Effectiveness of Facebook Group-Facilitated Collaborative Learning on the Academic Achievement of Senior High Students in Social Studies: Basis for a Learning Module

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DOI: https://doi.org/10.47772/IJRISS.2026.100600070

Received: 18 May 2026; Accepted: 23 May 2026; Published: 17 June 2026

ABSTRACT

This study determined the effectiveness of Facebook Group-Facilitated Collaborative Learning (FGCL) on the academic achievement of Senior High School students in Social Studies at JAPeR Memorial High School for the academic year 2025–2026. It aimed to compare the performance of students engaging in FGCL with those involved in Traditional Group Discussion (TGD). The study utilized a quasi-experimental, non-equivalent groups pretest–posttest design. The study took place at JAPeR Memorial High School, where 72 Senior High School students were chosen purposively. The respondents were divided into control and experimental groups. The researcher administered pretests and posttests to assess students' performance in school, and used the mean, standard deviation, and t-test to interpret the data. The results showed that both groups had similar scores on the pretest. After the intervention, the experimental group that was exposed to FGCL had much higher posttest scores than the control group. Statistical analysis verified a superior mean gain in the experimental group, demonstrating that FGCL promotes engagement, collaboration, and critical thinking more effectively than conventional methods. In summary, FGCL is a good way to teach that improves Social Studies learning outcomes. Teachers should use Facebook-based collaborative methods in the classroom, and schools should create modules that leverage social media to engage students as many as possible and help them do well.

Keywords: Social Studies, Facebook Group-Facilitated Collaborative Learning (FGCL), Traditional Group Discussion (TGD), Descriptive-Correlation, JAPeR Memorial High School.

INTRODUCTION

There has been a tremendous transformation of education with the digital age. It has revolutionized how students in the present day interact with their colleagues, teachers and other individuals. It has also changed their mode of collecting information. This change can be seen in the way social media such as X, Facebook, YouTube, and TikTok are being incorporated in formal and informal learning environments (Perez, Manca, Fernández-Pascual, & Mc Guckin, 2023).

Technology comes with a variety of enhancements in the way of teaching, including interactive digital media and computer-based simulations, and online assessment that facilitates a more efficient and more interactive learning process in students (Wulandari and Husain, 2025). With the emergence of such digital platforms as social media, it has become possible to realize new possibilities of communication and collaboration outside the classroom. Higher education has seen many teachers and learners heavily utilizing social media to personally or educationally view movies and TV shows (Sabah, 2023). Therefore, social media has gained significance in the learning process as a result of technological development and significance of asynchronous communication (Kontak, 2021).

Facebook, being one of the most popular social networking systems that are used by the vast majority of students, offers a set of tools, including threaded discussions, file sharing, reactions, and real-time notification, each of which could be used in support and even supplementation of the process of group learning. Students have

adopted Facebook as a platform they engage to socialize with as well as a means of education (Yotyodying, 2022). Also, learning can be triggered by Facebook as students learn more about the subject matter and are tasked to conduct an analysis of their study practices and processes (Muls, et.al, 2020).

Facebook groups can also be improvised by some teachers to form learning management systems and deliver their courses (Chakraborty, 2020). The Facebook Group Members were particularly keen in knowing what their teachers and students were sharing on the Facebook group, which made Facebook a good platform that could help students to collaborate with and achieve good results with regards to learning (Baylon, 2023). Moreover, social media can be utilized in learning to create effective learning environments, provide timely access, and even allow online discussion between teachers and students (Asy'arie, et.al, 2024). With the assistance of teachers, social media can be applied to enhance the learning process and make students more involved in the learning process.

The subjects of social sciences in the senior high schools are investigative in nature that border on complex issues such as politics and government, philosophy, ideology, culture and historical analysis. Although face-to-face group discussions have traditionally been the primary means of collaborative learning where students are able to share points of view and develop ideas on the spot, their effectiveness is not necessarily high. The factors that tend to curtail the extent and length of such positive conversations are restrictive time schedules, the number of students in a classroom and the absence of equal participation in these positive discussions.

The issue of determining the successful strategies that will enhance the output of the students is still there among the senior students of JAPeR Memorial High School. Nevertheless, the school has been applying the traditional mode of teaching over the years particularly the lecture-based discussions, which have not been effective in addressing the learning needs of the students. Low motivation is one of the common occurrences among many learners with some of the learners being tired during the lesson of history hence not paying attention at all and no interest in the lesson which translates to low academic performance. This phenomenon supports Aguilar-Moya, Diamanti, and Melero-Fuentes (2025) who highlight that innovative tools like multimedia, simulations, and collaborative platforms can significantly enhance the level of student engagement and performance.

Also, as various studies note, social media sites have the potential of fostering peer-to-peer learning, higher-order thinking and unimaginable motivation when utilized appropriately. Nonetheless, other issues are connected with distractions, data privacy and quality of the discourse. Therefore, experimental comparisons of traditional and digital approaches are needed to measure the pros and cons of creating learning outcomes.

The proposed research will address the gap in knowledge of the local educational research through the comparison of the effectiveness of the traditional form of group discussion and Facebook group-mediated collaborative learning to the enhancement of student learning outcomes in social science courses in the level of the Senior High School.

The Problem

Statement of the Problem

This research assessed the effectiveness of the Facebook Group-Facilitated Collaborative Learning method in enhancing the academic achievement of the Senior High School students in Social Studies at JAPeR (Josefa Aquilina Petrona Rallon) Memorial High School in DepEd Bohol Division during the school year 2025-2026 as basis for crafting a learning module.

Specifically, it sought to answer the following questions:

1. What is the level of academic achievement of the two groups in Social Studies during the pretest:

1.1 control group, and

1.2 experimental group?

2. What is the level of academic achievement of the two groups in Social Studies during the posttest:

2.1 control group, and

2.2 experimental group?

3. Is there a significant difference between the pretest and posttest scores of the:

3.1 control group,

3.2 experimental group?

4. Is there a significant mean gain difference on the pre-test and post-test scores between the control and the experimental group?

RESEARCH METHODOLOGY

This section presents the methods and procedures utilized in the conduct of the study. It narrates the design, the flow of the study, and the environment where the study was conducted. This section also presents the participants and the sampling strategies employed. Furthermore, it details the research instruments utilized to obtain the needed data and provides a systematic description of the procedures followed during data collection.

Design

The present research used a Quasi- Experimental, Non- equivalent, Groups, Pretest- Posttest Design to establish the impact of the two instructional programs, the Traditional Group Discussion and Facebook Group- Facilitated Collaborative Learning in determining the learning outcome of students in Senior High School Social science.
It is believed that the major proponents who formalized quasi experimental design during the 1960s, were Donald T. Campbell and Julian C. Stanley, and extended by Thomas D. Cook. The experiment to test causal hypotheses used a quasi-experimental research design by comparing a treatment group (e.g. use of social media-based instruction) to a control group but this is not by chance.

The quasi-experimental design was chosen because it will not be feasible and practicable to randomly select individual students as a part of the treatment groups in a real world setting in education. The naturally formed, non-experimental class sections will be utilized, thus forming non-equivalent groups. The design allowed the manipulation of the independent variable (instructional method) and comparison of the results where the differences between the groups that exist in advance are taken into account. This was crucial since there is a pre-test and post-test that is used to establish the similarity of the bases between the groups as well as determining the degree to which the dependent variable has changed (gain scores) as a result of the instructional approach.

Environment

The research was done in a secondary school named JAPeR (Josefa Aquilina Petrona Rallon) Memorial High School in Purok 2, Santa Catalina, Sagbayan, Bohol. JAPeR Memorial High School started as a private school but were adopted by the DepEd in 2004. There are 459 students, 39 teaching staffs, 2 non-teaching staffs and a school head. A purposive selection of students was carried out out of the 459 students to be included in the study. JAPeR Memorial High School offers the educatioln both at the level of Junior and Senior High School following the programs of the Department of Education (DepEd). The school is diverse in terms of students served which are in the adjoining barangays.

JAPeR Memorial High School was selected because it was easily accessible to the researcher. The knowledge the researcher has on the field of research helps in establishing the fact that the research is practically feasible. Also, the school has a favorable environment and has been actively involved in the implementation of innovative

teaching strategies, which have made it an appropriate venue to examine the effectiveness of social media based collaborative learning.

The research was anchored on evaluation of the learning outcomes of the Senior High students in the social science topics under the influence of the Traditional Group Discussion and Facebook Group-Facilitated Collaborative Learning pedagogies. Social media augmented pedagogy principle is more effective than conventional pedagogy. These are the aspects that would be examined during the process of carrying out the study.

Instruments

The tools used are the Achievement Test of the Pre-test and Post-test which is borrowed by DepEd Disciplines and Ideas in the Social Sciences (DISS) learning module, collaborative learning assessment, and Facebook group activity log or content analysis.

The two groups were pre-tested before the intervention where either the conventional group-discussion or Facebook group-facilitated learning strategy was applied. This established the pre-test content of the students and initially make the groups comparable. Subsequently post-test was done on the two groups. This was a sign of the knowledge acquired by the students and this is the main nature that can be used to compare the effectiveness of the two methods in terms of learning. The pre-test and post-test involved the same concepts, level of difficulty and scope in the test.

To further analyze it, especially since the study is comparing two types of collaborative learning, to measure the process or quality of collaboration, observation rubric/checklist was also used. It was employed by the researcher to observe and grade the behavior of the students when the conventional group discussions took place. It looked into the following areas: involvement, quality of contribution, task orientation and conflict management abilities. The performance rubric of group output was also implemented on the final product of the group which was a report, presentation or project or performance task. The rubric was used to measure the quality of the content in the Social Science and the signs of cooperation.

The Facebook group, itself was a very good source of data. The researcher took a systematic scheme to classify and quantify the actual interactions in Facebook group. It involved counting or rating the number and quality of the posts and comments on the lesson, the level of cognitive engagement depicted in posts, response time and peer-to-peer support.Science.

RESULTS AND DISCUSSION

The section presents the results of the pre-test, and post-test which was conducted on 72 SHS students of JAPeR Memorial High School of Santa Catalina, Sagbayan, Bohol during the Second Semester, School year 2025-2026. Results were assessed and discussed to establish the applicability of collaborative learning using Facebook Group to teach social studies.

The implementation of the Facebook Group-Facilitated Collaborative Learning (FGCL) in teaching Social Studies is done with the actual benefits in teaching in senior high schools. It is the mediating factor between face-to-face in the classroom learning and online learning. The teachers will be able to encourage active engagement, student-to-student interaction and long-term interaction outside of the school through a platform that the students are accustomed to. Not only does this approach increase the access to the learning resources and discussions, it also develops critical thinking, communication, and social skills needed to understand more complex social issues. Besides, the concept of integrating Facebook groups into the teaching of Social Studies provides an avenue of placing the lessons in the day-to-day digital lifestyle of learners, and consequently making learning relevant, interactive and meaningful. Overall, in a nutshell, this plan shows the potential of social media as pedagogical resource that can be used to enrich the collaborative learning process and effectiveness of Social Studies education in senior high school in general.

Level Of Academic Achievement of the Two Groups in Social Studies During the Pretest

Table 2 gives the pretest result of the two groups of students in Senior High School. The results provide an overview of what they had been informed about prior to the introduction of Facebook group-based collaborative learning in teaching social studies subject.

Table 2 Pretest					
Level	Ranges of Scores	Control		Experimental	
		f	%	f	%
Excellent	25 – 30	0	0.00	0	0.00
Very Good	19 – 24	5	13.89	6	16.67
Good	13 – 18	24	66.67	19	52.78
Fair	7 – 12	7	19.44	11	30.56
Poor	0 – 6	0	0.00	0	0.00
Total		**36**	**100.00**	**36**	**100.00**
Average		**15.19**		**15.19**	
Standard Deviation		2.75		3.71	

Pretest results show that the control and experimental group were similar in regard to their academic performance prior to the intervention. Both groups were given the mean score of 15.19, which is believed to be within the range of Good. In both the majority of students in both groups were clustered around the same range of scores though the experimental group had slightly more students in the Fair category and a larger standard deviation that connotes a greater variation in the scores.

This observation substantiates the claim of Al-Mahrooqi and Denman (2020) that pretests are imperative in determining baseline equivalence in a quasi-experimental study. Similarly, Murillo and Hidalgo (2020) emphasized the fact that the similarity of the pretest outcomes could indicate that groups are homogenous enough prior to the intervention, which makes it possible to make more valid comparisons of the instructional effects.

Moreover, Johnson (2021) contended that pretests are a kind of essential insurance to internal validity that observed differences in posttest scores could be due to the intervention and no longer to the disparity initially present.

The performance of the pretest is not much different, which implies that both groups started at nearly equal level of academic preparedness. This increases the internal validity of the study since any significant difference that might be achieved in the posttest might be primarily because of the instructional measures, which were adopted, but not the existent difference in the ability of the students.

Level Of Academic Achievement of the Two Groups in Social Studies During The Posttest

Table 3 shows the result of the posttest of the two groups of Senior High School students. The findings give a reflection of their understanding, after incorporating Facebook group-based collaborative learning in the teaching of social studies.

Table 3 Posttest					
Level	Ranges of Scores	Control		Experimental	
		f	%	f	%
Excellent	25 – 30	1	2.78	20	55.56
Very Good	19 – 24	28	77.78	16	44.44
Good	13 – 18	7	19.44	0	0.00
Fair	7 – 12	0	0.00	0	0.00
Poor	0 – 6	0	0.00	0	0.00
Total		**36**	**100.00**	**36**	**100.00**

Average	20.42	25.03
Standard Deviation	2.33	3.21

Table 3 shows the differences of the extent of academic achievement between the control group and experimental group in the Social Studies in the post-test. The posttest results indicate that there was a great improvement in both groups academic performance although at a higher rate in the experimental group. The experimental group has a much higher score of 25.03 which is close to the excellence category compared to the control group whose mean score is 20.42, which is regarded to be of very good level. It is interesting to note that, over fifty percent of the experimental group fell in the "Excellent" category, as compared to the control group with a single student in the same category.

The findings correspond to Baylon (2023) who discovered that group work on Facebook is also significant to enhance student engagement and academic achievements. On the same note, Wulandari and Husain (2025) observed that technology mediated learning classroom improves understanding, motivation as well as knowledge retention among the students. Moreover, Orioque (2021) has also pointed out that Facebook groups may have a positive impact on academic learning, by providing a sense of collaboration, ease of use, and better academic results, further confirming the effectiveness of social media in education.

The findings show that Facebook Group-Facilitated Collaborative Learning is more effective than Traditional Group Discussion to improve academic achievement. The fact that the level of performance under experiment group is higher indicates that incorporating social media in teaching can be utilized in developing greater engagement and better learning outcomes.

Test Of Significant Difference Between the Pretest and Posttest Scores of the Control Group

Table 4 shows that there is a significant difference between the pretest and posttest scores of the control group that is exposed to Traditional Group Discussion.

Table 4 Significant Difference between the Pretest and Posttest Scores of the Control Group

Source of Difference	Mean	Standard Deviation	Mean Difference	t- value	p-value	Decision	Result
Pretest	15.19	2.75	5.22	16.121*	0.000	Reject Ho	Significant
Posttest	20.41	2.33					
*significant at $p < 0.05$ (two-tailed); df=35							

In Table 4, the pretest and posttest scores of the control group are shown. The mean of the pretest was 15.19 and the standard deviation was 2.75 whereas the mean of the posttest was 20.41 and the standard deviation was 2.33. This led to an average difference of 5.22. The t-value calculated was 16.121, and the p-value was 0.000. The p-value (0.000) that has been obtained is much less than the predetermined level of significance (0.05). The null hypothesis (Ho) was rejected since the p-value was less than 0.05. This shows that the difference between the pretest and the posttest scores of the control group is statistically significant.

This finding corroborates the findings of Wang (2022), who found out that the traditional methods of instruction are effective in providing the background knowledge and improving the student performance. Similarly, Oraiz and Mina (2024) have highlighted that the traditional teaching practices continue to produce plausible advancements of learning due to its well-organized and familiar characteristics. Similarly, Garcia (2023) suggested that the traditional classroom teaching methodology is still valuable in creating solid academic backgrounds in students since the system of teaching and delivery is organized and predictable, a factor that will provide confidence and understanding to the students.

The fact that the Traditional Group Discussion has been enhanced greatly is an indication that Traditional Group

Discussion is still an effective teaching method. However, being efficient, its impact may be less important than more interactive and technology-enhanced methods, which should be further compared with innovative ones.

Test Of Significant Difference Between the Pretest and Posttest Scores of The Experimental Group

The significant difference test of posttest against pretest of experimental group in Social Studies is reported in Table 5.

Table 5 Significant Difference between the Pretest and Posttest Scores of the Experimental Group

Source of Difference	Mean	Standard Deviation	Mean Difference	t- value	p-value	Decision	Result
Pretest	15.19	3.71	9.83	24.261*	0.000	Reject Ho	Significant
Posttest	25.03	3.21					
*significant at $p < 0.05$ (two-tailed); df=35							

Table 5 reports the pretest and posttest scores of the experimental group. The pretest mean was 15.19 with a standard deviation of 3.71, while the posttest mean rose to 25.02 with a standard deviation of 3.21. This produced a mean difference of 9.83. The computed t-value was 16.121, with a corresponding p-value of 0.000.

The p-value obtained (0.000) is much lower than the predetermined level of significance (0.05). The null hypothesis (Ho) was rejected because the p value was less than 0.05. This proves that the difference between the pretest and posttest scores of the experimental group are statistically significant.

These findings agree with Wulandari and Husain (2025) who concluded that technology-integrated instruction is more effective in improving learning and engaging students. Alwreikat, Zaid, and Shehata (2020) also found that there was a positive and significant association between Facebook usage and the effectiveness of collaborative learning. Similarly, Rahman (2023) highlighted that integrating social media in education will create a collaborative and critical learning environment, which will yield quantifiable results in terms of student achievement.

The findings imply that Facebook Group-Facilitated Collaborative Learning is an important factor in academic performance. The great average gain implies that the practice enhances a deeper insight, engagement and better learning outcomes than traditional practices.

test of significant mean gain difference on the pretest and posttest scores between the two groups

Table 6 shows the significant mean difference on the pretest and posttest scores of the experimental group in comparison to the control group.

Table 6 Significant Mean Gain Difference on the Pretest and Posttest scores between the Two Groups

Source of Difference	Mean Gain	Standard Deviation	Mean Gain Difference	t- value	p-value	Decision	Result
Control	5.22	1.94	4.61	8.887*	0.000	Reject Ho	Significant
Experimental	9.83	2.43					
*significant at $p < 0.05$ (two-tailed); df=70							

Table 6 indicates that there is a considerable difference in the means of gain scores of the control and experimental groups. The mean gain of the control group was 5.22 with a standard deviation of 1.94 and experimental group recorded higher mean gain of 9.83 with standard deviation of 2.43. The difference in gain

mean between 4.61 was tested with the t-value of 8.887 resulting in the p-value of 0.000. As the p-value is lower than the 0.05 level, the null hypothesis was rejected meaning that the experimental group that was exposed to Facebook group-based collaborative learning significantly outscored the control group in their posttest scores. These results are supported by recent studies. As Ansari and Khan (2020) emphasized, social media platforms such as Facebook are able to enhance collaborative learning as they lead to peer interaction and knowledge sharing that, in turn, directly contributes to academic performance. More recent research by Sahoo and Khuntia (2024) has discovered that collaborative learning based on social media has a significant positive impact on the engagement of students and the resultant 15% academic performance improvement compared to control groups. Likewise, Shabbir et al. (2025) also highlighted the fact that Facebook groups and other platforms would enable communication and sharing of resources, which would result in statistically significant improvements in learning outcomes. The overall results of these studies confirm that social media when designed to support learning can be an effective tool to support collaborative learning and achievement.

The implications of such findings include that incorporation of Facebook group based collaborative learning in social studies instruction could help improve academic performance of students by encouraging them to actively engage, interact with each other, and foster greater involvement in the subject matter. To teachers, this is an indication of how the use of social media as a pedagogical tool can be used to supplement classroom pedagogy. On a broader level, the results suggest that technology-mediated cooperation can be used to bridge gaps in conventional learning to make education more interactive, accessible and effective among Senior High School students.

SUMMARY

This paper aims to assess the effectiveness of the Facebook Group-Facilitated Collaborative Learning method in enhancing the academic achievement of the Senior High School students in Social Studies. In order to answer this research question, the research design used was a quasi-experimental pretest-posttest control group design that enabled measurement of student performance pre-intervention and after intervention, and allowed the comparison of mean gains in student performance after intervention and control group.

The study was carried out in the JAPeR Memorial High School in Santa Catalina, Sagbayan, Bohol and a total of 72 senior high school student respondents were divided into two equal groups. The participants were selected using purposive sampling, whereby the students that were selected had to meet the criteria of the objectives of the study. A standardized achievement test, which was adopted as the part of the learning module, was used as the main tool to measure the variables under study, which were the level of academic achievement of the students in social studies.

To treat statistically, the research used descriptive statistics, the mean and standard deviation to summarize the scores of the performance, and inferential statistics, t-tests of both paired and independent samples to determine the significance of the differences between the pretest and posttest scores. The conclusions about the effectiveness of Facebook group-based collaborative learning and the formulation of pedagogical recommendations to enhance instructional practices and incorporate social media tools in the classroom were made based on these analyses.

FINDINGS

According to the developed specific sub-problems, the following results of the research were achieved:

The control and experimental groups were found to have similar levels of academic achievement in the pretest, which indicates that they had equivalence in terms of academic achievement prior to the implementation of the instructional interventions.

Both the groups showed an improvement in their posttest performance, but the experimental group which was exposed to Facebook Group-Facilitated Collaborative Learning (FGCL) had significantly higher levels of

performance as compared to the control group. The statistically significant difference between pretest and posttest scores of the control group suggested that Traditional Group Discussion (TGD) was part of statistically significant learning gains.

The difference between the pretest and the posttest score of the experimental group also showed a statistically significant difference suggesting that FGCL led to an even stronger improvement in academic achievement. There was a great difference in the mean gain scores between the two groups with an advantage to the experimental group. The result proves the more effective FGCL compared to TGD in improving the academic performance of students in Social Studies.

CONCLUSIONS

The primary aim of the research was to determine the effects of Facebook Group- Facilitated Collaborative Learning (FGCL) to the academic performance of students in the social studies field. The variables that were being investigated were the pretest and post test scores of the control and the experimental group. The results proved that FGCL had a significant positive influence on student achievement than Traditional Group Discussion (TGD), and thus null hypothesis was rejected. This shows that collaborative learning that is integrated with technology is a superior way of teaching compared to the traditional ways of teaching.

Professionally, according to the results, it is important to encourage teachers to adopt innovative, technology mediated strategies to enhance classroom instruction. With the integration of FGCL, teachers can increase their teaching repertoire and improve student engagement and develop digital literacy skills that are essential in teaching in the 21st century.

RECOMMENDATIONS

It is suggested that output of this study, which is a learning module based on the integration of Facebook Group-Facilitated Collaborative Learning, should be adopted and refined to be used in the classroom. The module can also be used to guide the teaching practice of teachers, serve as a resource by the curriculum developers, and provide a framework through which schools can seamlessly integrate collaborative and technology-mediated strategies into social studies teaching. It will not only enhance student performance but also lead to professional growth, development of programs and innovation of policies in education.

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