

GALLERY WALK ACTIVITIES IN TEACHING SOCIAL STUDIES: INPUTS IN ENHANCING KNOWLEDGE, INTEREST, AND ATTITUDE OF GRADE 8 STUDENTS

Raichel L. Gabinete^a, Dr. Nelia T. Salvador^b

^araichel.lalican@deped.gov.ph

^bsalvadornelia56yahoo.com

^aLaguna State Polytechnic University, San Pablo Campus, San Pablo City, 4000, Philippines

^bLaguna State Polytechnic University, San Pablo Campus, San Pablo City, 4000, Philippines

Abstract

A fundamental change in the learner is the main objective of teaching. To secure the transfer of knowledge, teachers should employ the most effective teaching techniques that are tailored to certain objectives and skills. One of the active learning methods is the Gallery Walk Technique. Students can learn new information, organize it meaningfully, and have the chance to describe it to their peers. As a result, it places a strong emphasis on peer interaction and encourages students to study on their own rather than depending solely on teachers to impart knowledge.

This study aims to find out how effective is Gallery Walk Activities if it is used in teaching Social Studies particularly World History. Thus, the study determined that students prefer using Gallery Walk Activities during discussions since they are thought as very high. In tests of cognitive skills, they are all considered proficient. It was thought that they had a high degree of interest in learning social studies. On the other hand, the students perceived themselves as having a very high in terms of attitude for learning and functioning in groups. A corollary of these findings would suggest that the researcher should explore more features of gallery walk that can be still added to enhance the learning experience of the students that would greatly affect their level of interest and attitude towards discovery learning. In addition, the researcher should further explore on the components of gallery walk that could achieve the highly proficient level of scores for the students.

Keywords: cognitive skills, discovery learning, fundamental change, gallery walk activities, level of interest and attitude

1. Main Text

Introduction

Our lives now are significantly influenced by history. Understanding our history eventually enables us to comprehend our future. As a result, the emphasis of history instruction in junior high schools should be on fostering students' understanding of the past. They need to be proficient in both oral and writing history. Knowledge, comprehension, critical thinking, curiosity, and attitudes relating to historical issues are among the learning objectives for history.

Understanding is regarded as the most important ability to acquire among the objectives since it is the main gauge of effective learning. However, it has been commonly observed that the majority of students have trouble remembering lessons. Due to their lack of interest in participating in the activities, students either remain silent during class discussions or refuse to speak out at all. The children might not be able to comprehend things well if these types of situations persisted.

The primary goal of teaching at any level of education is to affect fundamental change in the learner (Tebabal & Kahssay, 2011). Thus, Philippine schools will constantly try to solve on how to educate our students

effectively and efficiently (Gregorio, 2019). According to Cardino Jr., J. M., and Ortega-Dela Cruz, R. A. (2020), teachers should use appropriate teaching strategies that best suit specific objectives and competencies to secure and make the transmission of knowledge easier. In addition, there is no single strategy that works for all types of learners. A traditional lecture may inspire some but frustrate others; a task-based approach may enthuse some but confuse and discourage others. As a result, teachers must carefully plan their lessons and employ a variety of teaching strategies to ensure that all students are satisfied (San Jose, A., 2015).

Department of Education (DepEd) Order Number 42 series of 2016 proposes that the teachers can select from a range of instructional models and their associated tactics and methodologies while organizing the lessons. As quality learning is dependent upon quality teaching, DepEd implemented the Philippine Professional Standards for Teachers (PPST) in 2017. This initiative is committed to supporting teachers and considering the unmistakable evidence that good teachers are essential to raising student achievement (DepEd Order No. 42, s. 2017).

In connection, DepEd Order No. 42, s. 2017 underscored that one of the characteristics that quality teachers in the 21st century need to possess is “..... mastery of content knowledge and its interconnectedness within and across curriculum areas, coupled with a sound and critical understanding of the application of theories and principles of teaching and learning so they can apply developmentally appropriate and meaningful pedagogy grounded on content knowledge and current research.”

Nomsoor, Bello, and Mohammed (2021) argued that on an almost daily basis, new instructional strategies are developed and implemented in classrooms, necessitating the need for teachers to be creative and employ a variety of them in the classroom. Effective instructional strategies are important because they provide a delivery mechanism for presenting content, give teachers the flexibility they need to meet individual needs, and make teaching and learning enjoyable. Meador (2018) further explained that the vast majority of students learn best through active, engaging learning experiences.

Setyawan et al. (2016) proposed that teachers use activity-oriented strategies to ensure students' active participation in the classroom. As a result, teachers who employ activity-oriented strategies such as gallery walk are constantly engaging their students in meaningful activities. In addition, according to Mulyani (2014) Gallery Walk is a teaching strategy that requires all students to participate actively in the activity and move about the classroom while debating the crucial topic.

Moreover, Gallery Walks are used to create new environment in the classroom. This indicates that the Gallery Walk Technique creates unique circumstances in which the students collaborate to debate issues or questions that are written on the wall (Hogan & Cernusca, 2011). In addition, Sujannah and Utami (2017) described the term "Gallery Walk" as a learning activity in which students go around the classroom and actively participate by observing, querying, exchanging ideas, responding to their peers, and forming their own ideas.

The study conducted by Rangkuti, Sihite, and Jatra (2022) revealed that students are more motivated and confident to ask and respond to questions from the teacher or their friends using Gallery Walk Technique in the classroom because students can actively participate by moving around to see the pictures, posters, or even their own works. After looking around the gallery, the students will discuss with their friends, give their comments, share about their thoughts, and ask other groups for clarification.

According to Othman and Mohdrazzi (2020), Gallery Walk is an interesting teaching technique that allows students to have fun, communicate with others, and get to know each other well during the discussion; thus, the students recommend and wish to take part in Gallery Walk activities. Otoyoy (2018) emphasized that when Gallery Walk technique was used, the class was better organized and more engaged (Otoyoy, 2018). During the repetition session, the students could also easily remember the lesson and actively participate in learning activities with their classmates.

The study of Dinata and Anggraini (2017) revealed that students became more involved in their learning because they active and felt motivated, and engaged when Gallery Walk activities were used in the

class. Otoyoy (2018) added that when teachers used attractive teaching materials such as pictures, posters, and laptops in the Gallery Walk activities, the students enjoyed the learning process. Katemba and Buli (2018) discovered that Gallery Walk engaged students in learning because it allowed them to move around the classroom and share their thoughts on the galleries.

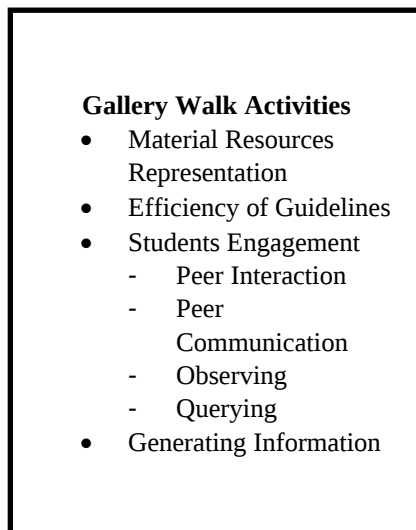
Additionally, issues with pupils are caused by both them and the school environment. The truth is that many students actually understand theory more thoroughly than practice, as we frequently witness. Students need more practice in order to develop their confidence, thus teachers are advised to develop and deploy engaging teaching methods and learning resources. Images, graphs, charts, and posters are some examples of educational resources that may be seen using the gallery walk technique. Due to their propensity to become more engaged in a class when it includes educational materials and images, students often enjoy this kind of instruction. It is also age-appropriate tool and technique for the students. One of the various mediums and strategies to boost student performance is the gallery tour approach, particularly in history. For the pupils, this method of instruction may be highly enjoyable and engaging. They will experience something brand-new and distinct from what they often receive in class. As a result, students will actively participate and have more opportunities to communicate their thoughts and express their interests when this teaching technique is used.

The researcher looked at the gallery walk technique's efficacy in raising students' performance capacity after learning that it may be used as a useful teaching tool. This query the curiosity of the research, which is eager to find out the solution through this study and investigation.

Research Paradigm

The figure below is the research paradigm to be used in the study. It presents the independent and dependent variables of the study.

INDEPENDENT VARIABLE



DEPENDENT VARIABLE

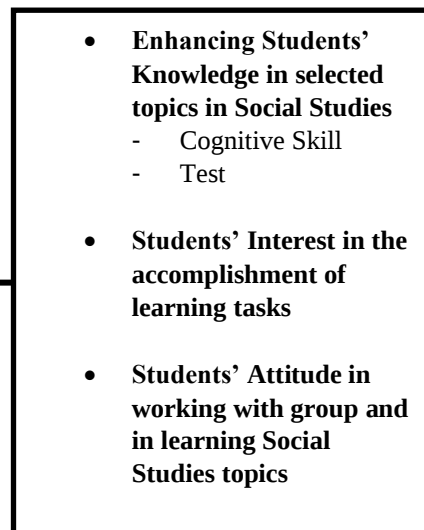


Figure 1. Research Paradigm of the Study

Statement of the Problem

This study aims to find out how effective is Gallery Walk Activities if it is used in teaching Social Studies particularly World History among Grade 8 students of Pedro Guevara Memorial National High School? The specific research questions are as follows:

1. How do the respondents perceive the Gallery Walk Activities as teaching strategy in terms of:
 - 1.1 Material Resources Representation;
 - 1.2 Efficiency of Guidelines of the Activities;
 - 1.3 Student Engagement
 - 1.3.1 Peer Interaction
 - 1.3.2 Peer Communication
 - 1.3.3 Observing
 - 1.3.4 Querying
 - 1.4 Generating Information?
2. What is the mean gained score of the respondents in terms of Cognitive Skills Test?
3. How do the students perceive the level of their interest in learning Social Studies through Gallery Walk Activities?
4. How do the students perceive the level of their attitude in learning Social Studies through Gallery Walk Activities?
5. Are the Gallery Walk Activities significantly related to students' cognitive skill test?
6. Are the Gallery Walk Activities significantly related to students' interest in the accomplishment of learning tasks?
7. Are the Gallery Walk Activities significantly related to students' attitude in working with group and in learning topics in Social Studies?

LITERATURE REVIEW

In this discussion technique, students may participate actively while moving about the classroom. To exchange thoughts and reply to important issues, documents, photographs, problem-solving scenarios, or writings, they collaborate in small groups. Learners investigate various pieces of information or visuals that are scattered throughout the room while on a gallery tour. This strategy can be particularly interesting to kinesthetic learners since it necessitates that they roam about the classroom.

With these, student's performance is perceived to be an important indicator found relevant in this study.

Interest

On the other hand, individual interests illustrate the constant preference of users for certain content. In this case, the direct experience of interest reflects a strong personal preference for enjoying and appreciating a particular object or activity in different contexts. Thus, self-interest is a constant basic disposition that is triggered in specific circumstances. For instance, students interested in geophysics may be more engaged during a lecture on tsunamis, regardless of how entertaining the lecture is, because their interest is more developed and less reliant on situational factors (Harackiewicz JM, Smith JL, & Priniski SJ, 2016).

Attitude

Intrinsically motivated behaviors and attitudes are carried out of curiosity and require no effort. There is no "separable" result, no external or intrapsychic prod, promise, or threat (Deci, 1975). When people are intrinsically motivated, they are simply motivated to perform the activity—or perhaps to perform it well—and to have the spontaneous interest, enjoyment, excitement, and satisfaction experiences that goes with the behavior.

Test

Pretest and posttest are commonly used in behavioral research, primarily to compare groups and/or measure change as a result of experimental treatments (Dimiter & Phillip, 2003). In addition, Malik and Tayyaba (2019) underscored that evaluation in the classroom is an essential component of successful and effective teaching. Pre-test/post-test and post-test-only designs are important assessment tools that aid in the direct and effective evaluation of a course or lecture to improve student learning.

Students' Engagement

Student engagement also takes into account the degree of interest students have, how they connect with one another, and other course participants, and how inspired they are to further explore topics (Briggs, 2015). A study by Mandernach et al. (2011), cited by Gray and Diloreto (2016), student engagement is influenced by a range of affective factors including attitude, personality, motivation, effort, and confidence.

Peer Interaction

It has been demonstrated that respectful interactions and relationships, both offline and online, increase student engagement. Today's students learn in a highly social and interactive way. According to those polled by Willms, Friesen, and Milton (2009), people want to interact with others both inside and outside of the classroom and school setting.

Querying

Teacher-student interaction has also been shown to have a significant impact on student engagement (Burgess, 2015; Jang et al., 2010; Jensen, 2013; Swiderski, 2011). It is quite common for a student to be completely engaged in the process of learning during one class but not engage during another.

Efficiency of Guidelines

To sum up, in order to accomplish the intended function, one must be able to hold instructions in working memory; as a result, poor working memory performance might compromise a student's ability to follow directions. The likelihood that a student would incorrectly finish a task is increased if they are unable to comprehend or retain instructions in working memory (Bergman-Nutley S, & Klingberg T., 2014).

Material Resources Representation

According to Duval (2006), representation is something that stands in for something else. A representation is a sign or combination of signs, characters, objects, diagrams, or graphs that can be physical or mental in nature. Goldin and Shteingold, (2001) describe the process as a mental image inside an individual's mind (head) which can be perceived as the mental process.

Gallery Walk Technique

Francek (2006) defined gallery walk as a discussion technique that encourages students to get up and participate. The benefit is its adaptability. A gallery walk has numerous advantages for both students and teachers. It is a starting, finishing, or reviewing activity. Participants in this activity write on various pieces of chart paper taped to the training room walls. A gallery walk allows students to learn from one another and from their prior knowledge.

RESEARCH METHODOLOGY

This chapter covers the research methodology used in the conduct of the study. This process includes the research design, respondents of the study, sampling techniques, research procedure, research instrument and the statistical treatment of data.

Research Design

In this study, the research made use of a one-group experimental and correlational research design involving data collection to determine the possible effect of Gallery Walk Activities in teaching Social Studies. The experimental and correlational design seeks to compare the knowledge gained of the students before the experiment and after it is completed (Labao, 2022).

The data collection method involved the analysis of the scores of the participants in learning various topics in Social Studies namely: a. *Panahon ng Renaissance*, b. *Paglawak ng Kapangyarihan ng Europe – Unang Yugto ng Imperyalismo at Kolonyalismo*, c. *Dahilan, Kaganapan, at Epekto ng Rebolusyong Siyentipiko, Enlightenment, at Industriyal*.

Respondents of the Study

The researcher is a high school teacher in Pedro Guevara Memorial National High School (PGMNHS) who teaches Araling Panlipunan (AP) 8. The researcher teaches AP to five out of 52 sections of Grade 8 namely: Chrysoprase (40 students), Connemara (41 students), Coral (42 students), Cuprite (45 students), and Pearl (41 students). In total there are 209 Grade 8 students which are sheltered into five sections who were tapped and participated in this study.

Table 1. Distribution of Respondents by Section

Section	Number of Students	Actual Respondents
Chrysoprase	40	38
Connemara	41	37
Coral	42	40
Cuprite	45	44
Pearl	41	39
TOTAL	209	198

Sampling Technique

The researcher utilized Raosoft Calculator in order to identify the sample size of students per section who were tapped and participated in the study. The margin of error used is five percent with a confidence level of 95 percent. To identify the students per section, fish bowl technique will be used.

Research Instrument

The study utilized a researcher made test in order to measure the cognitive skills of the students. The content of the test focuses on the first three topics in Araling Panlipunan 8 for the Third Quarter. In addition, a Gallery Walk Activities Questionnaire is developed in order to identify students' level of agreement to various learning activities in utilizing Gallery Walk Activities. To test the validity and reliability, the researcher conducted a pilot test of the researcher made test and Gallery Walk Activities Questionnaire to one section of Grade 8 that she does not handle. Item analysis followed right after the pilot testing of the test. Moreover, the Master Teacher together with the Head Teacher and Subject Coordinator were tapped to validate the researcher-made test.

The 21-item-likert scale Gallery Walk Activities Questionnaire has four themes. These are Material Resources Representation, Efficiency of Guidelines, Students Engagement, and Generating Information. The student's engagement part has four sub-themes namely: a) Peer Interaction, b) Peer Communication, c) Observing, and d) Querying.

For the Students' Interest, an Intrinsic Motivation Inventory (IMI) questionnaire was administered. The IMI was developed by Ryan, Mims, and Koestner in 1983. This is a survey questionnaire in a form of statement which is consisted of 10 items. Moreover, for students' attitude, another 10-item questionnaire was

used. The students were asked to rate how do they agree with the statements. On a scale from one to five, where one means totally disagree and five as completely agree.

Research Procedure

The researcher sought an approval from her school head and division office before the conduct of the study. It was followed by securing parental consent from the parents of the 209 Grade 8 students who were tapped as the respondents.

Preliminary activities such as validation of research instruments by experts in the field of Araling Panlipunan was sought. After it was validated, pilot test of the research instruments was conducted to one section of Grade 8 which the researcher does not handle. Item analysis followed right after.

In the execution of lessons in Araling Panlipunan, the researcher who happens to be the Social Studies teacher of the respondents posted various charts, pictures, graphs, and other secondary documents that are related to the topics being discussed. In addition, video clips and other learning materials was used and utilized which stimulated the students' interest and attitudes. These materials was posted in a classroom that resembled how galleries are displayed in a museum.

The researcher-made test was administered after the conduct of the Gallery Walk Activities in teaching Social Studies. It was followed by allowing the students to answer the Gallery Walk Activities Questionnaire.

An Intrinsic Motivation Inventory (IMI) Questionnaire was administered. This questionnaire is comprised of 10 five-level Likert Scale items that measured the students' interest. This was developed by Ryan, Mims, and Koestner in 1983. In addition, for students' attitude, a 10 five-level Likert Scale was utilized. This questionnaire is adapted and modified from the study of Salubayba in 2018.

With confidentiality, the questionnaires were retrieved immediately. The gathered information was transferred in a tally sheet using an electronic form. The responses of the respondents in each statement were tallied together, summarized, interpreted statistically.

Statistical Treatment of the Data

For further analysis of the data, the researcher used the following statistical tools in summarizing, analyzing and interpreting the data gathered.

1. Frequency and Percentage. This was used for the level of Cognitive Skill Test.
2. Mean. This was used to determine the level of students' interest and attitude. This was also used in the Gallery Walk Activities Questionnaire.
3. Pearson-r Moment of Correlation. It was used to determine the relationship between the levels of students' interest and attitude and their Cognitive Skill Test. Also, this was used in identifying the relationship between the level of agreement in the Gallery Walk Activities Questionnaire and their Cognitive Skill Test.
4. Cronbach's Alpha. This was utilized in order to test the internal consistency and reliability of the researcher made Gallery Walk Activities Questionnaire.
5. The table below is adapted from Blay (2007) and was used to verbally interpret the data on students' interest and attitude questionnaire and Gallery Walk Activities Questionnaire in teaching Social Studies.

Table 2. Verbal Interpretation for Students' Interest, Attitude and Gallery Walk Activities

Weighted Mean	Verbal Interpretation
1.0 – 1.79	Strongly Disagree
1.80 – 2.59	Disagree
2.60 – 3.39	Moderately Agree
3.40 – 4.19	Agree
4.20 – 5.00	Strongly Agree

6. The table below was used to verbally interpret the scored gained by the students in the Cognitive Skills Test.

Table 3. Verbal Interpretation of the Scores Gained by the Students

Scores	Verbal Interpretation
8.80 – 10.00	Advanced
6.60 – 8.79	Proficient
4.40 – 6.59	Approaching Proficiency
2.20 – 4.39	Developing
0.00 – 2.19	Beginning

RESULTS AND DISCUSSION

Students Level of Perception on the Gallery Walk as a Teaching Strategy

In this study, level of perception of students on gallery walk as a teaching strategy in terms of material resources representation, efficiency of guidelines of the activities, students' engagement and general information was determined by the weighted mean and standard deviation.

Table 4. Level of Perception of Students on Gallery Walk as a Teaching Strategy in Terms of Material Resources Representation

INDICATORS	Mean	SD	Remarks
1. The materials used are very timely and relatable to real world.	4.58	0.49	Strongly Agree
2. The materials used are connected with one another.	4.54	0.50	Strongly Agree
3. The materials used are in relevance to the topic being discussed.	4.63	0.48	Strongly Agree
OVER – ALL	4.58	0.31	Strongly Agree

Legend: 4.20-5.00 Strongly Agree; 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

Table 4 demonstrates the level of perception of the respondents on the gallery walk as a teaching strategy in terms of material resources representation. As shown on the table, it gained an overall mean of 4.58 (SD=0.31). This means that the students strongly agree that they perceived the material resources representation on the gallery walk used as a teaching strategy. This implies that the students were able to see the connection of the materials used in the topics being discussed in the gallery walk. Jarvis (2017) mentioned the importance of the materials used in gallery walk. It is the core guide of the students as they go along the gallery walk so that they will be guided on the flow of the learning experience.

Moreover, the respondents *strongly agree* that the materials used are relevant to the topic being discussed (M=4.63, SD=0.48). The respondents see the importance of the materials used in the learning process as they study topics on Araling Panlipunan. Tuimur and Chemwei (2015) mentioned the importance of materials used in the learning process. Resource materials allow the learners to practically experience the concepts and skills they need to acquire in the lessons.

Similarly, the students *strongly agree* that the materials they were exposed to are connected to one another (M=4.54, SD=0.50). This means that the connection of visual and concept materials is relevant for the students optimum learning. Because of the connections among the materials used in the gallery walk, the students can be able to identify the flow and the context of the lesson.

Table 5. Level of Perception of Students on Gallery Walk as a Teaching Strategy in Terms of the Efficiency of Guidelines of the Activities

INDICATORS	Mean	SD	Remarks
1. Instructions were given prior to the activity.	4.65	0.48	Strongly Agree
2. Instructions were clear and complete.	4.68	0.47	Strongly Agree
3. The delivery of instructions was presented at a pace that allows learners to absorb and reflect.	4.64	0.48	Strongly Agree
OVER – ALL	4.65	0.26	Strongly Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

Table 5 shows the level of the gallery walk as a teaching strategy as perceived by the students in terms of the efficiency of the guidelines of the activities. The data shows that the respondents *strongly agree* that the guidelines of the activities are efficient. This is evident on the over-all mean of 4.65 (SD=0.26). This means that the students are able to understand the guidelines or the instructions on how to carry out the activities presented by the teacher while being engaged in the gallery walk. Clarity of instructions in gallery walk is important for it encourages students-centered learning that promotes collaboration and self-discovery learning. As recommended by Yeornng (2021), the teachers' effective and efficient instruction could prevent the challenge of controlling the students' movement on the gallery walk. This challenge is one of the main problems that can be encountered that hinders the optimum learning experience of the students.

Similarly, the respondents *strongly agree* that the teachers' instructions in the gallery walk are clear and complete (M=4.68, SD=0.47). A clear and complete instruction allows the students to easily identified the learning goals, and allows them to move on the gallery walk as expected by the teachers. Barile (2020) mentioned the importance of clear and complete instructions. According to her giving clear instructions to students ensure the comprehension on the learning goals that they need to achieve in the learning process.

Moreover, the respondents also *strongly agree* that the teachers were able to deliver the instructions at a pace that allows learners to absorb and reflect. This means that the respondents were able to do self-learning through self-reflection as they absorbed the instructions set by the teachers.

Table 6. Level of Perception of Students on Gallery Walk as a Teaching Strategy in Terms of the Students Engagement through Peer Interaction

INDICATORS	Mean	SD	Remarks
1. I pay attention to my classmates whenever they present or share their output.	4.62	0.49	Strongly Agree
2. I participate actively in the group activities.	4.79	0.41	Strongly Agree
3. I feel like I am better working with my peers/classmates.	4.58	0.49	Strongly Agree
OVER – ALL	4.66	0.29	Strongly Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

On table 6, the data on the level of perception of the students on the gallery walk as a teaching strategy in terms of students' engagement through peer interaction was presented. The computed over-all

mean 4.66 (SD=0.29) shows that the respondents *strongly agree* that they are engaged through interaction with their peers while doing the gallery walk activities. This means that they are able to, share ideas and concepts with their peers. Honeycutt (2023) emphasized that gallery walk promotes active learning for it is a combination of physical movement, reflection, analysis, group discussion and writings. Aside from the individual experience, the students were able to analyze and evaluate information shared by their peers.

Moreover, the students *strongly agree* that they participated actively during the group activities (M=4.79, SD=0.41). Through group activities the students were able to evaluate and analyze the thoughts that the other students experience in the gallery walk. They can talk about the different concepts that they need to know. Fegely & Cherener (2022) noted that the traditional gallery walk is interactive that allows the students to move around the room, analyze the information actively so that they can give feedback on their peer's work and insights.

In the same manner, the respondents also *strongly agree* that during the gallery walk they feel that they work better when working with their peers and classmates. Since the students were able to share their thoughts and are free to evaluate their peers' insights, they feel comfortable learning using the gallery walk. Aside from their personal reflection, they can also reflect on the insights of their classmates and peers. They can evaluate the concepts, thoughts and ideas shared by the other members of the class.

Table 7. Level of Perception of Students on Gallery Walk as a Teaching Strategy in Terms of the Students Engagement through Peer Communication

INDICATORS	Mean	SD	Remarks
1. I can freely express my thoughts with my classmates/peers.	4.56	0.50	Strongly Agree
2. I accept and respect the opinions or ideas of my peers/classmates.	4.78	0.41	Strongly Agree
3. I am open to answer questions from my classmates.	4.65	0.48	Strongly Agree
OVER – ALL	4.66	0.26	Strongly Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

Table 7 shows the level of perception of the students about their engagement in terms of peer communication as an indicator of the Gallery Walk as a teaching strategy. As shown on the over-all mean of 4.66 (SD=0.26), the respondents *strongly agree* that they are engaged I gallery walk through their communication with their peers. This means that they can easily disseminate information, product evaluations, and opinions within a social community like their school and classrooms. Rodenbaugh (2015) highlighted the potential impact of using gallery walk as a teaching strategy. He emphasizes that communication between peers and students is developed in the use of gallery walk. He further claimed that it is essential in making critical evaluation of additional information.

In addition to this, the students *strongly agree* that they accept and respect the opinions and ideas of their peers and classmates. This is evident to the students as they share their thoughts, insights and ideas on the content being presented in the gallery walk. In this regard, through the gallery walk the students have developed the value of respect for each other's ideas.

Similarly, the respondents *strongly agree* that they can freely express their thoughts with their classmates and peers (M=4.56, SD=0.50). This means that the students do not fear in sharing their thoughts and ideas without being judged by other students. As observed on the respondents, they were able to share their thoughts and ideas, and the other members of the class listens to the one that presents. With this, the respondents were able to construct important knowledge and gain insights from the other students. Alber

(2016) shared the importance of sharing and teaching each other in a student-centered classroom using gallery walk as a teaching and learning strategy.

Table 8. Level of Perception of Students on Gallery Walk as a Teaching Strategy in Terms of the Students Engagement through Observing

INDICATORS	Mean	SD	Remarks
1. I am given enough time to study the materials presented or posted on the board.	4.62	0.49	Strongly Agree
2. I am allowed to take down notes on what I observe.	4.64	0.48	Strongly Agree
3. I am able to voice out my observations to my peers and to my teacher.	4.64	0.48	Strongly Agree
OVER – ALL	4.63	0.29	Strongly Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

Table 8 shows the level of perception of the students on the use of gallery walk as a teaching strategy in terms of student engagement through observing. The overall mean of 4.63 (SD=0.29) revealed that the students *strongly agree* that they are engaged in gallery walk through observing. This means that the students were able to pay attention to details and make conclusion based on their acquired insights in the gallery walk. Borkala (2022) gave emphasis on the importance of observation in acquiring knowledge. As he mentioned observation creates and develop the students' curiosity, improves learning process, provide deeper understanding, gives real-time feedback and develops individual personality by adapting to change better.

Similarly, the respondents *strongly agree* that they are allowed to take down notes about their observation and they can voice out these observations to their peers and classmates (M=4.64, SD=0.48). This means that gallery walk creates a free space for learning where students acquired learnings through their observations and the observations of the other students. This is evident on the respondents as their teacher allow them to jot down their notes while having their observation. The students also enjoyed and actively shared their observations with the other students on the class. Wahyuni (2022) concluded that the gallery walk improves the engagement of the students' especially in their participation. Their speaking skills are enhanced through the constant sharing of thoughts and ideas they get from their observations.

Moreover, they also *strongly agree* that they were given the time to study the materials presented (M. 4.62, SD=0.49). This means that the students have enough time to observe and make reflections on their observation on the topics presented on the gallery walk. The teacher allows the students to allot 7 to 10 minutes in studying the material presented on each station.

Table 9. Level of Perception of Students on Gallery Walk as a Teaching Strategy in Terms of the Students Engagement through Querying

INDICATORS	Mean	SD	Remarks
1. Asking peers or teachers for clarification when I do not understand.	4.68	0.47	Strongly Agree
2. Students' questions and feedback appeared to be taken seriously	4.61	0.49	Strongly Agree
3. Ability to get support from the teacher, if needed.	4.78	0.41	Strongly Agree
OVER – ALL	4.69	0.27	Strongly Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

Table 9 shows the level of perception of the students on the gallery walk as a teaching strategy in terms of their engagement through querying. The overall mean of 4.69 (SD=0.27) manifested that the students *strongly agree* that they are engaged in the gallery walk through querying. This means that students asked questions of to answer their queries as part of their desire for reliable information.

Moreover, the students *strongly agree* that they get support from their teacher when they need it (M=4.78, SD=0.41). As a result, the students were able to understand more and link the connections between the learning goals of the topics discussed in the gallery walk. Gallery walk develop students independence on learning, but still the teacher act as their guide and facilitator through-out the whole learning experience of the students in the gallery walk. The teacher answers the queries of the students especially when the concepts and insights seem vague for the students.

In addition to this, they *strongly agree* that their questions and queries are taken seriously by the teacher and even by the other students (M=4.61, SD=0.49). Students' queries and questions must always be addressed properly by the teachers to elicit the wrong ideas and concepts that they might encountered along the learning process.

Table 10. Level of Perception of Students on Gallery Walk as a Teaching Strategy in Terms of the General Information

INDICATORS	Mean	SD	Remarks
1. I can generate information that I can use in my daily life based on my understanding.	4.64	0.48	Strongly Agree
2. I can provide real life examples in connection to what the lesson is all about.	4.62	0.49	Strongly Agree
3. I can extract connection from what I learned and from what I know.	4.74	0.44	Strongly Agree
OVER – ALL	4.67	0.43	Strongly Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

Table 10 shows the respondents level of perception on the gallery walk used as teaching strategy in terms of generating information. The respondents *strongly agree* that they acquire information through the gallery walk. This is evident on the over-all mean of 4.67 (SD=0.43). This means that the students students can generate information, synthesize and extract new knowledge based on what they have learned and what they know. Alber (2016) identified the key point of Gallery walk as a method where students individually make their way around the classroom and compose the answers to the questions displayed. In this process the students acquire information and generate them into a meaningful conclusions, concepts and firm ideas.

In line with this, they can extract connection from what they have learned to what they already know (M=4.74, SD=0.44). Strickey (2021) emphasized the importance of the prior knowledge of the students in acquiring new information and learnings. As mentioned, existing knowledge of students when connected to the new knowledge creates a long-term memory for the students. It allows the students to maximize their prior knowledge on the concepts being discussed as they connect it with the new knowledge they are encountering.

In addition to this, the students *strongly agree* that they can provide real life examples in connection to what the lesson is all about. This means that through the gallery walk, the respondents were able to see the connection between their prior knowledge, new knowledge, and its relevance in the society. As observed, the

students were able to cite real life situations and examples on the topics being presented, with or without the guidance of the teacher. In History, students should be able to see the relevance of the past experiences and the present experiences that they encounter.

Students' Mean Gained Score of the Respondents in Terms of Cognitive Skill Test

The following data will show the result of cognitive skill test which is the indicator in assessing the respondents' enhanced knowledge after they are exposed in the Gallery walk as teaching strategy.

Table 11. Mean Gained Score of the Respondents in Terms of Cognitive Skills Test

Cognitive Skills	Mean Gained	SD	Verbal Interpretation
Lesson 1	7.88	1.66	Proficient
Lesson 2	8.15	1.81	Proficient
Lesson 3	8.01	2.14	Proficient

Legend: 8.80 – 10.00 Advanced; 6.60 – 8.79, Proficient; 4.40 - 6.59 Approaching Proficient; 2.20 – 4.39 Developing; 0.00 – 2.19 Beginning

The table 11 shows the gained mean of the respondent on the three lessons tackled in Social Studies using the Gallery walk as a teaching strategy. It is found out that the students are *proficient* on the second lesson gaining the highest mean ($M=8.15$, $SD=1.81$). Moreover, the respondents also classified as *proficient* in the first lesson, attaining the least mean ($M=7.88$, $SD=1.66$).

As revealed on the results, it is implied that the respondents show proficiency on the lessons, skills and competencies required in studying Social Science for the third quarter.

Level of Students' Interest in Learning Social Studies

Aside from the performance of the students in Social Studies, the level of their interest in the subject was also measured through a survey.

Table 12. Students' Perception on the Level of Interest in Learning Social Studies

INDICATORS	Mean	SD	Remarks
1. I enjoyed doing the activities in Gallery Walk very much.	4.39	0.63	Strongly Agree
2. The activities were fun to do.	4.52	0.66	Strongly Agree
3. I thought this was a boring activity.	1.54	0.57	Strongly Disagree
4. This activity did not hold my attention at all.	1.58	0.68	Strongly Disagree
5. I would describe this activity as very interesting.	4.47	0.58	Strongly Agree
6. I thought this activity was quite enjoyable.	4.47	0.53	Strongly Agree
7. While I was doing this activity, I was thinking about how much I enjoyed it.	4.38	0.54	Strongly Agree
8. I tend to forget the time while I was doing the activities.	4.39	0.52	Strongly Agree
9. The activities made me feel good.	4.57	0.54	Strongly Agree
10. I feel I can be myself while doing the activities.	4.57	0.52	Strongly Agree
OVER – ALL	3.89	0.23	Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

Table 12 shows the level of students' perception as they perceive their interest in learning Social Studies. The overall mean of 3.89 (SD=0.23) shows that the respondents *agree* that they gained interest on learning Social Studies with the use of Gallery Walk as a teaching approach. Sauer (2012) showed that students' interest plays an important value and relevance on what they are learning and on how it could affect reaching their goals. Makmun, Yin and Zakariya (2020) identified the impact of gallery walk on the students' interest. They concluded that gallery walk stimulates the learners' interest through active participation, habitual communication with others and attract their attention to learn. This was supported by the claim of Rodenbaugh (2015) that gallery walk stimulates the physical activity that creates enjoyment in the classroom that leads to the stimulation of learning more about the topic being presented.

On the other hand, the students *strongly agree* that the activities in the gallery walk made them feel good (M=4.57, SD=0.54) and they felt that they can express themselves while doing the activity (M=4.57, SD=0.52). This means that the respondents are enjoying the activities presented by the teachers in the gallery walk. They are challenged but engaged at the same time while performing the tasks and activities in the gallery walk.

Nevertheless, they *strongly disagree* that they thought that gallery walk is a boring activity (M=1.54, SD=0.57). This means that even before being engaged in the gallery walk the students perceived that it is an active and engaging activity. One of the main goal of the gallery walk is to engage the students and make them active learners so that they will experience what they learn and how they learn.

Level of Students Attitude in Learning Social Studies

Another indicator to evaluate the effectiveness of the Gallery walk as teaching strategy is through the students' attitude in learning Social Studies. The level of the students attitude is measured through the computation of mean and standard deviation of their responses on the survey.

Table 13. Students' Perception on the Level of Attitude in Learning Social Studies

INDICATORS	Mean	SD	Remarks
1. The Gallery Walk made the understanding of the topics in Social Studies easy for me.	4.55	0.50	Strongly Agree
2. I enjoyed working together with my classmates in groups.	4.65	0.48	Strongly Agree
3. I get along with other group members.	4.47	0.50	Strongly Agree
4. I felt the responsibility to contribute to my group.	4.61	0.49	Strongly Agree
5. The Gallery Walk gave me a sense of belongingness.	4.59	0.49	Strongly Agree
6. The Gallery Walk helped me make new friends.	4.63	0.48	Strongly Agree
7. The Gallery Walk reduced my fears I had about Social Studies lessons.	4.59	0.49	Strongly Agree
8. The Gallery Walk helped me develop the habit of coming to school regularly.	4.65	0.48	Strongly Agree
9. The Gallery Walk made me realize that I need other people to succeed.	4.67	0.47	Strongly Agree
10. The Gallery Walk is the best way for me to learn about the topics in Social Studies.	4.65	0.48	Strongly Agree
OVER – ALL	4.60	0.24	Strongly Agree

Legend: 4.20-5.00 Strongly Agree, 3.40-4.19 Agree; 2.60-3.39 Moderately Agree; 1.80-2.59 Disagree; 1.00-1.79 Strongly Disagree

The Table 13 discusses the students' level of perception on the use of Gallery walk as related to their attitude towards learning Social Science. The overall mean of 4.60 (SD=0.24) implies that the students *strongly agree* that their attitude in learning Social Studies was affected by the gallery walk. During the implementation of the gallery walk, the students shows eagerness, participation and good attitude towards the topic presented in Social Studies. As emphasized by Chen & Huang (2014), attention is a mechanism that initiates learning, so its vital in learning Social Studies. This is parallel to the study conducted by Al-adab (2019). According to him, the students' attitude to learn is affected by the gallery walk. It resulted from the positive behavior seen in their respondents, in terms of collaboration, independent learning and perception in learning Social Studies.

In addition to this, the students *strongly agree* that through the Gallery Walk the respondents realized that they need other people to succeed (M=4.67, SD=0.47). This is similar to the findings of Al-adab (2019). This means that collaboration is important in the implementation of Gallery walk as a teaching strategy. It is evident with the learner-respondents as they go along with the learning experience, especially when they encounter concepts that are new to them. They try to ask the other students about their ideas and insights.

Moreover, the students also *strongly agree* that through the gallery walk they were able to get along with the other members of the group ($M=4.47$, $SD=0.50$). This means that in gallery walk, team work and communication with other students shows an important role in one's learning experience. During the implementation, it was observed that the students were working in small groups, they share ideas and evaluate their ideas to create the ideas embedded in the gallery walk activities.

Table 14. Significant relationship between the Gallery Walk and the Students' Cognitive Skill Test

Gallery Walk Activities	R-Value	Interpretation
Material Resources Representation	0.114	Not Significant
Efficiency of Guidelines of the Activities	0.025	Not Significant
Student Engagement	0.078	Not Significant
1. Peer Interaction	-0.023	Not Significant
2. Peer Communication	0.025	Not Significant
3. Observing	0.143*	Significant
4. Querying	0.070	Not Significant
General Information	0.114	Not Significant

Legend: **. Correlation is significant at the 0.01 level (2 – tailed); *Correlation is significant at the 0.05 level (2 – tailed)

Table 14 shows the significant correlation between the gallery walk activities and the Cognitive Skills Test. It is noticeable that all the indicators identified under the gallery walk activities *do not have significant relationship* on the cognitive skills test.

However, the sub – indicator observing under the students' engagement shows a *significant* relationship on the cognitive skill test. This means that observation of the students is important in achieving proficiency on the cognitive skill test. This is because the gallery walk encourages independent learning for students, they need to depend their learning on what they have observed. There is a need to pay attention to the details of the materials presented so that they can understand the key learning areas that they need to acquire. Borkala (2022) emphasized that through observation students can create and curiosity that will lead them in improving the learning process, provide deeper understanding, gives real-time feedback and develops individual personality by adapting to change better. However, in general, the student engagement has *no significant* relationship to the cognitive skill test.

Moreover, overall, the Gallery Walk has *no significant* relationship to the cognitive skill test of the students. This leads to the acceptance of the null hypothesis since the computed correlation value of each indicator is not significant at 0.05 level of significance. This implies that the Gallery Walk was used as teaching strategy but is not perceived by the students that affects the result of their cognitive skill test.

This is contrary to the analysis given by Fannia, Rini, and Arman (2017). According to them, the gallery walk helped the increase of students who scored more than 75% of the test. It is supported by the claim of Makmun, Yin & Zakariya (2020). They concluded that the gallery walk has an overall impact on the academic performance of the students. Academic performance of students was measured through their participation in discussion and assessment through paper and pencil test. Yani, Abdi and Harun (2017) mentioned that the gallery walk stimulated the students' memory since they have direct observation on the concepts they learn.

Table 15. Significant relationship between the Gallery Walk and the Students' Interest

Gallery Walk Activities	R-Value	Interpretation
Material Resources Representation	0.094	Not Significant
Efficiency of Guidelines of the Activities	-0.044	Not Significant
Student Engagement	-0.060	Not Significant
1. Peer Interaction	-0.097	Not Significant
2. Peer Communication	-0.032	Not Significant
3. Observing	-0.005	Not Significant
4. Querying	-0.054	Not Significant
General Information	-0.045	Not Significant

Legend: **. Correlation is significant at the 0.01 level (2 – tailed); *Correlation is significant at the 0.05 level (2 – tailed)

Table 15 shows the correlation between the Gallery Walk Activities and the students' interest in accomplishing the activities. As depicted on the table, all the indicators of the gallery walk activities stated are *not significantly* related on the interest of the students to accomplish their task.

Since all the computed correlational value is *not significant* at 0.05 level of significance, this leads to the acceptance of the null hypothesis that the gallery walk as a teaching strategy is *not significantly* related on the interest of the students in learning Social Studies, as well as their interest in accomplishing the activities in Social Studies. With this regard, the result implies that gallery walk as a teaching strategy do not affect the students' interest in learning Social Studies.

Table 16. Significant relationship between the Gallery Walk and the Students' Attitude

Gallery Walk Activities	R-Value	Interpretation
Material Resources Representation	0.441**	Significant
Efficiency of Guidelines of the Activities	0.089	Not Significant
Student Engagement	0.094	Not Significant
1. Peer Interaction	-0.088	Not Significant
2. Peer Communication	0.151*	Significant
3. Observing	0.055	Not Significant
4. Querying	0.130	Not Significant
General Information	0.154*	Significant

Legend: **. Correlation is significant at the 0.01 level (2 – tailed); *Correlation is significant at the 0.05 level (2 – tailed)

At 0.05 level of significance, the indicators efficiency of guidelines of the activities ($r=0.089$) and student engagement ($r=0.094$) have *no significant* relationship on the students' attitude on working in group and in learning topics in Social Studies.

On the other hand, at 0.01 level of significance, material resources representation ($r=0.441$) shows a *significant* relationship with the attitude of the respondents. As implied by the result, the material resources representation used in gallery walk affected the attitude of the respondents on teamwork and collaboration. The materials used in the gallery walk stimulates the behavior of the respondents as they learn Social Studies. This is evident during the simulation, that the students enjoyed the activities with the help of the materials since it is timely and relatable to the real world, shows high relevance on the topics being discussed and shows interconnectivity from one material to another. This helps the students to have a smooth transition as

they move along the classroom and gain knowledge.

However, it is noticeable that in the student's engagement, peer communication ($r=0.151$) shows a *significant* relationship with the students' attitude on working in group and in learning topics in Social Studies. This implies that peer communication helps the students in developing their attitude in working in a group and learning topics in Social Studies. This is parallel to the study of Farrah (2015) that students' communication ability increased after participating in the gallery walk. And is supported by the claim of Makmun, et al. (2020) that students' communication skills show a positive correlation on the use of gallery walk.

It is also noticeable that the general information ($r=0.154$) shows a *significant* relationship between the gallery walk and the attitude of students in working in group and learning topics in Social Studies, at 0.01 level of significance. This supports the claim of De Pedro, et. al. (2016) that the use of gallery walk encouraged the students to relate what they see or experience to what they are learning inside the classroom and give specific examples on the topics where gallery walk is used.

Moreover, gallery walk has *significant* relationship with the students' attitude in working group and in learning Social Studies. This leads to the acceptance of the null hypothesis that gallery walk activities are significantly related to the students' attitude in working group and in learning Social Studies. This claim is parallel to the study of Rodenbaugh (2015) that gallery walk enhances the peer instructions which is necessary to work and learn as a group. In addition to this, the students' accountability was also enhanced, as well as the interaction with team members.

CONCLUSIONS

Based on the forgoing findings, the following conclusions were drawn:

In terms of the relationship of the gallery walk and the cognitive skill test, the null hypothesis is accepted. This means that there is no significant relationship between the gallery walk as a teaching strategy and the cognitive skill test of the respondents.

The null hypothesis in terms of the relationship between the gallery walk as teaching strategy and the students' interest in learning Social Studies is also accepted. There is no significant correlation was seen between the gallery walk and the students' interest in learning Social Studies.

However, the null hypothesis defining the relationship between the gallery walk as a teaching strategy and the students' attitude is rejected. This shows that gallery walk as a teaching strategy and students' attitude are significantly related.

RECOMMENDATIONS

Based on the summary, findings and conclusion of the research, the following recommendations are formulated:

1. The respondents strongly agree that they perceived the indicators of the gallery walk. With this regard, it is recommended that researchers may explore more features of gallery walk that can be still added to enhance the learning experience of the students.
2. For the Cognitive Skills of the students, since it was revealed that the students are proficient, it is recommended that the researcher should further explore on the components of gallery walk that could achieve the highly proficient level of scores for the students.
3. The students strongly agree that their interest in learning social studies is perceived by the respondents. Specifically, the students' perception of the gallery walk as boring and could not hold their attention was strongly disagreed with by the students. It is highly recommended that the research must reconstruct the statements for it may be misinterpreted by the respondents.
4. As for the attitude of the respondents towards learning Social Studies, the respondents strongly agree that they perceived it in the gallery walk. Hence, there is no further recommendation for this component.

5. The results of the study showed no significant relationship between the gallery walk activities and the students' academic performance. Therefore, it is recommended that the researcher should review the components of the gallery walk and improve the way of implementation of the teaching strategy.

ACKNOWLEDGEMENTS

The researcher would like to express her heartfelt gratitude and appreciation to those who extend their valuable support in the preparation, completion, and success of this undertaking. Grateful acknowledgement is hereby expressed to:

Our Heavenly Father and His Son Jesus Christ, for eternal presence and blessing upon her the countless provision of wisdom, knowledge, strength and enlightenment throughout this study.

Laguna State Polytechnic University, for the quality education and proficient professors who help her develop knowledge needed for professional growth.

Dr. Mario R. Briones, University President and Chairman of examiner for the hard work in producing well-trained and equipped teachers;

Dr. Eden C. Callo, Vice-President for Academic affairs for the guidance and associate of the University President in continuing the work for the development of the University;

Dr. Edilberto Z. Andal, Dean of the College of Teacher Education and Graduate Studies for moral support and assistance in the completion of this work and for working out the completion of the study;

Dr. Nelia T. Salvador, her ever-supportive adviser for the concepts, mentorship and shared knowledge that made this research a success as well as her constant reminders for us to strive harder for our research.

Mrs. Rona Christina M. Almazan, the researcher's subject specialist for the additional inputs of knowledge for the betterment of this study.

Mr. Chester M. Derequito, the researcher's technical expert for patiently reviewing the research work in consonance with the academe's standards of formatting.

Dr. Agripina F. Banayo, the researcher's statistician for sharing her expertise in statistical analysis of data which have been of utmost significance in the completion of this study.

Dr. Santiago F. Fajilago Jr., Principal IV of Pedro Guevara Memorial National High School, Santa Cruz Laguna for allowing the researcher to conduct her study inside the school.

Her co-teachers in PGMNHS and Friends, especially to the Araling Panlipunan Department, Mrs. Lorelyn C. Miñon and to her Master Teacher Mr. Odon A. Sulla for being supportive at all times, and Elite Friends for the quality time spent together through sadness and happiness.

Fellow Master of Arts in Education Major in Social Science friends who serve as companions while working out the study in continuing her desire to finish this course.

Beloved family, Rafael and Maricel Lalican, her siblings, her Titas and Titos, and most especially her husband Aaron Paul D. Gabinete who gave her unconditional love, support and encouragement to provide the researcher the steppingstone of education to make this course happen.

REFERENCES

A. Published

Ainley M. (2006). Connecting with learning: Motivation, affect and cognition in interest processes. *Educational Psychological Review*.
doi: 10.1007/s10648-006-9033-0.

Anwar, F. Z. (2015). Enhancing students' speaking skill through gallery walk technique (a classroom action

research at the first grade students of sma muhammadiyah (plus) salatiga in academic year 2014/2015) (Doctoral dissertation, IAIN Salatiga). DOI:10.18326/rgt.v8i2.384

Bergman-Nutley S, Klingberg T. (2014). Effect of working memory training on working memory, arithmetic and following instructions. *Psychol Res.*;78(6)

Bowman, S. (2005). *The Gallery Walk: An Opening, Closing, and Review Activity*. Glenbrook, NV: Bowperson Publishing and Training, Inc.

Bruin ABH, Dunlosky J, Cavalcanti RB. (2017). Monitoring and regulation of learning in medical education: the need for predictive cues. *Med Educ*.

Chin, C., (2016). Peer-Assesed Gallery Walk as a Teaching Strategy: A Professional Development Experience for 21st Century Education.

Collision, G., Elbaum, B., Haavind, S., & Tinker, R. (2000). *Facilitating Online Learning. Effective Strategies for Moderators*. Madison, WI: Atwood Publishing.

Connell, J.P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life-span. In D. Cicchetti (Ed.), *The self in transition: Infancy to childhood (61–97)*. Chicago: University of Chicago Press

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety* Jossey-Bass, San Francisco

Cuoco, A. A. (2001). *The Roles of Representation in School Mathematics*. Reston, VA: National Council of Teachers of Mathematics

De Bruin ABH, van Gog T. (2012). Improving self-monitoring and self-regulation: from cognitive psychology to the classroom.

Deci, E.L. & Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behavior* Plenum, New York (1985)

Deci, E.L. (1975). *Intrinsic motivation* Plenum, New York

Dewey J. (1913). *Interest and effort in education*. Boston, MA: Houghton Mifflin

Malik, Tayyaba. (2019). Comparative Analysis Between Pre- test/Post-test Model and Post-test-only Model in Achieving the Learning Outcomes.

Newmann, F. M. (Ed.). (1992). *Student engagement and achievement in American secondary schools*. New York: Teachers College, Columbia University.

Salubayba, P.J. (2017). *The Effectiveness of Using the Jigsaw Technique in teaching Cellular Structure among Selected Grade Seven Students of the Laguna College, San Pablo City, Philippines*. University of the Philippines Los Banos

Sansone C, Thoman DB. (2005). Interest as the missing motivator in self-regulation. *European Psychologist*. doi: 10.1027/1016-9040.10.3.175.

Shearer, R. L. (2003). Interaction in distance education. Special Report 2(1). Madison, WI: Atwood Publishing

Yang T. (2011). The role of working memory in following instructions. ProQuest Dissertations Publishing – Dissertation

B. Unpublished

Brinker, L. (1996). Representations and students' rational number reasoning. Unpublished doctoral dissertation, University of Wisconsin, Madison

Hogan, J. P. and Cernusca, D. (2011). Integrating Gallery Walks and Wikis in a Synergic Instructional Activity: An Exploratory Study of Students Perceptions. Paper presented at 2011 ASEE Annual Conference & Exposition, Vancouver, BC. Retrieved on June 20, 2022, from <https://peer.asee.org/18229>.

Jaggars, S. S., Edgecombe, N., & Stacey, G. W. (2013, April). Creating an effective online instructor presence. Report completed for the Community College Research Center, Teachers College, Columbia University, NY. Retrieved from <http://files.eric.ed.gov/fulltext/ED542146.pdf>
Majiasih, H. (2012). The effectiveness of gallery walk to teach speaking viewed from The students' self-esteem: An experimental study at the eleventh-grade students of SMAN 3 Cilacap in the academic year of 2011/2012. [Graduate degree in English education, Sebelas Maret University].

C. Online Journals/Periodicals

Al-adab, N., (2019). Gallery Wal: An Alternative Learning Strategy in Increasing Students' Active Learning. Department of West Asian Studies, Faculty of Cultural Sciences, Hassundin University, 16(1). pp49-63.

Allen, D., & Tanner, K. (2005). Infusing active learning into the large-enrolment biology class: Seven strategies, from the simple to complex. *Cell Biology Education*, 4, 262–268

Baddeley, A. (2010). Working memory. *Current Biol.*;20(4):R136-R140
Baddeley AD, Larsen JD (2007). The phonological loop unmasked? a comment on the evidence for a "perceptual-gestural" alternative. *Quart J Exp Psychol.*;60(4):497-504

Barnard, W. (2004). Parent involvement in elementary school and educational attainment. *Children and Youth Services Review*, 26(1), 39-62.

Battistich, V., Solomon, D., Watson, M., & Schaps, E. (1997). Caring school communities. *Educational Psychologist*, 32, 137–151

Berlyne DE. (1970). Novelty, complexity, and hedonic value. *Perception & Psychophysics*. 1970;8:279–286. doi: 10.3758/BF03212593.

Birch, S., & Ladd, G. (1997). The teacher–child relationship and children's early school adjustment. *Journal of School Psychology*, 35(1), 61-79

Burgess, O. (2015). Cyborg teaching: The transferable benefits of teaching online for the face-to-face classroom. *MERLOT Journal of Online Learning and Teaching*, 11(1)

Cardino Jr., J. M., & Ortega-Dela Cruz, R. A. (2020). Understanding of learning styles and teaching strategies towards improving the teaching and learning of mathematics. *LUMAT: International Journal on Math, Science and Technology Education*, 8(1), 19–43. <https://doi.org/10.31129/LUMAT.8.1.1348>

Collis, B. (1998). New didactics for university instruction: Why and how? *Computers and Education*, 31(4), 373-393.

Connell, J.P., & Wellborn, J.G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In Gunnar, M. R., & Sroufe, L.A. (Eds.), *Self processes and development* (Vol. 23, pp. 43–77) Hillsdale, N.J.: L. Erlbaum Associates

Conner, T. (2011). Academic engagement ratings and instructional preferences: Comparing behavioral, cognitive, and emotional engagement among three school-age student cohorts. *Review of Higher Education and Self-Learning*, 4(13), 52-62.

Cowan N. (2001). The magical number 4 in short-term memory: a reconsideration of mental storage capacity. *Behav Brain Sci.*;24(1):87-114

Cowan, N. (2014). Working memory underpins cognitive development, learning, and education. *Educ Psychol Rev.* ;26(2):197-223

De Pedro, K. T., Jackson, C., Campbell, E., Gilley, J. & Clarelli, B. (2016). Creating trans-inclusive schools: Introductory activities that enhance the critical consciousness of future educators. *International Journal of Teaching and Learning in Higher Education*, 28(2), 293-301

Deci, E.L. & Ryan, R.M. (1991). A motivational approach to self: Integration in personality R. Dienstbier (Ed.), *Nebraska symposium on motivation: Vol. 38. Perspectives on motivation*, University of Nebraska Press, Lincoln, NE pp. 237-288

Dimitrov, Dimiter & Rumrill, Phillip. (2003). *Pretest-Posttest Designs and Measurement of Change*. Work (Reading, Mass.). 20. 159-65.

Dinata, H., & Anggraini, R. W. (2017). The use of the gallery walk to enhance the speaking achievement of the ninth grade students of SMP PGRI 1Palembang. *Jurnal Bahasa Dan Sastra*, 6 (1), 50-56. <http://ejournal.uigm.ac.id/index.php/GE/article/view/265/270>

Donadeli JM, Strapasson BA. (2015). Effects of monitoring and social peprimands on instruction-following in undergraduate students. *Psychol Record*;65(1):177-188.

Drummond, C. (n.d.). Deepening Understanding of Quadratics Through Bruner’s Theory of Representation. Retrieved from <https://www.gcsu.edu>, September 2022

Dunham, S., Lee, E., Persky, M, (2020). *The Psychology of Following*

Instructions and Its Implications. *American Journal of Pharmaceutical Education* Aug 2020, 84 (8) ajpe7779; DOI: 10.5688/ajpe7779

Durik AM, Harackiewicz JM. (2007) Different strokes for different folks: How individual interest moderates the effects of situational factors on task interest. *Journal of Educational Psychology*. 2007;99:597–610. doi: 10.1037/0022-0663.99.3.597

Duval, R. (2006). A cognitive analysis of problems of comprehension in a learning of mathematics. *Educational Studies in Mathematics*, 61:103-131 DOI: 10.1007/s1064.

Duval, R. (2017). Mathematical activity and the transformations of semiotic representations. In M. Tania & M. Campos (Eds.), *Understanding the mathematical way of thinking: the registers of semiotic representations*. Cham: Springer.

Fannia L., Rini & Arman E.Y. (2017). Application of gallery walk learning methods to enhance learners' learning on the subject of atomic structure and periodic system of new element X class Mia Sman2 Pekanbaru. *Journal of Faculty of Science and Education*, 4(1), 1-13.

Finn, J. D. (1993). *School engagement and students at risk*. Washington, DC: National Center for Education Statistics.

Finn, J., Pannozzo, G., & Voelkl, K. (1995). Disruptive and inattentive-withdrawn behavior and achievement among fourth graders. *The Elementary School Journal*, 95(5), 421-434

Finn, J., & Rock, D. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology*, 82(2), 221-234.

Francek M. (2006). Promoting discussion in the science classroom using gallery walks. *J Coll Sci Teach*, 36(1), 27-32.

Franzblau, L., & Haque, F. (2018). Using gallery walks to navigate hospital hierarchy. *Medical Education*, 52(11), 1185-1186.

Fredricks, J., Blumenfeld, P., & Paris, A. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59-109.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, 95(1), 148-162.

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105.

Gningue, S. M., Menil, V. C., & Fuchs, E. (2014). Applying Bruner's Theory of Representation to Teach Pre-Algebra and Algebra Concepts to Community College Students Using Virtual Manipulatives. *Electronic Journal of Mathematics & Technology*, 8(3), 159–177

Goldin, G. A. (1998). Representational systems, learning, and problem solving in mathematics. *Journal of Mathematical Behavior*, 17, 137-165

Goldin, G. A. (2003). Representation in school mathematics: A unifying research perspectives. In J. Kilpatrick, W. G. Martin, & D. Schifter (Eds.), *A Research companion to principles and standards for school mathematics* (pp. 275-285). Reston, VA: National Council of Teachers of Mathematics.

Goldin, G. A., & Shteingold, N. (2001). Systems of representation and the development of mathematical concepts. A. A Cuoco & F. R. Curcio (Eds.), *The role of representation in school mathematics* (pp. 1- 23). Reston, VA: National Council of Teachers of Mathematics

Gray, J. & Diloreto, M. (2016). *The Effects of Student Engagement, Student Satisfaction, and Perceived Learning in Online Learning Environments*. National Council of Professors of Educational Administration (NCPEA)

Greeno, J. G., & Hall, R. P. (1997). Representation: Learning with and about representation forms. *The Phi Delta Kappan*, 78, 361-367.

Gregorio, J. & Serrano E. (2021). Effectiveness of Flipped Classroom in Teaching Pronoun-Antecedent Agreement to Grade 10 Students in a National High School in Alaminos, Laguna, Philippines. Retrieved from http://www.aisf.or.jp/aifdocs/vol_6A_01.pdf

Guerin B. (1986). Mere presence effects in humans: a review. *J Exp Soc Psychol.*;22(1):38-77.

Haciomeroglu, E. S., Aspinwall, L., & Presmeg, N. C. (2010). Contrasting cases of calculus students' understanding of derivative graphs. *Mathematical Thinking and Learning*, 12, 152-176.

Harackiewicz JM, Canning EA, Tibbetts Y, Priniski SJ, Hyde JS. (2015). Closing achievement gaps with a utility-value intervention: Disentangling race and social class. *Journal of Personality and Social Psychology*. doi: 10.1037/pspp0000075. Advance online publication.

Harackiewicz JM, Durik AM, Barron KE, Linnenbrink-Garcia L, Tauer JM. (2008). The role of achievement goals in the development of interest: Reciprocal relations between achievement goals, interest, and performance. *Journal of Educational Psychology* doi: 10.1037/0022-0663.100.1.105.

Harackiewicz JM, Smith JL, Priniski SJ. Interest Matters: The Importance of Promoting Interest in Education. *Policy Insights Behav Brain Sci*. 2016 Oct;3(2):220-227. doi: 10.1177/2372732216655542. Epub 2016 Jun 30. PMID: 29520371; PMCID: PMC5839644.

Heider, F. (1958). *The psychology of interpersonal relations* Wiley, New York

Hendri & Retika. (2017). The use of gallery walk to enhance the speaking achievement of the ninth-grade students of Smp PGRI 1 Palembang. *Journal of Language and Literature*, 6(1), 50-56.

Hidi S. (2006). Interest: A unique motivational variable. *Educational Research Review*. 2006;1:69–82. doi: 10.1016/j.edurev.2006.09.001.

Hidi S, Renninger KA. (2006). The four-phase model of interest development. *Educational Psychologist*. doi: 10.1207/s15326985ep4102_4.

Hidi S, Harackiewicz JM. (2000). Motivating the academically unmotivated: A critical issue for the 21st century. *Review of Educational Research*. 2000;79:151–179. doi: 10.2307/1170660.

Jaggars, S. S., & Xu, Di (2016). How do online course design features influence student performance? *Computers and Education*, 95, 270-284, doi: 10.1016/j.compedu.2016.01.014

Jang, H. Reeve, J., & Deci, E. L. (2010). Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure. *Journal of Educational Psychology*, 102(3), 588-600.

Janvier, C. (1987). Translation process in mathematics education. In C. Janvier (Ed.), *Problems of representation in the teaching and learning of mathematics* (pp. 27-32). Hillsdale, NJ: Lawrence Erlbaum.

Jaroslawska AJ, Gathercole SE, Allen RJ, Holmes J. (2016). Following instructions from working memory: why does action at encoding and recall help? *Memory Cogn.*;44(8):1183-1191.

Jennings, J. M., & Angelo, T. (Eds.) (2006). *Student engagement: Measuring and enhancing engagement with learning*. Proceedings of the Universities Academic Audit Unit, New Zealand

Jensen, E. (2013). How poverty affects classroom engagement: Students from low-income households are more likely to struggle with engagement – for seven reasons. *Educational Leadership*, 70(8), 24-30

Joe, N. (2021). Method of Teaching Araling Panlipunan and its Effect on the Grade-10 Students' Performance in Indanan National High School Timbangan Campus-Jolo, Sulu Philippines. *International Journal of Research and Innovation in Social Science (IJRISS)* |Volume V, Issue XII, December 2021|ISSN 2454-6186

Kahayun, Wakidi & Yustina (2015). The influence of the gallery walk on the interest of studying history in Sman 1 Natar. *Journal of Education and Historical Research*, 3(2), 1-14.

Kahu E.R., Stephens C.V., Leach L., Zepke N. (2015). Linking academic emotions and student engagement: Mature-aged distance students' transition to university. *J. Furth. High. Educ.*;39:481–497. doi: 10.1080/0309877X.2014.895305.

Katamba, C., & Buli, R. (2018). Improving speaking skills using the Gallery Walk technique. *Catalyst*, 17, 1-6. <https://www.tci-thaijo.org/index.php/hbds/article/view/189055>

Kim, C. M., Park, S. W., Cozart, J., & Lee, H. (2015). From motivation to engagement: The role of effort regulation of virtual high school students in mathematics courses. *Educational Technology & Society*, 18(4), 261-272

Kraft, M., & Dougherty, S. (2013). The effect of teacher-family communication on student engagement: Evidence from a randomized field experiment. *Journal of Research on Educational Effectiveness*, 6, 199-222

Kroger-Costa A, Abreu-Rodrigues J. (2012). Effects of historical and social variables on instruction following. *Psychol Record*;62(4):691-706

Lesh, R. (1981). Applied mathematical problem solving. *Educational Studies in Mathematics* 12, 235–264

Lesh, R., Post, T., & Behr, M. (1987). Representations and translations among representations in mathematics learning and problem solving. In C. Janvier (Ed.), *Problems of representation in the teaching and learning of mathematics* (pp. 33-40). Hillsdale, NJ: Lawrence Erlbaum Associates

Lewin, L. (1951). Intention, will, and need. D. Rapaport (Ed.), *Organization and pathology of thought*, Columbia University Press, New York pp. 95-153

Levelt WJM, Flores d' Arcais GB Wright P, Wilcox P. (1978). Following instructions: an exploratory trisection of imperatives. In: Levelt WJM, , Flores d' Arcais GB, eds. *Studies in the Perception of Language*. New York: Wiley

Linda Astuti Rangkuti, Meida Rabia Sihite, Jatra Jatra (2022). The Effect of Gallery Walk Technique on Students' Speaking Skill. *Journal of English Language and Education* (jele.or.id)

Makmun, M., Yin, K. Y., & Zakariya, Z. (2020). The Gallery Walk Teaching and Learning and Its Potential Impact on Students' Interest and Performance. *International Business Education Journal*, 13(1), 17-22. <https://doi.org/10.37134/ibej.vol13.1.2.202>

Mariyaningsih N. (2014). Improvement of financial reporting activity and results of financial accounting learning materials through the standard walk-in gallery method. *Journal of Educational Economics in Educational Dynamics*, 14(1), 57-59.

Mawardini, A., Prasetyo, T., & Widyaningsih, H. (2018). Gallery Walk's and Picture and Picture toward Math's Result Study: *Jurnal Pendidikan Guru Sekolah Dasar*, 5(1), 29–40. <https://doi.org/10.30997/dt.v5i1.1078>

McLeod, s. (2019). Bruner - Learning Theory in Education. Retrieved from <https://www.simplypsychology.org/bruner.html>, September 2022

Meador, D. (2018). Building an arsenal of effective instructional strategies. ThoughtCo. <https://www.thoughtco.com/building-an-arsenal-of-effective-instructional-strategies3194257>

Mesquita, A. L. (1998). On conceptual obstacles linked with external representation in geometry. *Journal of Mathematical Behavior*, 17, 183-195.

Mimidoo Matilda Nomsoor, Ganiyu Bello, Sulaiman Musa Mohammed (2021). Effects of Gallery Walk Instructional Strategy On Senior School Students' Achievement In Cell Division In Ilorin, Nigeria. <https://journal.iainkudus.ac.id/index.php/jbe/article/view/10816>

Muirhead, B. (2004). Encouraging interaction in online classes. *International*

Journal of Instructional Technology and Distance Learning, 1(6), 45-50.

Mulyani, A.R. (2014). Teaching Written Announcement Through Gallery Walk Technique. *Journal English Language Teaching*, Vo. 3, No.1. Retrieved 20 June 2022.

Namaziandost, E., Esfahani, F. R., Nasri, M., & Mirshekaran, R. (2018). The effect of gallery walk technique on pre- intermediate EFL learners' speaking skill. *Language Teaching Research Quarterly*, 8, 1-15. https://www.eurokd.com/Resources/Uploaded/Articles/6049dc4e406949a9ae5af7b189b50e20/202005111349001_15.pdf

Nwanekezi, A. U., Chimene, W., Kinikanwo-Samuel, E. (2018). Effects of gallery walk teaching strategy on the academic performance of students in basic science concepts in Rivers State. *International Journal of Applied Research*, 4(12), 253-257.

Otoyo, K. (2018). The use of gallery walk to enhance speaking ability of the eleventh grade students of State Madrasah Aliyah. *Edukasi: Jurnal Pendidikan Dan Pengajaran*, 5(2), 101-111. <https://doi.org/10.19109/ejpp.v5i2.2571>

Palmer DH. (2009). Student interest generated during an inquiry skills lesson. *Journal of Research in Science Teaching*, 2009;46:147–165. doi: 10.1002/tea.20263.

Piaget, J. (1971). *Biology and knowledge* University of Chicago Press, Chicago

Ramsaroop, S. and Petersen, N., (2020). Building Professional Competencies through a Service Learning 'Gallery Walk' in Primary School Teacher Education, *Journal of University Teaching & Learning Practice*, 17(4). <https://ro.uow.edu.au/jutlp/vol17/iss4/3>

Renninger KA, Hidi S. (2016). *The power of interest for motivation and engagement*. New York, NY: Routledge

Reyes, M. R., Brackett, M. A., Rivers, S. E., White, M., and Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology*, 104(3), 700-712.

Robinson, A., (2017). The Gallery Walk. *The Learning Professionals*, 38(6). pp. 48-53. Retrieved from: www.learningforward.org

Rodenbaugh, D. W. (2015). Maximize a team-based learning gallery walk experience: Herding cats is easier than you think. *Advances in Physiology Education*, 39(4), 411–413.

Sak, Yoeurng. (2022). The Effectiveness of the Gallery Walk Technique in EFL Speaking Classes. San Jose, Ariel. (2015). Strategies in Teaching Literature: Students in Focus. *International Journal of Education and Research*. 3. 41-50.

Setyawan, F., Sumargiyani, S., & Hamzah, R. (2016). Lesson study: Gallery walk to support students' participation in real analysis. *Ahmad Dahlan National Seminar on Mathematics Education*, 1, 314-319.

Shanko, P. (2020). What are the Benefits of Pre and Post-tests? Retrieved from www.Digitec Interactive.com

Sitzmann T, Ely K. (2011). A meta-analysis of self-regulated learning in work-related training and educational attainment: what we know and where we need to go. *Psychol Bull.*;137(3):421-442

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85(4), 571-581.

Smith JL, Wagaman J, Handley IM. (2009). Keeping it dull or making it fun: Task variation as a function of promotion versus prevention focus. *Motivation and Emotion*. doi: 10.1007/s11031-008-9118-9.

Sowell, J. (2017). Good Instruction-Giving in the Second-Language Classroom. Retrieved from americanenglish.state.gov/english-teaching-forum

Sujannah, W.D and Utami, L.N.T. (2017). Gallery Walk as a Strategy to Improve Learner Autonomy. *Language and Language Teaching Journal*. Yogyakarta: Santa Dharma University.

Swiderski, S. M. (2011). Transforming principles into practice: Using cognitive active learning strategies in the high school classroom. *The Clearing House*, 84, 239-243.

Tan and Alcantara (2017). Gallery Walk Technique in Teaching Selected Topic in English and Learners' Performance. Retrieved from www.journalijar.com

Taylor, L., & Parsons, J. (2011). Improving student engagement. *Current Issues in Education*, 14(1). Retrieved from <http://cie.asu.edu/>

Tebabal, A. & Kahssay, G. (2011). The Effects of Student-Centred Approach in Improving Students' Graphical Interpretation Skills and Conceptual Understanding of Kinematical Motion. *Latin American Journal of Physics Education*, 5(2), 374–381

Thoman DB, Smith JL, Silvia P. (2011). The resource replenishment function of interest. *Social Psychological & Personality Science*. Doi: 10.1177/1948550611402521

Trowler, V. (2010). Student engagement literature review. *The Higher Education Academy*. Retrieved from [https://www.heacademy.ac.uk/sites/default/files/studentengagementliteraturereview_1 .pdf](https://www.heacademy.ac.uk/sites/default/files/studentengagementliteraturereview_1.pdf)

Van Merriënboer J J G, Sweller J. (2010). Cognitive load theory in health professional education: design principles and strategies: cognitive load theory. *Med Educ.*;44(1):85-93.

Vergnaud, G. (1998). A comprehensive theory of representation for mathematics education. *Journal of Mathematical Behavior*, 17, 167-181.

Walkington CA, Bernacki ML. (2014). Motivating students by “personalizing” learning around individual interests: A consideration of theory, design, and implementation issues. *Advances in Motivation and Achievement*. 2014;18:139–176. doi: 10.1108/S0749-742320140000018004.

Wang, C. W., & Neihart, M. (2015). How do supports from parents, teachers,

and peers influence academic achievement of twice-exceptional students. *Gifted Child Today*, 38(3), 148-159

Wang, M. T., & Eccles, J. S. (2013). School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective. *Learning and Instruction*, 28(1), 12-23.

Wahyuni, Sudarsono, and Sada (2022). Using Gallery Walk Strategy to Improve Students' Participation in Speaking Activities. *Journal of English as a Foreign Language Education*.

Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, 90, 202–209.

Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology*, 90(2), 202-209.

White, R.W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, pp. 297-333

Willms, J. D., Friesen, S. & Milton, P. (2009). What did you do in school today? Transforming classrooms through social, academic and intellectual engagement. (First National Report) Toronto: Canadian Education Association.

Yang T-x, Allen RJ, Gathercole SE.(2016). Examining the role of working memory resources in following spoken instructions. *J Cogn Psychol.*;28(2):186-198

Yani, Abdi & Harun. (2017). Implementation of a cooperative learning model of the gallery walk to enhance the geography learning outcomes of state x-b students in the 7th grade. *Journal of Geography Education Unsyiah*, 2(2), 59-69

Young JQ, Van Merriënboer J, Durning S, Ten Cate O. (2014). Cognitive load theory: implications for medical education: AMEE Guide No. 86. *Med Teach.*;36(5):371-384

Zazkis, R., & Liljedhal, P. (2004). Understanding the primes: the role of representation. *Journal for Research in Mathematics Education*, 35,164-168

D. Electronic References/Websites

Briggs, A. (2015, Feb.). Ten ways to overcome barriers to student engagement online. Online Learning Consortium, Retrieved from http://onlinelearningconsortium.org/news_item/tenways-overcome-barriers-student-engagement-online

Brophy, T. (n.d.). Module 5b: Pre- and Post-testing for Student Learning Passport to Great Teaching – Creative Assessment. Retrieved from <https://assessment.aa.ufl.edu/>

Culatta, R. (2018, November 30). Constructivist Theory (Jerome Bruner). Retrieved November 12,2020, from <https://www.instructionaldesign.org/theories/constructivist/>

Deci, Ryan, & Williams (1996). Need satisfaction and the self-regulation of learning, *Learning and Individual*

Differences, Volume 8, Issue 3, Pages 165-183,
<https://www.sciencedirect.com/science/article/pii/S1041608096900138>

DeVito, M. (2016). Factors Influencing Student Engagement. Retrieved from
<https://digitalcommons.sacredheart.edu>

<https://explorable.com>

https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf

<https://serc.carleton.edu>

Kuehn, P.R. (2012). Function and Importance of Pre and Post-Tests. Retrieved from www.owlcation.com

Lorbis, John Carlo C. (2019). Utilization of Contextualized Teaching and Learning (CTL) Approach in Grade Two Araling Panlipunan. Retrieved from <https://eric.ed.gov/?id=ED603874>

Mainali, B. (2021). Representation in teaching and learning mathematics.

International Journal of Education in Mathematics, Science, and Technology (IJEMST), 9(1), 1-21.
<https://doi.org/10.46328/ijemst.1111>

Sauer, K., (2012). The Impact of Student Interest and Instructor Effectiveness on Students Performance. Education Master, 243. Retrieved From https://fisherpub.sf.edu/education_ETD_masters/