	1	17.163	2.157	.144	
Styles	23.592	1	23.592	2.965	.087	
Program* styles	9.878	1	9.878	1.241	.267	
Error	1527.714	192	7.957			
Total	271236.000	196				
Corrected Total	1578.347	195				

Source: Test results

In conclusion, the study indicates that the interaction between training programs (media literacy and basic literacy) and learning styles positively impacts learners' online political participation in adult and vocational education. This positive effect is more pronounced in basic literacy program compared to media literacy in informal learning settings, likely due to the flexibility of basic literacy (UNESCO 2019). Further research shows that participation in adult literacy programs is directly linked to improved political engagement (Kolawole 2012). Studies also demonstrate a positive association between social networks and web-based political engagement (Valenzuela et al. 2012), highlighting the effectiveness of media literacy.

This study suggests that with sufficient exposure to media literacy in informal learning environments, learners are more likely to acquire the necessary skills to navigate the technological challenges faced by a developing country like Nigeria, where media literacy skills are currently diminishing. Scholars note that media literacy is essential for analysing and navigating the complex media landscape (Svyrydenko & Terepyshchyi 2020). Thus, for learners to effectively participate in online political discourse, a strong understanding of media literacy skills is crucial for critically evaluating the authenticity of the information encountered.

The findings support the critical media literacy theory proposed by Douglas Kellner and Jeff Share, which emphasizes that media literacy should extend beyond merely technical skills to include a critical analysis of power structures, ideologies, and social inequalities present in media messages. It is believed that learners in informal settings are more likely to analyse media biases, challenge misinformation, and demand accountability. Although the study indicated that basic literacy had a stronger impact than media literacy, it is essential to integrate basic literacy into media literacy programs to maximize their effectiveness.

Conclusion

The study offers valuable insights into the effectiveness of media literacy in enhancing online political participation among learners in adult and vocational education. It contributes to existing empirical evidence that underscores the critical role of media literacy in promoting online political participation across various educational settings in developing countries. Furthermore, most research on the impact of media literacy have primarily focused on formal learning environments and developed countries.

This study highlights the necessity of integrating media literacy into informal learning contexts in developing nations. Such integration could broaden the understanding of how media literacy affects online political participation among learners in adult and vocational education, particularly in Nigeria, where there is currently limited advocacy for acquiring media literacy skills. The study aims to address the existing digital divide between students in formal school systems and those in informal learning environments. By doing so, it seeks to reduce disparities in access to the benefits of media resources and foster more inclusive online political participation. Additionally, incorporating media literacy training into the curriculum can yield insights into factors beyond online political engagement, especially in developing countries where media literacy levels are still quite low.

References

- Akintolu M & Adedore O (2016) Effect of mobile technology on adult learners achievement in literacy programmes in Ibadan, Oyo State, Nigeria. *Journal of Social Work* 15 (9):187-199.
- Area M & Pessoa T (2012) From solid to liquid: New literacies to the cultural changes of web 2.0. *Comunicar* 38 (19):13-20.
- Area M (2012) Sociedad líquida, web 2.0 y alfabetización digital. *Aula de innovación educativa* (212):55-59.
- Bachmair B & Bazalgette C (2007) The European charter for media literacy: Meaning and potential. *Research in Comparative and International Education* 2 (1):80-87. <https://doi.org/10.2304/rcie.2007.2.1.80>.
- Bessong CD, Ewuru AA, Bessong NO, Omang TN, Olori GI, Patrick EO, Olofu AP, & Olori CN (2024) Digital literacy and its effect on learners' civic engagement in adult and vocational education in Nigeria. *Masyarakat, Kebudayaan dan Politik* 37 (4):418-431. <https://doi.org/10.20473/mkp.V37I42024.418-431>.
- Boyd BL & Murphey TP (2004) Evaluating the scope of learning style instrument used in studies published in the *Journal of Agricultural Education*. *Journal of Southern Agricultural Education Research* 54 (1):124-132.
- Cela K, Sicilia MÁ, & Sánchez-Alonso S (2016) Influence of learning styles on social structures in online learning environments. *British Journal of Educational Technology* 47 (6):1065-1082. <https://doi.org/10.1111/bjet.12267>.
- Ciurel D (2016) Media literacy. *Professional Communication and Translation Studies* 9: 13-20. <https://www.ceeol.com/search/journal-detail?id=621>.
- Dahlgren P (2011) Parameters of online participation: Conceptualising civic contingencies. <https://www.ceeol.com/search/article-detail?id=546233>.
- Davidson N & Major CH (2014) Boundary crossings: Cooperative learning, collaborative learning, and problem-based learning. *Journal on Excellence in College Teaching* 25 (3&4):7-55. <https://celt.miamioh.edu/index.php/JECT/article/view/452>.
- Dickson G, Naylor ME, & Phelps S (2014) A comparison of sampling techniques in sports marketing research. *Marketing in and through Sport*.
- Diep NA, Cocquyt C, Zhu C, & Vanwing T (2016) Predicting adult learners' online participation: Effects of altruism, performance expectancy, and social capital. *Computers & Education* 101: 84-101. <https://doi.org/10.1016/j.compedu.2016.06.002>.
- Duff A (2000) Learning styles measurement: The revised approaches to study inventory questionnaire. *Personality and Individual Differences* 33: 147-163.
- Evans AM & Gomes RG (2017) Digital literacy of the population: Failure factor in the implementation of digital government in Portugal. In: *Proceedings of the 17th European Conference on Digital Government (ECGD 2017)*, Lisbon, Portugal.

- Fedorov A, Levitskaya A, & Camarero E (2016) Curricula for media literacy education according to international experts. *European Journal of Contemporary Education* 17 (3):324-334. <http://hdl.handle.net/20.500.12412/2135>.
- Ferguson-Patrick K (2020) Developing a democratic classroom and a democracy stance: Cooperative learning case studies from England and Sweden. *Education 3-13* 50 (3):389-403. <https://doi.org/10.1080/03004279.2020.1853195>.
- Gary C & Chau J (2016) Exploring the relationships between learning styles, online participation, learning achievement, and course satisfaction: An empirical study of a blended learning course. *British Journal of Educational Technology* 47 (2):257-278. <https://doi.org/10.1111/bjet.12243>.
- Hargittai E & Shaw A (2013) Digitally savvy citizenship: The role of internet skills and engagement in young adults' political participation around the 2008 presidential election. *Journal of Broadcasting & Electronic Media* 57 (2):115-134. <https://doi.org/10.1080/08838151.2013.787079>.
- Higgins JW & Begoray D (2012) Exploring the border lands between media and health: Conceptualizing critical media health literacy. *Journal of Mass Literacy Education* 4 (2):136-148.
- Hobbs R (2019) Media literacy foundations. *The International Encyclopaedia of Media Literacy*. <https://doi.org/10.1002/9781118978238.ieml0063>.
- Khiat H (2017) Academic performance and the practice of self-directed learning: The adult learner perspective. *Journal of Further and Higher Education* 41 (1):44-59. <https://doi.org/10.1080/0309877X.2015.1062849>.
- James M & Reynolds C (2017) Identifying the potential risks of political e-participation for adult learners. In: *Scutrea Conference Proceedings 2017: Adult Education for Inclusion and Diversity*. Centre for Research in Education Inclusion & Diversity, Edinburgh. 218-225. <http://eprints.hud.ac.uk/id/eprint/32399/>.
- Jiang X (2000) A Preliminary Study on the Learning Strategies of Chinese as a Second Language. *Language Teaching and Linguistic Studies* 1: 61-68.
- Kahne J & Bowyer BT (2019) Can media literacy education increase digital engagement in politics? *Learning, Media and Technology* 44 (2):211-224. <https://doi.org/10.1080/17439884.2019.1601108>.
- Kahne J, Lee N, & Feezell JT (2012) Digital Media Literacy Education and Online Civic and Political Participation. *International Journal of Communication* 6: 24. <https://ijoc.org/index.php/ijoc/article/view/999>.
- Kawamorita H, Takahashi N, & Demiryrek K (2020) Media literacy and rural women entrepreneurship experience from Japan and Turkey. *Nurdic Journal of Media Management* 1 (3):361-382. <https://doi.org/10.5278/njmm.2597-0445.5898>.
- Kellner D & Jeff S (2019) *The Critical Media Literacy Guide: Engaging Media & Transforming Education*. Leiden, Boston: Brill Sense. <https://doi.org/10.1163/9789004404533>.
- Kerfoot C (2009) *Changing Conceptions of Literacies, Language, and Development: Implications for The Provision of Adult Basic Education in South Africa*. Stockholm: Centre for Bilingual Research, Stockholm University.
- Kolawole OD (2012) Is literacy key to community development? analysing two groups of adults' involvement in development projects in northern Nigeria. *Pula: Botswana Journal of African Studies* 26 (2):219-238.
- Krupnikov Y, Nam HH, & Style H (2021) 9 - Convenience samples in political science experiments. In: Druckman JN & Green DP. *Advances in Experimental Political Science*. Cambridge: Cambridge University Press.
- Livingstone S (2004) What is media literacy? *Intermedia* 32 (2):18-20.
- Llewellyn KR, Cook SA, & Molina A (2010) Civic learning: Moving from the apolitical to the socially just. *Journal of Curriculum Studies* 42 (6):791-812. <https://doi.org/10.1080/00220271003587400>.
- Lutz C, Hoffmann CP, & Meckel M (2014) Beyond just politics: A systematic literature review of online participation. *First Monday* 19 (7). <https://doi.org/10.5210/fm.v19i7.5260>.
- Malone S (2014) Characteristics of adult learners. *Training & Development* 41 (6):10-13. <https://search.informit.org/doi/10.3316/informit.827295107033026>.
- Mihailidis P & Thevenin B (2013) Media literacy as a core competency for engaged citizenship in participatory democracy. *American Behavioural Scientist* 57 (11):1611-1622. <https://doi.org/10.1177/0002764213489015>.

- Montuoro P & Lewis R (2014) Student perceptions of classroom management. In: Emmer ET & Sarbonie EJ (ed). *Handbook of classroom management* (2nd ed). New York: Lawrence Erlbaum Associates. 344-362.
- Moore RC & Hancock JT (2022) A digital media literacy intervention for older adults improves resilience to fake news. *Scientific Reports* 12 (6008). <https://doi.org/10.1038/s41598-022-08437-0>.
- Morris W & James P (2017) Social media is an entrepreneurial opportunity for agriculture-based enterprises. *Journal of Small Business and Enterprise Development* 24 (4):1028-1045. <https://doi.org/10.1108/JSBED-01-2017-0018>.
- Mossberger K & Tolbert C (2008) *Digital Citizenship: The Internet, Society, and Participation*. Cambridge: MIT Press.
- Oh SS, Kim KA, Kim M, Oh J, Chu SH, & Choi J (2021) Measurement of digital literacy among older adults: A systematic review. *Journal of Medical Internet Research* 23 (2):e26145.
- Oroka OV, Bessong CD, Bessong NO, Ewuru AA, & Olori GI (2024) Effect of media literacy on entrepreneurial development of learners in adult and vocational education. *Journal of Media Literacy Education* 16 (2):61-70. <https://doi.org/10.23860/JMLE-2024-16-2-5>.
- Oser J & Hooghe M (2018) Democratic ideals and levels of political participation: The role of political and social conceptualisations of democracy. *The British Journal of Politics and International Relations* 20 (3):711-730. <https://doi.org/10.1177/1369148118768140>.
- Ostling A (2010) How democratic is e-participation? In: CeDEM11: Conference for E-Democracy and Open Government, 5-6 May 2011. Donau-Universität Krems, Austria.
- Oxstrand B (2009) Media literacy education: A discussion about media education in the Western countries Europe and Sweden. In: Nordmedia09 conference in Karlstad University, Sweden, August 13-15, 2009. <http://hdl.handle.net/2077/22007>.
- Petranova D (2013) Media education in the life of senior population. *European Journal of Science and Theology* 9 (2):13-24.
- Podgorny B & Volokhova N (2022) Digital literacy of population: Regional features. In: Popov E, Barkhatov V, Pham VD, & Pletnev D (ed). *Competitiveness and the Development of Socio-Economic Systems*, 105. *European Proceedings of Social and Behavioural Sciences*. <https://doi.org/10.15405/epsbs.2021.04.74>.
- Potter WJ (2013) *Media Literacy* (6th ed). Thousand Oaks, CA: Sage.
- Price-Mitchell H (2010) *Civic learning at the edge: Transformative stories of highly engaged youth*. Dissertation, Fielding Graduate University, Santa Barbara.
- Rakap S (2010) Impacts of learning styles and computer skills on adult students' learning online. *Turkish Online Journal of Educational Technology* 9 (2):108-115.
- Römer L, Supa M, & Hodbod V (2023) Media literacy education nurturing civic participation of disadvantaged youth, or not? *Learning, Media and Technology* 48 (3):372-386. <https://doi.org/10.1080/17439884.2022.2051046>.
- Santini RM & Carvalho H (2019) The rise of participatory despotism: a systematic review of online platforms for political engagement. *Journal of Information, Communication and Ethics in Society* 17 (4):422-437. <https://doi.org/10.1108/JICES-02-2019-0016>.
- Santo SA (2008) Relationships between learning styles and online learning. *Performance Improvement Quarterly* 19 (3):73-88. <https://doi.org/10.1111/j.1937-8327.2006.tb00378.x>.
- Se-Hoon J, Hyunyi C, & Yoori H (2012) Media literacy interventions: A meta-analytic review. *Journal of communication* 62 (3):454-472. <https://doi.org/10.1111/j.1460-2466.2012.01643.x>.
- Sheng Q (2004) 21st century skills: Literacy in the digital age. *Open Education Research*.
- Silverblatt A (2001) *Media Literacy: Keys to Interpreting Media Messages*. *Canadian Journal of Communication* 21 (4). <https://doi.org/10.22230/cjc.1996v21n4a970>.
- Sood A & Sarin J (2021) Learning styles: An overview. *Indian Journal of Forensic Medicine and Toxicology* 15 (3):66-71. <https://doi.org/10.37506/ijfmt.v15i3.15271>.
- Squires L, Peters A, & Rohr L (2023) Exploring critical media health literacy (CMHL) in the online classroom. *Journal of Media Literacy Education* 15 (1):58-71. <https://doi.org/10.23860/JMLE-2023-15-1-5>.
- Stanley J, Stanley W, & Weare C (2003) The Effects of Internet Use on Political Participation. *Administration & Society* 36 (5):503-527. <https://doi.org/10.1177/0095399704268503>.

- Stromquist NP (2008) The political benefits of adult literacy: Presumed and real effects. *International Multilingual Research Journal* 2 (1-2):88-101. <https://doi.org/10.1080/19313150802010285>.
- Sugiharto (2020) Geographical students' learning outcomes on basic political science by using cooperative learning model with Group Investigation (GI) type in State University of Medan, Indonesia. *Journal of Human Behavior in the Social Environment* 30: 447-456.
- Susilawati S, Chakim A, Hambali M, Islamy MI, & Rahmaniah A (2021) The urgency of digital literacy for Generation Z in improving learning of Islamic religious education. *Library Philosophy and Practice* 2 (7):1-15. <https://digitalcommons.unl.edu/libphilprac/5143/>.
- Svyrydenko D & Terepyshchyi S (2020) Media literacy and social responsibility of educators in the conditions of information war: The problem statement. *Studia Warminskie* 57: 75-83. <https://doi.org/10.31648/sw.6006>.
- UNESCO (2019) Literacy. <https://en.unesco.org/themes/literacy>.
- Valenzuela S, Kim Y, & Zúñiga HG (2012) Social networks that matter: Exploring the role of political discussion for online political participation. *International Journal of Public Opinion Research* 24 (2):163-184. <https://doi.org/10.1093/ijpor/edr037>.
- Van Aelst P, Strömbäck J, Aalberg T, Esser F, de Vreese C, Matthes J, Hopmann D, Salgado S, Hubé N, Stępińska A, Papathanassopoulos S, Berganza R, Legnante G, Reinemann C, Sheafer T, & Stanyer J (2017) Political Communication in a HighChoice Media Environment: A Challenge for Democracy? *Annals of the International Communication Association* 41 (1):3-27. <https://doi.org/10.1080/23808985.2017.1288551>.
- Vanwynsberghe H, Paulussen S, & Verdegem P (2011) Towards a conceptual framework for media literacy. In: IAMCR, Proceedings. Presented at the IAMCR 2011: Cities, creativity and connectivity, Istanbul, Turkey. <http://hdl.handle.net/1854/LU-1860875>.
- Vozab D (2023) Traženje povezanosti medijske pismenosti i političke participacije kod različitih generacija. *Revija za sociologiju* 52 (3). <https://hrcak.srce.hr/308325>.
- Wondimu H & Banteamlak H (2020) Increasing students' participation through cooperative learning method: A case of Bonga University First Year Biology Students. *Journal of Education and Practice* 11 (13):41-47. <https://doi.org/10.7176/jep/11-13-05>.
- Yamamoto M, Kushin MJ, & Dalisay F (2015) Social media and mobiles as political mobilization forces for young adults: Examining the moderating role of online political expression in political participation. *New Media & Society* 17 (6):880-898. <https://doi.org/10.1177/1461444813518390>.

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