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Students' Digital Readiness And Performance In Mathematics Using Google Classroom And Teachmint Platforms

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ABSTRACT
This study investigated Students' Digital Readiness and Performance in Mathematics using Google Classroom (GC) and Teachmint Platforms (TP) in Mathematics in Private Senior Secondary Schools in Port Harcourt City in Rivers State. It adopted a pre-test post-test quasi experimental design involving a sample of 124 students from a population of 6,266 Senior Secondary School 2 Mathematics students (SS2) selected using a purposive sampling technique. The study was guided by three research questions and three hypotheses. Means and standard deviations were used to answer the research questions while t-test and Analysis of Covariate (ANCOVA) were used to test the hypotheses at $p \leq 0.05$. Three instruments were used namely; Mathematic Digital Readiness Assessment Scale (MDRAS), for Google Classroom Platform with a reliability coefficient of .918, Mathematics Digital Readiness Assessment Scale (MDRAS) for Teachmint platform with a reliability coefficient of .936 gotten using test-re test technique and Mathematics Performance Test (MPT) with reliability coefficient of r =0.85 which was determined with Kuder Richardson Formula 20 (K-R 20) technique. It was found that use of Google classroom and Teachmint Platforms significantly improved students' readiness and performance in mathematics. Clearly, Google classroom and Teachmint platforms enhance students' digital readiness and performance in Mathematics. Therefore, it is recommended that Google classroom and Teachmint platforms should be used in the teaching of Mathematics in schools as they engage and motivate students' interest which would lead to better performance.
Keywords: Digital Readiness, Performance, Google Classroom and Teachmint Platforms

INTRODUCTION

Mathematics is of critical importance in the day-to-day human activities. Mathematics is a very important subject that affects various aspects of decision-making process as all fields of human endeavours need mathematics for actualization of their goals (Ayhanöz, 2022). Such disciplines as engineering, medicine, aviation, construction, and agriculture cannot be accomplished successfully without right knowledge of Mathematics. Consequently, it is not surprising that mathematics is mandated as a compulsory subject

within the educational framework of Nigeria. Its importance is universally acknowledged, possessing significant value for all individuals, irrespective of gender, socio-economic status, or cultural background. The critical role of mathematics in fostering sustainable development and growth for any nation is recognized on a global scale. Individuals engage with mathematical concepts, consciously or unconsciously, in addressing their everyday challenges. Mathematics, as articulated by Bassey and Ogbonna (2022), is regarded as the Queen of Science and serves as the fundamental language of nature. A robust foundation in mathematics is an indispensable prerequisite for the pursuit of scientific studies and other science-related fields. Mathematical skills also serve as critical filter for many other subjects and career attainment. Besides these disciplines, a requisite degree of mathematical or quantitative literacy is essential for all individuals. Efiuvwere and Fomsi (2019) have asserted that mathematics is a field that influences all dimensions of human existence at various levels. For instance, whoever earns and spends uses Mathematics. One may get by without knowing how to read and write but cannot get on easily without the ability to count, subtract and measure. It therefore goes without saying that in anything man does on planet earth, there must be an element of Mathematics linkage which might be needed to accomplish that task effectively. Therefore, it is important for students to have a basic knowledge of Mathematics in all tiers of education. There is the need to integrate ICT into the teaching and learning of Mathematics, however, the digital readiness of the students is of utmost important.

Digital readiness refers to the mental and physical preparedness of an individual or group to engage in an online learning activity (Coopasami, Knight, & Pete, 2017). This concept implies that the success of online learning is largely dependent on a person's or groups' mental and physical preparedness for such experiences. Online education is characterized by Oguguo, Ocheni, and Adebayo (2021) as the methodology of utilizing technological tools to deliver educational and training services in a digital format, monitor the performance of learners, and furnish assessments regarding the advancement of learners.

Online learning is practically done through technology-mediated platforms. Recent advances to online learning platforms include Zoom, Google Meet, Microsoft Teams, Blackboard, Google Classroom, Teachmint and Moodle. Google Classroom represents a significant pedagogical resource that facilitates enhanced organization and engagement for educators and learners alike, (Cacace, 2019). Google Classroom incorporates features that contribute to the educational experience through various functionalities such as course preparation, assignment distribution, data management on Google Drive, and the formulation of instructional materials, including the creation of assessments, assignments, and subjects for discourse in online learning environments (Ulum, 2020).

Teachmint is another recent addition to online learning virtual classrooms. Teachmint is an education infrastructure startup that has developed the Integrated School Platform, an all-in-one solution for school digitization. It is designed to improve learning outcomes with a modern school Learning Management System (LMS) and streamline operations with administrative tools. Teachmint constitutes a complimentary online educational platform classified as Software as a Service (SaaS), facilitating instructors in the development of virtual classrooms. It enables the dissemination of academic resources via the internet, the sharing and assessment of assignments and examinations, the grading of evaluations, the administration of financial obligations, and the provision of feedback to students, all consolidated within a singular framework.

According to Quinto (2023), Teachmint enhances the accessibility of students in submitting output, learning process, and accessing learning materials. In addition, students have shown positive responses to the Teachmint application, finding it easy and fun to use, which can enhance motivation and attraction towards science subjects. The Teachmint application has demonstrated significant efficacy in enhancing the academic attainment of students (Sulastiani, Sholih and Rusdiyani, 2023).

Academic performance primarily deals with the outcomes of students in either assessments devised by educators or standardized evaluations conducted by recognized examining authorities such as National Examination Council (NECO) and West African Examination Council (WAEC). According to Amo

(2015), academic performance is typically assessed through grades, scores, and descriptive feedback, represents successful accomplishment in a specific subject area.

This work is based on Vygotsky's Social Cultural Theory (VSCT), Connectivism, Cognitive Load Theory (CLT) and Technology Integration Model (TIM) to explain the connections between Google Classroom, Teachmint Platform, and students Mathematics academic performance in private Senior Secondary II School Mathematics. These theoretical frameworks propose that when learners engage in educational processes through social interaction, collaborative group work, or in conjunction with the instructor acting as a facilitator, they are more likely to retain the knowledge and information they have autonomously discovered and understood with the aid of the instructor, consequently enhancing their enjoyment of the learning experience in mathematics (Sedig, 2008).

Online learning preparedness in the new normal of distant learning was examined in a study by Reyes-Millan, Villareal-Rodríguez, Murrieta-Flores, Bedolla-Cornejo, Vazquez-Villegas, and Membrillo-Hern´andez (2022). The findings elucidated that previous instruction in the utilization of digital resources is critical for the efficacy of online pedagogical practices.

Fomsi and Johnson (2023) conducted an assessment to evaluate the readiness of 627 undergraduate students at the 300-level for the utilization of online learning platforms (Google Classroom and Zoom). This assessment was carried out in the Faculty of Education across three universities in Rivers State, Nigeria. The findings revealed that undergraduate students exhibited a high level of readiness for the utilization of both the zoom videoconferencing app and Google Classroom.

Annurwanda aand Winata (2021) elucidated the perspective of students regarding the utilization of Google Classroom in the realm of Mathematics education, specifically in relation to students' readiness for online learning using 91 Mathematics education students from STKIP Pamane Talino. Employing the use of designed questionnaire. The findings derived from the survey illustrated that students' readiness level was classified as highly commendable, attaining a percentage of 74.60%. Furthermore, the efficacy of Google Classroom implementation in the context of online learning was ascertained to be at an outstanding level of 71.24%. It is evident that the utilization of Google Classroom in Mathematics education greatly enhances students' preparedness for online learning.

Oluwatumbi and Benard (2022) examined Students' readiness for utilisation of digital technologies in post pandemic classroom in Ekiti State University, Ado-Ekiti Nigeria. The findings revealed that the students had access to digital technologies and displayed willingness to switch from face-to-face to online learning. The students' academic performance experienced a significant improvement due to the acquisition of technology skills facilitated by the utilization of digital technologies. Despite the adverse impact of COVID-19 pandemic on education worldwide, Ekiti State University demonstrated a commitment to not neglecting the needs of its students. The findings revealed that 50% of the participants lack proficiency in video conferencing systems such as Zoom, Teams, and Google Classroom. Additionally, 55% of the students did not possess personal computers, while 51.7% are unable to independently access website links.

Etika, Patmaningrum and Yekti (2020) examined meta-analysis: As an alternate online medium during the COVID-19 pandemic, Google Classroom is being used for mathematics education in Indonesia. Google Classroom improved mathematics education in Indonesia, according to this meta-analysis. Solomon and Inweregbuh (2022) conducted an empirical examination of the influence of Google Classroom on the engagement and academic performance of secondary school pupils in the domain of Mathematics. The findings indicated that traditional face-to-face instructional methods exerted a considerably more favourable impact on student engagement in Mathematics compared to Google Classroom, whereas the latter demonstrated a statistically significant enhancement in students' academic achievement in Mathematics relative to traditional face-to-face methods. Consequently, it was advised that the utilization of Google Classroom be incorporated into the pedagogical practices for teaching Mathematics within educational institutions.

Okeke, Aneshie-Otakpa, Orga, Chioma, Egara, Ubebe, and Inweregbuh (2022) carried out a study to examine the impact of Google Classroom on level of engagement and academic performance of

secondary school students in the field of Mathematics. The results showed that students were far more engaged in mathematics when the conventional face-to-face method was used instead of Google Classroom. In contrast, when compared to the conventional, in-person approach, students' mathematical performance improved significantly when Google Classroom was used. These findings supported the case for using Google Classroom to supplement mathematics curricula in schools.

Kurniawan and Fitria (2023) conducted a study on the utilization of E-Learning with the flipped classroom model-based Teachmint application and its impact on learning outcomes of students in science, specifically in elementary schools in Indonesia. The science lesson e-Learning materials were found to be very effective (92 points), very practical (92.5%), and very valid (91 points) according to the results of the validation and testing. The materials were based on the Flipped Classroom Model and used the Teachmint app for the Ecosystem Theme 5. Based on the findings obtained, it was concluded that use Teachmint application in e-Learning significantly contributed to valid, practical, and effective science learning outcomes in elementary schools.

Statement of the Problem

The significance of Mathematics in relation to the sustainable development and economic growth of any nation is unequivocal. Individuals engage with Mathematics, whether consciously or subconsciously, in addressing their quotidian challenges. Literature therefore abounds on the facts that Mathematics constitutes an essential framework for cognitive processes and serves as an invaluable instrument within both scientific and artistic domains. however, the abysmal lack of interest and poor academic performance exhibited by senior secondary school Mathematics students in Nigeria has emerged as a significant concern for all educational stakeholders. Empirical observations indicate that a teacher-centered pedagogical approach has largely prevailed in the instruction of Mathematics across Nigeria, including in Rivers State, which is the focus of this investigation.

This methodology, as articulated by scholars, represents a significant impediment to the pedagogical process of Mathematics. The recent Coronavirus (COVID-19) pandemic has changed the world, the way we live, work and learn. Also, the advancement of technology in the 21st century has also brought lots of tools to aid student's learning and academic performance. Yet, in spite of these learning advancements, teacher-centred approach persists. This study therefore is to investigate the effect of using Google classroom and Teachmint platforms on students' digital readiness and academic performance in Mathematics.

Aim and objectives of the Study

The study aim was to investigate students' digital readiness, and academic performance in Mathematics in private senior secondary schools in Port Harcourt City using Google classroom and Teachmint platforms.

Specifically, the study is intended to:

1. determine the pretest-posttest mean difference of students' digital readiness in Mathematics using Google classroom platform.
2. ascertain the pretest-posttest mean difference of students' digital readiness using Teachmint.
3. ascertain the difference in the mean performance scores in Mathematics of students who used Google Classroom Platform (GCP) and those who used Teachmint Platform (TP).

Research questions

The following research questions guided this study:

1. What is the pre-test post-test mean difference of students' digital readiness in Mathematics using Google classroom platform?

2. What is the pre-test post-test mean difference of students' digital readiness in Mathematics using Teachmint platform?

3. To what extent do students taught with the Google classroom Platform differ in their mean performance scores in Mathematics from those taught with the Teachmint Platform?

Hypotheses

The following null hypotheses stated at 0.05 level of significance guided the study.

H_{01} The pre-test post-test mean scores of students' digital readiness in Mathematics using Google classroom platform do not differ significantly.

H_{02} There is no significant difference between the pre-test post-test mean scores of students' digital readiness in Mathematics using Teachmint platform.

H_{03} Google classroom platform and the Teachmint platform do not have a significant effect on student performance in Mathematics

Study Area

This research on Students' Digital Readiness and Performance in Mathematics using Google Classroom and Teachmint Platform was conducted in the Port Harcourt City located in Rivers State. Geographically speaking, Port Harcourt is positioned between Latitudes 4º45′ N and 4º55′ N, as well as Longitudes 6º55′ E and 7º05′ E. It is situated approximately 25 km away from the Atlantic Ocean, nestled between the Dockyard Creek/Bonny River and the Amadi Creek. Originally known as "Igwe-Ocha," However, this study focused solely on Port Harcourt LGA (PHLGA) and Obio-Akpor LGAs (OBALGA).

METHODOLOGY

The study utilized a pre-test post-test quasi-experimental design involving a sample of 124 students from a population of 6,266 Senior Secondary II Mathematics students (SS2) selected through purposive sampling technique. The selected schools were situated in conducive environments, with well-equipped and functional ICT labs with sufficient internet facilities. There are three groups, Google classroom Experimental group with 48 students, Teachmint platform Experimental group with 36 and control group with 40. Three instruments for data collection were developed; Mathematics Digital Readiness Assessment Scale (MDRAS); for Google classroom and Teachmint platform and Mathematics Performance Test (MPT).

The Mathematics Digital Readiness Assessment Scale (MDRAS) consisted of a 20-item each for both the Google classroom and the Teachmint platform that addresses the proficiency and preparedness of students in utilizing online learning platforms and applications to study Mathematics. The Mathematics Performance Test (MPT) consisted of 30 multiple-choice test items on Mathematics topics (Statistics). Students had to choose one of four possible answers (A, B, C, or D) for each question. There was a possible maximum of 30 marks, with one mark assigned to each item. Through the help of research assistance, the students were given the pre-test instruments before treatment which lasted for five weeks of twenty periods. Then they were given the post-test. Face and content validation was conducted on the instruments. Reliability of the Mathematics Digital Readiness Assessment Scale (MDRAS) was determined with the use of the test-retest technique. A reliability coefficient of .918 was obtained for Mathematics Digital Readiness Assessment Scale (MDRAS) for Google Classroom Platform while reliability coefficient of .936 was obtained for Mathematics Digital Readiness Assessment Scale (MDRAS) for Teachmint PlatformUsing the Kuder-Richardson Formula 20 (K-R 20) method, we were able to ascertain that the Mathematics Performance Test (MPT) has a reliability of r = 0.854. Findings were based on the research questions' means and standard deviations. Hypotheses 1 and 2 were tested using independent samples' t-test while Hypotheses 3 was tested using Analysis of Variance (ANCOVA).

RESULTS

Research Question 1:

What is the pre-test post-test mean difference of students' digital readiness in mathematics using Google classroom platform?

Table 1. Mean and standard deviation of the pre-test and post-test scores of students' digital readiness in mathematics using Google classroom platform

Digital Readiness (GCP)	n	Mean	SD
MDRAS Pre-test (GCP)	48	11.00	2.43
MDRAS Post-test (GCP)	48	17.44	3.04

Table 1 presents the mean and standard deviation for the effect of Google classroom platform on student's digital readiness in Mathematics as measured by the difference in pre-test and post-test mean scores. The experimental group that learned mathematics using the Google Classroom platform had their mean digital readiness test scores compared to those control group before and after the intervention. The students' digital readiness pre-test results (mean score: 11.00, standard deviation: 2.43) are shown in Table 1. The experimental group's post-test mean score rose to 17.44 with a standard deviation of 3.04 following the intervention, which was the utilization of the Google Classroom platform. Based on the obtained data, the result indicates that using Google Classroom enhanced students' digital readiness in Mathematics. The mean score improvement from 11.00 to 17.44 highlights the effectiveness of Google classroom digital platform in preparing students for a more technology-integrated Mathematics environment.

Research Question 2: *What is the pre-test post-test mean difference of students' digital readiness in Mathematics using Teachmint platform?*

Table 2. Mean and standard deviation of the pre-test and post-test scores of students' digital readiness in mathematics using Teachmint platform.

Digital Readiness (TP)	n	Mean	SD
MDRAS Pre-test (TP)	36	7.89	2.69
MDRAS Post-test (TP)	36	14.64	1.99

Table 2 presents the mean and standard deviation for the effect of Teachmint platform on students' digital readiness in Mathematic as measured by the difference in the pre-test and post-test mean scores. The analysis compares the pre-test and post-test mean scores for the digital readiness for the experimental group 2 that was subjected to the use of Teachmint platform in the learning of Mathematics. Table 2 shows that before the use of Teachmint platform, the students had a digital readiness pre-test mean score of 7.89 and a standard deviation of 2.69. After the intervention (use of Teachmint platform), the post-test mean score for the students in the experimental group that was exposed to Teachmint platform increased to 14.64 and a standard deviation of 1.99. Based on the obtained data, the result indicates that using Teachmint platform enhances students' digital readiness in Mathematics. The mean score improvement from 7.89 to 14.64 underscores the effectiveness of Teachmint platform in preparing students for a more technology-integrated Mathematics environment.

Research Question 3: *To what extent do students taught with the Google classroom Platform differ in their mean performance scores in mathematics from those taught with the Teachmint Platform?*

Table 3 Mean and standard deviation on the effectiveness of Google classroom platform and the Teachmint platform on students' performance in mathematics as measured by their mean scores.

Treatment Group	n	Pre-test Mean	SD	Post-test Mean	SD	Mean Gain
Google Exp Grp 1	48	10.54	2.47	18.46	3.00	7.92
Teachmint Exp Gp2	36	12.00	3.86	19.94	4.06	7.94
Control Group	40	13.35	4.17	17.53	4.73	4.16

Table 3 presents an analysis that was based on pre-test and post-test mean scores, standard deviations, and mean gains across three groups: Google Classroom experimental group, Teachmint experimental group, and a control group. In the Google Classroom experimental group, consisting of 48 students, the pre-test mean score was 10.54 with a standard deviation of 2.47. After this experimental group was administered the Google classroom intervention, the post-test mean score increased to 18.46 with standard deviation of 3.00. The mean gain for this group was calculated to be 7.92. This improvement indicates that the Google Classroom platform effectively enhanced students' performance in Mathematics.

The Teachmint experimental group, which included 36 students, had pre-test mean score of 12.00 with a standard deviation of 3.86. Following the intervention which was in the form of this group being exposed to the Teachmint platform, the post-test mean score rose to 19.94 with standard deviation of 4.06. The mean gain for this group was 7.94, slightly higher than that of the Google Classroom group. This suggests

that the Teachmint platform also had a substantial positive impact on students' Mathematics performance, and potentially even more effective than Google Classroom.

The mean pre-test score for the control group was 13.35, and the standard deviation was 4.17. The average improvement for this group after the exam was 4.16 points, and their standard deviation was 4.73 points. Their post-test mean score was 17.53. Compared to the groups that used Google Classroom and Teachmint, the control group's mean gain was lower, although it still demonstrated progress. This highlights the greater effectiveness of the online platforms in enhancing Mathematics performance.

Comparing the two experimental groups, the data indicates that both Google Classroom and Teachmint improved students' performance in Mathematics, with Teachmint showing a slightly higher mean gain.

Hypothesis 1

The pre-test post-test mean scores of students' digital readiness in Mathematics using Google classroom platform do not differ significantly

Table 4. Paired t-test on students' digital readiness in mathematics using Google classroom platform

Digital Readiness (Google)	Mean	SD	n	df	t	Sig
MDRAS Pre-test (Google)	11.00	2.43	48	47	19.19	.000
MDRAS Post-test (Google)	17.44	3.03				

Table 4. shows the independent paired samples t-test analysis was conducted to determine if there was a significant difference in pre-test post-test mean scores of students' digital readiness in Mathematics using Google classroom platform. The t-value is computed as 19.19, with a degree of freedom (df) of 47. The reported significance value (Sig.) is.000. The null hypothesis (Ho1) is rejected at the 0.05 significance level (t= 19.19, p=.000, p <.05) according to the t-test results. Results from the pre- and post-tests in experimental group 1 showed a statistically significant improvement, suggesting that the Google Classroom platform has a positive impact on students' digital preparedness. The null hypothesis of no significant difference in pre-test post-test mean scores of students' digital readiness in Mathematics using Google classroom platform is rejected and the alternative accepted.

Hypothesis 2

There is no significant difference between pre-test post-test mean scores of students' digital readiness in Mathematics using Teachmint platform.

Table 5. Paired t-test on students' digital readiness in mathematics using Teachmint platform

Digital Readiness (TP)	Mean	SD	n	df	t	Sig
MDRAS Pre-test	7.89	2.69	36	35	25.43	.000
MDRAS Post-test	14.64	1.98				

Table 5 shows the independent paired samples t-test analysis was conducted to determine if there was a significant difference in pre-test post-test mean scores of students' digital readiness in Mathematics using Teachmint platform. The t-value is computed as 25.43, with a degree of freedom (df) of 35. The reported significance value (Sig.) is.000. According to the t-test results, we may reject the null hypothesis and accept the alternative, which states that there is a significant difference between the pre- and post-test mean scores of students' digital preparedness in mathematics utilising the Teachmint platform. Results from both the pre- and post-tests show that experimental group 2's use of the Teachmint platform significantly improves students' digital preparedness. Therefore, Teachmint digital platform is significantly effective in making students ready for a more digital-integrated Mathematics environment.

Hypothesis 3:
Google classroom platform and the Teachmint platform does not have a significant effect on student performance in mathematics.

Table 6. Summary of 2-way ANCOVA of the effect of Google Classroom Platform and the Teachmint Platform on student's performance in mathematics.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1046.28[a]	3	348.76	44.53	.000	.527
Intercept	801.43	1	801.43	102.34	.000	.460
Performance	934.03	1	934.03	119.27	.000	.498
Groups	276.90	2	138.45	17.68	.000	.228
Error	939.75	120	7.83			
Total	44833.00	124				
Corrected Total	1986.02	123				

Table 6 reveals the significant effect of Google classroom and Teachmint platform on the performance scores of students in Mathematics as measured by the difference in mean scores of students in groups (Google classroom experimental group 1, Teachmint experimental group 2 and control group). The table shows that the computed F (2, 120) = 17.68 P <.05, i.e. p = .000 is statistically significant at chosen alpha level of 0.05. Therefore, there is a significant effect of Google classroom and Teachmint platform on students' performance in Mathematics, as indicated by the significant improvement in mean scores of experimental group 1 (Google classroom platform) experimental group 2 (Teachmint platform) compared to control group as F (2, 85) = 7.92 P <.05, i.e. p = .006. Therefore, the null hypothesis of no significant effect of Google classroom and Teachmint platform on students' performance in Mathematics is rejected and the alternate accepted. This implies that the difference that exists between experimental groups (those exposed to Google classroom and Teachmint platforms) mean scores and the control group (which did not receive exposure to Google classroom and Teachmint platforms) performance mean scores in Mathematics is statistically significant. Furthermore, the partial eta square which shows the effect size of the independent variable on the dependent variable shows a partial eta square of .228. This partial eta squared value of .228 suggests also an effect of Google classroom and Teachmint platforms on performance of students in Mathematics. Therefore, Google classroom and Teachmint platforms have statistically significant effect on the performance of students in mathematics.

DISCUSSION OF FINDINGS

The findings revealed that using Google Classroom and Teachmint platforms enhances students' digital readiness in Mathematics. It also highlights the effectiveness of Google classroom and Teachmint platforms in preparing students for a more technology-integrated Mathematics environment. The null hypotheses in the tables 4 and 5 of no significant differences in pre-test post-test mean scores of students' digital readiness in Mathematics using Google classroom and Teachmint platforms were rejected and the alternative accepted which shows that there is a significant effect of Google classroom and Teachmint platform on the digital readiness of students, as indicated by the significant improvement between pre-test and post-test scores of the students in the experimental groups. Therefore, Teachmint and Google platforms are significantly effective in making students ready for a more digital-integrated Mathematics environment which is in agreement with findings of Annurwanda and Winata (2021) that Mathematics students' readiness for online learning utilizing Google classroom was highly commendable. This also agrees with the study of Fomsi and Johnson (2023) which revealed that undergraduate students showed a high level of readiness for the utilization of both the zoom videoconferencing app and Google Classroom.
In addition, comparing the two experimental groups, the data indicates that both Google Classroom and Teachmint improved students' performance in mathematics, with Teachmint though newly introduced to the students, shows a slightly higher mean gain, which reveals the ease with which it allows teachers to

create, manage online classes, collaborate on assignments and give out learning content to students. Thus, this highlights the effectiveness of Teachmint platform in preparing students for a more technology integrated Mathematics environment, better organization and interaction for students. This is in line with what Kurniawan and Fitria (2023) found when they looked at the effects of using Teachmint, an app based on the flipped classroom paradigm, on students' scientific learning results. Furthermore, Google classroom and Teachmint platform have statistically significant effect on the performance of students in Mathematics. These results are in line with those of Solomon and Inweregbuh (2022), who examined the impact of Google Classroom on the mathematical engagement and performance of secondary school students and found that it significantly improved students' mathematical performance. This study also agrees with the findings of Etika, Patmaningrum and Yekti (2020) on their study on online platforms and students' academic performance.

CONCLUSION

Based on the findings derived from the research, it was inferred that implementation of the Google Classroom and Teachmint platforms enhanced students' digital readiness in Mathematics and were statistically significant. Similarly, Google Classroom and Teachmint platforms were found to improve students' performance in mathematics and also had a statistically significant effect. These digital platforms facilitate a significant opportunity for students to engage in substantive dialogues with their colleagues. The benefits associated with the utilization of Google Classroom and Teachmint platforms are evidenced to augment the efficacy of educators. Consequently, positively affect students' digital readiness, and academic performance in senior secondary school Mathematics.

RECOMMENDATIONS

The following recommendations are offered in light of the results:

1. The State Government/stakeholders should provide innovative digital devices for teachers and students as well as training programmes focused on information and communication technology (ICT), to seamlessly incorporate these tools into the Mathematics curriculum, thereby augmenting the pedagogical efficacy of instructors, given the prevailing technological era.
2. Rivers State educational institutions should contemplate the integration of Google classroom and Teachmint platforms in Mathematics as they engage and motivate students' in learning which leads to better performance.
3. Further research specifically focusing on the Teachmint platform would be needed to determine its specific impact on student academic performance.

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