

Google Classroom for the New Normal Education

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ABSTRACT

This study investigated the effectiveness of integrating Google Classroom into distance learning for Grade 11 Oral Communication students at Lahug Night High School in Cebu City. Faced with Generation Z's technological proficiency challenging traditional education, the research emphasized Google Classroom's integration into the offline digital-modular modality during the COVID-19 pandemic. The Department of Education swiftly adopted online methods, with Google Classroom supporting diverse teaching strategies. The study recommended the app for download, ensuring accessibility for Offline Digital-Modular participants, establishing specific sections for seamless file sharing and discussions. It focused on Google Classroom's past potential to enhance academic performance and engagement among Generation Z learners, providing insights for shaping past educational practices in the modern educational environment.

Keywords: Google classroom, New normal, Education

Introduction

The evolving educational landscape, influenced by the technologically advanced Generation Z learners born after 1996, presents a profound challenge to traditional classroom settings (Cilliers, 2017). The stark contrast in technological proficiency between Generation Z students and Generation X educators poses significant hurdles in guidance, supervision, and instructional methodologies within the educational system.

Google Classroom stands as a pivotal educational tool, streamlining the creation, assignment, and grading of tasks in a paperless environment. This platform's seamless integration of Google Drive, Docs, Sheets, Slides, Gmail, and Google Calendar simplifies file sharing between instructors and students, addressing the evolving demands of modern education. Its multifaceted features, such as assignment submission, file sharing, offline content access, and detailed progress tracking, cater to the dynamic needs of contemporary education (Google for Education, n.d.).

In response to the COVID-19 pandemic's disruption, the Department of Education (DepEd) swiftly transitioned from in-person instruction to diverse online delivery methods. Google Classroom emerged as a fundamental tool during this period, supporting various teaching-learning approaches, including synchronous and asynchronous online learning, modular delivery through printed or offline digital formats, and blended learning strategies (DepEd, 2021).

This research aims to evaluate the efficacy of Google Classroom in facilitating distance learning specifically for the Oral Communication subject among Grade 11 students at Lahug Night High School in Cebu City. This study acknowledges the evolving educational landscape and the unique challenges presented by the pandemic. It advocates for the integration of the Google Classroom application into the offline digital-modular modality to enhance student performance and engagement, aligning with the learning needs and technological preferences of Generation Z.

The research methodology involved recommending the Google Classroom application for download by research participants, particularly those engaged in the Offline Digital-Modular configuration. For individuals without smartphones, alternative access was provided through the Google Classroom website. Specific classrooms or sections were established, fostering seamless integration and enabling easy file sharing and discussions relevant to the spoken communication curriculum.

With a strong emphasis on how Google Classroom can augment academic performance and engagement among Generation Z learners, this study endeavors to assess its potential in enhancing remote learning experiences. The insights garnered from this research endeavor hold the promise of shaping educational practices to harness technology for tailored and efficient learning experiences within the contemporary educational environment.

Methodology

The research employed a mixed-method approach, combining quantitative and qualitative techniques. Quantitative data were collected through pre- and post-tests conducted in the oral communication course. A total of 244 Grade 11 students participated, with 46 using Offline Digital-Modular learning and 198 engaging in Printed Modular learning. Quasi-experimental designs were applied, wherein participants' assignment to conditions wasn't controlled by the researcher (Field, 2009).

Quantitative data encompassed the following: 1) Pre-test mean scores and standard deviations for students using Google Classroom in the Offline Digital-Modular Modality; 2) Post-test mean scores and standard deviations for students using Google Classroom in the Offline Digital-Modular Modality; 3) Determination of significant differences between pre-test and post-test mean scores for students in the Offline Digital-Modular Modality; 4) Post-test mean scores and standard deviations for students in the Printed Modular Modality; and 5) Evaluation of significant differences between post-test mean scores of students using Google Classroom under the Digital-Modular Modality and those in the Printed-Modular Modality.

On the other hand, qualitative insights were gathered through a virtual Focus-Group Discussion (FGD) involving eight randomly selected participants. The discussion centered on the challenges and opportunities encountered while using Google Classroom for the oral communication course.

The quantitative data were analyzed using spreadsheets. Mean scores and standard deviations were computed for both pre- and post-test results. Paired samples t-tests were employed to determine significant differences within the same group before and after the intervention (Field, 2009). Additionally, a Two-Sample T-Test assuming unequal variances was used to compare post-test scores between students in different learning modalities.

Upon analysis and interpretation of quantitative data, the researchers drew conclusions. Subsequently, a comprehensive presentation and discussion of the findings were conducted. The qualitative data from the FGD were thematically analyzed to extract patterns and themes reflecting students' experiences with Google Classroom. This research underscores the importance of examining varied learning modalities and their impact on students' oral communication skills. The integration of quantitative and qualitative methods offers a comprehensive understanding of the learning process and its outcomes.

Results and Discussion

Test Results

The pre-test and post-test results of students utilizing Google Classroom as an offline digital modality revealed compelling insights as shown in Table 1. The post-test mean score (53.72) exhibited a significant increase compared to the pre-test mean score (42.72), showcasing an impressive 11.00 mean difference. Furthermore, the statistical analysis showcased a noteworthy shift in the standard deviation values, with the pre-test standard deviation at 15.66 being higher than the post-test standard deviation of 9.90. This discrepancy suggests that the pre-test data were more widely dispersed across the mean score, while the post-test statistics indicated a closer alignment with the test's mean score.

Table 1: Pre-test and Post test Scores of the Students who used the Google Classroom under Offline Digital-Modular Modality with the corresponding mean and standard deviation

Participants	Pre-test	Post-test	d= Post-test-Pre-test	d ²
1	73	75	2	4
2	23	50	27	729
3	47	49	2	4
4	46	48	2	4
5	54	60	6	36
6	31	47	16	256
7	46	51	5	25
8	21	46	25	625

9	20	45	25	625
10	35	64	29	841
11	71	75	4	16
12	29	44	15	225
13	16	43	27	729
14	10	50	40	1600
15	70	72	2	4
16	64	69	5	25
17	35	61	26	676
18	53	61	8	64
19	47	66	19	361
20	27	50	23	529
21	23	42	19	361
22	53	60	7	49
23	48	55	7	49
24	36	41	5	25
25	51	55	4	16
26	61	70	9	81
27	41	50	9	81
28	56	57	1	1
29	56	58	2	4
30	14	38	24	576
31	37	45	8	64
32	40	50	10	100
33	49	40	-9	81
34	44	47	3	9
35	54	55	1	1
36	27	50	23	529
37	40	44	4	16
38	56	62	6	36
39	68	73	5	25
40	45	55	10	100
41	44	50	6	36
42	44	57	13	169
43	39	50	11	121
44	48	39	-9	81
45	22	50	28	784
46	51	52	1	1
Mean	42.72	53.72	11.00	
Standard Deviation	15.66	9.90		

This data suggests the effectiveness of utilizing Google Classroom as an instructional tool for enhancing oral communication skills among offline digital-modular learners within the New Normal context. The shift from a dispersed pre-test data distribution to a more clustered post-test distribution around the mean score indicates a positive impact on student performance and consistency in learning outcomes.

Sudarsana et al. (2019) underscored several advantages associated with Google Classroom in educational settings. These benefits encompass improved technological adeptness among both teachers and students, time efficiency in the learning process, environmental sustainability, mitigation of distance barriers between learners, heightened student collaboration, seamless and uninterrupted communication, as well as the platform's utility as a secure repository

for educational materials. This literature aligns with the observed improvements in oral communication skills among students facilitated by Google Classroom.

Additionally, Sukmawati (2019) emphasized the relevance of topics related to mobile devices in educational discourse. These discussions foster the development of observational skills and aid students in discerning between teaching and learning materials. The integration of these discussions into the context of using Google Classroom could further enhance the pedagogical effectiveness of the platform in nurturing oral communication skills.

In conclusion, the data analysis of the pre- and post-test results, coupled with the supporting literature, strongly suggests the efficacy of employing Google Classroom as an offline digital modality for teaching oral communication skills in the New Normal educational landscape. The platform's multifaceted benefits align with the observed improvements in student performance, indicating its potential to serve as a valuable tool in enhancing communication skills among offline digital-modular learners.

Table 2 presents the statistical outcomes of the T-test. The calculated t-statistic, -6.935, was found to be higher than the p-value of 0.000. Additionally, the observed p-value is less than the specified significance level of 0.05.

Based on these findings, the null hypothesis, which assumes no significant difference between pre- and post-test scores, is rejected. The evidence suggests a substantial change in the mean scores of students who engaged with Google Classroom in the offline digital-modular mode.

Table 2: Paired Two Sample for Means of Pre-test and Post test Scores of the Students who used the Google Classroom under Offline Digital-Modular Modality

	Pre-Test	Post-Test
Mean	42.717	53.717
Variance	245.229	98.074
Observations	46.000	46.000
Pearson Correlation	0.734	
Hypothesized Mean Difference	0.000	
df	45.000	
t Stat	-6.935	
P(T<=t) one-tail	0.000	
t Critical one-tail	1.679	
P(T<=t) two-tail	0.000	
t Critical two-tail	2.014	

The statistically significant change in scores indicates that utilizing Google Classroom in an offline digital-modular setup has a discernible impact on student performance. This suggests the effectiveness of this teaching approach in enhancing students' learning outcomes. Educators and policymakers can consider implementing or further optimizing such modalities to improve educational delivery and student achievement.

While this study demonstrates a clear impact, it's essential to acknowledge certain limitations. The study might benefit from a larger sample size or control groups to strengthen its generalizability. Additionally, further research could explore specific factors within the digital-modular mode that contribute to this observed improvement, providing deeper insights into effective teaching practices.

In discussing the statistical outcomes, these results align with established principles in hypothesis testing. The t-statistic, being higher than the critical value, indicates a rejection of the null hypothesis. The p-value, below the specified threshold, confirms the statistical significance of the findings.

Furthermore, connecting educational outcomes to teaching modalities is in line with previous studies emphasizing the importance of technology integration in education. Studies by Hattie, J. (2009) and Means, B. et al. (2013) highlight the positive impact of technology-enhanced learning environments on student achievement and engagement.

In conclusion, the analysis using the T-test demonstrates a substantial improvement in the mean scores of students who utilized Google Classroom in the offline digital-modular mode. This highlights the potential of technology-integrated teaching modalities in fostering enhanced learning outcomes among students.

The information presented entails an analysis of post-test results among students in different modalities - the Printed-Modular and Offline Digital-Modular, specifically those using Google Classroom. Table 3 illustrates the data associated with these modalities, focusing on mean scores and standard deviations.

Table 3: Post-test Scores of the Students under Printed-Modular Modality with the corresponding mean and standard deviation

Class Interval	Frequency (f)	Cumulative frequency (cf)	x	fx
71 - 75	6	6	73	438
66 - 70	5	11	68	340
61 - 65	13	24	63	819
56 - 60	17	41	58	986
51 - 55	24	65	53	1272
46 - 50	19	84	48	912
41 - 45	11	95	43	473
36 - 40	19	114	38	722
31 - 35	13	127	33	429
26 - 30	13	140	28	364
21 - 25	15	155	23	345
16 - 20	10	165	18	180
11 - 15	18	183	13	234
6 - 10	15	198	8	120
Mean	38.62			
Standard Deviation	18.52			

Firstly, the post-test mean score of students in the Offline Digital-Modular modality using Google Classroom was notably higher (53.72) than the overall mean score (38.62) for this exam. This discrepancy of 15.10 points highlights the difference in performance between these groups. Additionally, the standard deviation for Google Classroom users (9.90) is noticeably smaller compared to those in the Printed-Modular modality (18.52). This suggests that scores among Google Classroom users were more tightly clustered around the mean compared to the more dispersed scores among Printed-Modular students.

The interpretation of these findings suggests that students enrolled in the Printed-Modular modality exhibited a wider dispersion of post-test results around the mean score, while Google Classroom users' scores clustered closely around their higher mean score. This difference may stem from the varied nature of the modalities and the tools used.

Moreover, referencing Pappas (2015) provides insight into the utility of Google Classroom in enhancing communication, sharing, expediting assignments, and providing useful feedback. Pappas highlights that these advantages might not be as applicable or accessible to individuals under the Printed-Modular modality, which primarily relies on physical materials rather than digital tools for learning. Consequently, this makes Google Classroom an excellent tool for students in the Offline Digital-Modular modality, facilitating their learning process through enhanced communication and efficient assignment management.

In summary, the data suggests that Google Classroom usage in the Offline Digital-Modular modality resulted in higher mean scores and tighter score dispersion compared to the Printed-Modular modality. This aligns with Pappas' assertion about the benefits of digital tools like Google Classroom for communication and assignment facilitation. This comprehensive discussion highlights the potential impact of different modalities and digital tools on student performance, as supported by empirical data and scholarly insights.

The t-statistic of -7.68 as shown in Table 4 is an indicator of how many standard deviations the sample means are apart. With a negative t-statistic, it suggests that the mean score for the offline digital category might be significantly lower than the mean score for the printed modular category.

A p-value of 0.00 implies that the observed difference between these means is statistically significant. This value is smaller than the chosen significance level of 0.05. This significance level, often denoted as alpha (α), represents the threshold below which the null hypothesis is rejected.

Table 4: Two-Sample Assuming Unequal Variances for Means of the Post test Scores of the Students who used the Google Classroom under Offline Digital and Printed Modular Modalities

	Printed Modular	Digital Modular
Mean	38.62	53.72
Variance	342.87	98.07
Standard Deviation	18.52	9.90
Observations	198.00	46.00
Hypothesized Mean Difference	0.00	
df	128.00	
t Stat	-7.68	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.66	
P(T<=t) two-tail	0.00	
t Critical two-tail	1.98	

Since the p-value is lower than the significance level, and the t-statistic is higher than the p-value, you would reject the null hypothesis. This implies that there is sufficient evidence to suggest that the mean scores of the post-tests for students in the offline digital and printed modular categories using Google Classroom are significantly different.

This result could have significant implications for educational strategies. It suggests that the choice of instructional modality (offline digital or printed modular) when utilizing Google Classroom might have an impact on students' post-test scores. Further investigation could explore the reasons behind this difference—such as learning preferences, engagement levels, or the effectiveness of different modalities in conveying information.

Challenges Students Face When Using Google Classroom

Learners could not access the Modules when the internet connection is poor

Participant A says, “*Maglisod mi og access sa modules if walay internet.*” (It is hard for us to access our modules if there is no internet connection). Another participant added, “*If mag lain ang panahon mohinay ang internet connection so ma pending sab amo pag answer sa module kay di mi ka access.*” (If there is bad weather the internet connection is very slow, and it hinders us from answering our module because we cannot access them).

Learners got distracted and tempted to access other online apps

One participant commented “*While mag gamit ko sa Google Classroom mo pop up man ang mga notifications sa FB so matintal ko maong dili na hinuon ko maka answer sa modyul.hehehe.*” (While I am using the Google Classroom, the FB notifications pop up which tempts me not to answer my module.). Participant X also said, “*Usahay di jud mapugnan samtang mag answer ko sa activities through Google Classroom maka dalikyat ko og dula sa ML.*” (Sometimes I cannot avoid playing ML while answering the activities through Google Classroom).

Opportunities Students Face When Using Google Classroom

Learners are well guided with the Modules because further instructions of the teachers are posted

“*If naa ko nalib-gan sa instructions sa activity pwed ra maka ask ni teacher through the streamline comment.*” (If I am confused of the instructions of an activity, I can just ask the teacher through streamline comment)., one participant shared. Participant Y added, “*Naa sab simplified instructions si teacher sa mga activities sa module maong maka sabot ra dayon ko.*” (The teacher has simplified instructions of the activities, that is why I understand easily).

Learners have advance access on the Modules and could comply ahead of time because modules soft copies are posted

Participant Z said, “*Sa ako na obserbahan mas advance mi mga nag Offline Digital-Modular sa pag answer sa modules kay naa na tanang soft copies sa modules sa Google Classroom.*” (In my observation, we in the Offline Digital-Modular are more advance in answering our modules because the soft copies are already posted in the Google Classroom). Another participant also said, “*Mas dali ra mi maka comply sa mga activities kay maka save man mi sa oras og plite kay dili nami moadto sa skul magkuha og modules.*” (We could comply faster all our activities because we could save time and money because we no longer go to school to get our modules.)

Responding to the test is easy because students can simply select the right option on the connected Google Form

One participant commented, “*Mas dali ra kaayo if mag answer sa test kay mag tuplok tuplok ra ka sa box sa choices.*” (It is easier in answering the test because you will just simply tick the box of the options.)

Students can engage in live virtual communication and receive real-time feedback

“*Inig submit namo sa amo gi take nga test mo automatic dayon hatag sa amo score.*” (After we submit the test that we take, we can automatically see our scores.), one participant shared. Participant Z said, “*Maka hibalo dayon mi if asa mi dapit nasayop sa amo answer kay naa naman dayon scores ug answer key.*” (Because the test results are supplied automatically and an answer key is included, it is simple to determine where we made mistakes). Another participant also said, “*If mag online consultation mi ni mam maka pangutana ra dayon ko if naa ko nalibgan through streamline chat.*” (If we have online consultation with my teacher, I can directly ask questions whenever there is something I am confused of through streamline chat).

It is paperless

Participant B shared, “*Maka save ko sa papel ug dili nako moadto sa school kay naa naman ang modules naka post na.*” (I can save paper and no need for me to go to school because all modules are already posted). Another participant added, “*Maka save jud ang gobyerno ani kay dili naman mag print og modules. Maka save pa ta sa mga kahoy.hehehe.*” (The government can save money because there is no need to print for modules and we can also save the trees).

Conclusion

In summary, the analysis of pre- and post-test results, complemented by existing literature, strongly supports the effectiveness of implementing Google Classroom as an offline digital modality for teaching oral communication skills in the New Normal educational landscape. The observed improvements in student performance indicate the platform's potential as a valuable tool in enhancing communication skills among offline digital-modular learners. The T-test analysis reveals a significant enhancement in mean scores for students using Google Classroom in the offline digital-modular mode, emphasizing the positive impact of technology-integrated teaching modalities on learning outcomes. Notably, the comparison with the Printed-Modular modality underscores the superiority of the digital approach, aligning with Pappas' insights on the advantages of tools like Google Classroom. This comprehensive exploration highlights the potential influence of instructional modalities and digital tools on student performance, urging further investigation into the factors contributing to these differences. The implications of these findings could significantly shape future educational strategies by emphasizing the importance of informed choices in instructional modalities for optimizing student learning experiences.

Contributions of Authors

All authors contributed equally in this research.

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Conflict of Interests

The authors declare that no conflict of interest is associated with this research study.

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