

# The Use Of Video-Based Instruction And The Effect On Academic Performance In Social Science Class

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**Abstract:** *This study aimed to investigate the use of Video-Based Instruction and its effect on academic performance in the Grade 11 social science class of Valencia National High School, Division of Valencia City, for the SY 2021-2022. The study sought to find out the learners' level of acceptance and satisfaction when using video-based instruction as means of learning social science concepts, and to determine the significant differences towards their academic performance. The study involved two homogenous grade 11 sections under the Humanities and Social Sciences Strand (HUMSS) of Valencia National High School - Senior High School in the school year 2022-2023 drawn through stratified random sampling techniques to discover any effects of the video-based instruction in the blended learning modality. Furthermore, the study was analyzed using a quasi-experimental method by means of an adopted video lessons in social sciences, self-learning modules (SLM), an adopted questionnaire (Learner-Acceptance Scale and Learner-Satisfaction Scale), and a researcher-made (pretest and posttest). The data gathered showed that video-based instruction is highly accepted for learning social science concepts. Learners are delighted with video-based instruction leading to more comprehensive learning. On the other hand, the study's result also implies a significant difference between the academic performance of learners exposed to video-based instruction and the academic performance of learners not exposed to video-based instruction relevant to their posttest scores, hence, concluding video-based instruction as an effective tool for improving learners' academic performance in social science.*

**keywords:** *video-based learning, blended learning, digital learning, video-based instruction, academic performance*

## INTRODUCTION

The educational system faces fresh challenges and higher expectations due to the modern world's fast-paced transformations and growing complexities. In an ever-changing and highly demanding environment, there is a growing recognition of the need to adapt and improve student preparedness for productive functioning. Educators worldwide are constantly looking for instructional pedagogies that best match the changing demands of students. The emergence of a new breed of learners necessitates a paradigm shift from the old teacher-centered to student-centered learning method, convergent not just on how to teach but also on how to encourage learning. Today's learners are commonly described as motivated, diverse, and digitally connected individuals. They desire multiple types of connection and community and are constantly flipping between virtual and in-person contacts. (Seemiller and Grace, 2015, Luzano & Ubalde, 2023). Moreover, their fondness for technology makes them learn from previous generations of learners, thus requiring a different approach to teaching and learning.

Given the academic and behavioral obstacles, teaching in today's new normal is difficult. With different requirements and minimal teacher-aide support, teachers are expected to properly grow and nurture each student, which is an unachievable expectation. In this context, video-based instruction is an instructor's production of educational videos outside regular class hours, primarily focusing on delivering content and teaching specific concepts. The video is viewed in a face-to-face or online classroom during the lecture. Furthermore, this means that the teacher has complete control over the content provided in the videos, and numerous videos at various levels can be developed to meet the needs of the learners adequately. It also shifts the teacher's duty to that of a facilitator or coach, ensuring students finish their tasks.

According to the Corporation for Public Broadcasting, on a series of undertaken studies, educational video and television use in schools has expanded substantially over the last 20 to 30 years. These surveys assessed both usage habits, teacher approaches, and outcomes outlook. According to the current study, this technology is widely used and highly valued as a tool for more effective and innovative education (CPB, 1997, Tortola, 2021).

Educational videos have evolved into a considerable learning component, acting as a primary source of dissemination of educational material in numerous flipped, hybrid, and online classes. The usefulness of video

as an instructional medium is enhanced when teachers examine ways to decrease the mental burden imposed by the video on cognitive processes, enhance student involvement with the video, and encourage active participation in learning the subject matter.

Videos can be utilized in any subject. Writing, acoustic, non-verbal expressions, ethics, using an instrument, execution of a compound engineering or medical practice, problem-solving, academic topics in school or college, business drill, increased efficiency, critical cognition, and applying philosophy to real life are all suitable subjects to be imparted via video and hold the learner's attention, as well as enhance capacity for recall.

In fact, as per the inclusion of DepEd Order No. 18, s. 2020, which clarifies the policy guidelines for providing learning resources to support the implementation of the basic education learning continuity plan, aims to inspire teachers to demonstrate creativity and resourcefulness in delivering high-quality, easily accessible, relevant, and cost-effective teaching methods during the pandemic. Thus, the researcher decided to conduct this study as a reference that would assist senior high educators and learners in realizing the importance of implementing useful technology to expand the excellence of instruction and knowledge on social science topics.

#### *Theoretical and Conceptual Framework*

This research is centered on the cognitive theory of multi-modal learning by Richard E. Mayer (1997), in which mental procedures of interactive program education are specified. Identifying relevant words from the presented writing or narrative, selecting relevant images from the presented illustrations, arranging the terms of choice into a cohesive oral participation, arranging the chosen photos into a coherent visual representation, and incorporating information and prior knowledge of visual and verbal representations.

An essential principle in multimedia learning research is that instructional messages designed with human cognition in consideration are more likely to lead to significant learning than those developed without such concerns. The cognitive theory of multimedia learning draws upon cognitive research and learning principles. The human information processing system has two channels for processing visual, pictorial, and auditory language inputs. Each channel has a finite processing capacity, and active learning is defined as engaging in a coordinated set of cognitive tasks while learning.

Cognitive load is a significant factor when developing educational materials, especially videos. This study is also anchored in Cognitive Load Theory, initially conveyed by Sweller et al. (1988, 1989, 1994), implying that memory consists of multiple elements or components. Sensory memory is a short memory that collects information from its surroundings. Information from sensory memory can be chosen for temporary storage and processing in working memory, which possesses a restricted capacity. This processing is essential before encoding information into long-term memory, which contains an almost limitless ability. Due to the limited capacity of working memory, learners must exercise caution in selecting which sensory memory information to prioritize during the learning process, which has essential suggestions for producing learning resources.

One of the bases for figuring out the student's academic performance is using non-video-based instruction, particularly the self-learning modules (SLMs), available in either print or digital format based on learner preference, which is utilized in modular distance learning. In recent years, there has been a shift from a curriculum led by teachers to one that focuses on students, highlighting the knowledge, skills, and competencies they acquire upon completing a course or program. This transformation also reshapes the course design process (Donnelly and Fitzmaurice, as cited in O'Neill et al., 2005, Tortola, 2023). The modular learning approach revolves around learning outcomes, and its efficacy depends on establishing a connection between objectives, student learning, and course design.

Another factor used to assess learner academic performance is video-based education, which is excellent for multi-modal learning since it incorporates moving and static visuals, written content, sound, and audio, allowing the learner to engage more fully and learn and retain more efficiently. (Mirzoyan, 2021 and Luzano, 2023). Commitment is merely a natural result. Learners assimilate knowledge more quickly and successfully.

The study's conceptual framework shows the schematic diagram, which focuses on the effects of video-based instruction on the social science academic performance of Grade 11 HUMSS students in the blended learning modality.

The independent variable on the left side includes video-based instruction and non-video-based instruction. Video-based education employs video lessons in which the teacher shares predetermined digital/video resources with learners via an external platform, and related subjects are also taught asynchronously via this outside platform. (Bergmann & Sams, 2012). Active, collaborative, and interactive problem-solving activities and consolidation techniques are carried out within video-based education. (Toto & Nguyen, 2009). Meanwhile, non-video-based instruction utilizes the traditional method of teaching and learning in the new normal, modular distance learning. The content and activities of the controlled group (non-video-based instruction) are also applied in the experimental group (video-based instruction). The vic presented to the experimental group are anchored on the lessons from the SLMs used for the control group ers by the teacher during class sessions.

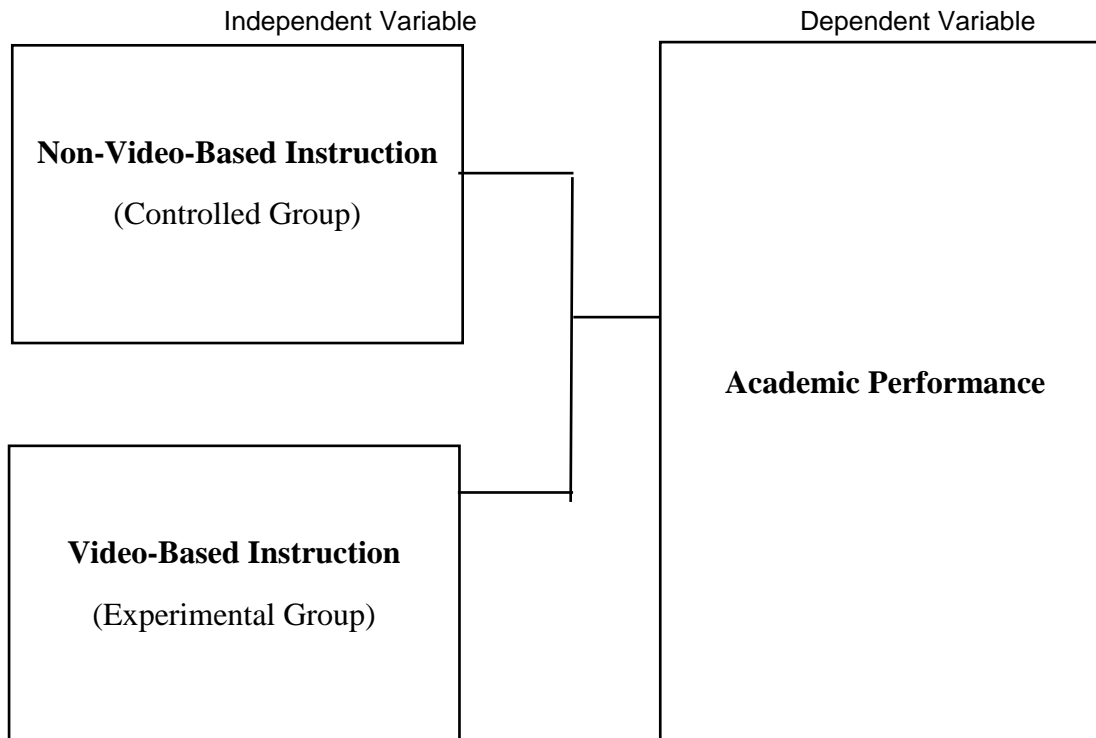


Figure 1: Schematic diagram showing the interrelationships of variables of the study.

The independent variable on the left side of the diagram has something to do with the effects of video-based and non-video-based instruction on the academic performance of the Grade 11 HUMSS students.

The pretest and post-test are teacher-made multiple-choice tests administered to the students in video and non-video-based instructions. The participants' performance improvement will be assessed based on post-test scores, whether exposed to video-based or non-video-based instruction.

#### Statement of the Problem

The study aimed to investigate the use of Video-Based Instruction and its effect on academic performance in Grade 11 Social Science class. Specifically, it sought to answer the following questions:

1. What is the learners' level of acceptance of video-based instruction?
2. What is the learners' level of satisfaction with the use of video-based instruction in the Social Science subject?
3. Is there a significant difference between video-based and non-video-based instruction towards academic performance?

### *Hypothesis*

1. There is no significant difference between video-based and non-video-based instruction toward academic performance.

### *Significance of the Study*

The findings of this study may yield information that can be beneficial to the following:

**Students.** They will be engaged in video-based instruction to encourage them to perform better in school. This study could also provide feedback on how they fare in their Social Science subject and the possibilities of improving their motivation to learn.

**Social science teachers.** This study will inspire them to use video-based instruction appropriately in class, specifically in Social Science, for those who would like to make a difference in the development of their student's academic achievement. This work will also benefit them because they will be informed of the video-based instruction in teaching their learners, thus making them adjust their teaching strategies to suit the students' performance.

**School administrators.** They will benefit from this study by helping them create a more excellent program that will support the student's needs and interest in using video-based instructions.

**Readers.** This study may give them a more precise understanding of the subject and attain more excellent knowledge and awareness about video-based instruction in teaching.

**Future Researcher.** The result of the study can pave the way to conduct more studies in video-based instruction to increase the performance and commitment of the learners.

### *Scope and Delimitation of the Study*

This study includes two grade 11 sections of Humanities and Social Sciences (HUMSS) of Valencia National High School – Senior High School who are officially enrolled in the school year 2022-2023 drawn through stratified random sampling techniques, which involves dividing a population into subgroups or strata based on some relevant characteristic respectively. The two sections selected had 50 learners with the same academic level of performance. The other year levels are excluded from the study.

The study was conducted on a regular class timetable. For this reason, the researcher used intact classes to take a series of tests to gather the data needed. The study was conducted during the first quarter of the current school year and ran for (is confined to) two weeks (for a grading period only, thus, the study's results may be valid in this context only.)

Furthermore, the instructional materials utilized in this study are based on the topics and competencies stipulated in the Most Essential Learning Competencies (MELCs).

### *Definition of Terms*

To better understand the concept in this study, the following essential terms were defined as used in the study:

**Academic Performance.** Academic performance refers to the level of achievement and progress based on test scores that learners of each section demonstrate after being exposed to different learning modalities.

**Blended Learning Modality.** The blended learning modality is an educational method that mixes online educational resources and chances for online interaction with conventional place-based classroom approaches.

**Distance Learning.** Distance learning refers to a form of education in which teachers and students are physically separated during instructional sessions, and various tools and devices are employed to facilitate interaction between students and teachers and among students themselves.

**Learners' Acceptance.** Learners' acceptance is a learner's evident readiness to learn from video-based training.

**Learners' Performance.** Learners' performance refers to the academic content or lessons that a learner learns in a determined period. It also relates to learners' scores in the pretest and post-test.

*Learners' Satisfaction.* Learners' satisfaction pertains to the extent to which a learner considers that video-based instruction will improve academic achievement.

*Modular Learning.* Modular learning refers to the primary education learning modality in the Philippines, where traditional classroom-based practices have now been switched to home-based because parents are the child's direct aides in modular learning. It depicts the study's non-video-based education.

*Post-test.* Post-test refers to the test given to students who received video-based and non-video-based instruction after the conduct of the study.

*Pretest.* Pretest refers to the test given to students who received video-based and non-video-based instruction before the conduct of the study.

*Video-Based-Instruction.* Video-based instruction is a teacher creating or adapting videos outside of class contact hours to teach a certain idea or content.

## METHODS

### *The Research Design*

This study uses a quasi-experimental research design comprising two intact classes with 50 learners drawn through stratified random sampling techniques to discover any effects of the video-based instruction on the academic performance and engagement of the grade 11 HUMSS students in the blended learning modality. One group utilized video-based instruction, while the other engaged with non-video-based instruction. A teacher-made pretest was given to both groups to get the baseline data prior to the conduct of the study.

A post-test was given to both groups to investigate whether there was a significant difference in the scores and a significant change in their academic performance in learning social science.

Furthermore, an adopted satisfaction rating checklist and the level of acceptance scale were administered to the focused group after the experiment.

### *The Research Locale*

This study was conducted at Valencia National High School, Senior High Department, Schools Division of Valencia City. The school was founded in February 1969 in Lapu-Lapu St. Poblacion, Valencia City, Bukidnon. VNHS is considered the most prominent school, with a total land area of 4.586 hectares among all the secondary schools in the division of Valencia City.

VNHS has 9 985 enrolled junior and senior high school students in the current school year. VNHS offers different curriculum programs, namely, the Basic Education Curriculum (BEC), Special Program in the Arts (SPA), Science, Technology and Engineering (STE), Special Program in Journalism (SPJ), Special Program in Sports (SPS) and Open High School Program (OHSP).

Along with its Senior High School Program are the different Tracks, namely Academic Track with Accountancy Business and Management (ABM) Strand, Humanities and Social Sciences (HUMSS) Strand, Science and Technology, Engineering and Mathematics (STEM) Strand, and General Academic (GAS) Strand; Technology and Livelihood (TVL) Track; Sports Track; and Arts and Design Track.

There are a total number of 305 teaching staff of VNHS. Two hundred nine came from junior high school, and 96 teachers from senior high school. The school is supervised by one secondary school principal IV, two assistant school principals for senior high school, and one assistant principal for junior high school.

### *Sampling Procedure*

Using Quasi-Experimental Research Design, Stratified Random Sampling was utilized where respondents of this research are the Grade 11 SHS students from two different sections of the Humanities and Social Sciences (HUMSS) Strand of Valencia National High School. One section was represented as the focused group (using video-based instruction), and the other (non-video-based instruction) represented the controlled group. Each section undergoes the same lesson but differs in teaching and learning modality.

### *Research Instrument*

The instruments utilized in this study are the following: A questionnaire comprising 17 items, designed explicitly by Francis Donkor (2011), was adopted to assess learner acceptance and satisfaction. The questionnaire consisted of the Learner-Acceptance Scale and the Learner-Satisfaction Scale. Respondents were asked to agree or disagree with the questionnaire items using a four-point Likert-type scale. The scale responses ranged from strongly agree (4), agree (3), disagree (2), to strongly disagree (1). Additionally, ten items from the technology acceptance model (TAM) were utilized to evaluate learner acceptance of the video-based instructional materials. The other seven items assessed learner satisfaction with video-based educational resources. They addressed overall (global) satisfaction, material effectiveness, learner enjoyment of the resources, and learner commitment to recommend the materials to others.

The second instrument used is the adopted video-based lessons about various social science topics, particularly from Disciplines and Ideas in the Social Science (DISS), which will be the basis of instruction employed in the experimental group.

The third instrument used is the Self-Learning modules (SLM) in the Disciplines and Ideas in the Social Science (DISS) subject which is the basis of instruction employed in the controlled group.

A teacher-made pretest was used to give relevant information on the student's basic knowledge of the topics covered in learning social science, tabulated as the baseline data, and a teacher-made post-test to determine whether there was a significant difference in their academic performance.

#### *Data Collection*

Before conducting the study, a permission letter was sent to the school principal of Valencia National High School. After this, a letter to the participants was sent asking for their voluntary participation in the realization of the study. At the beginning of the intervention, the experimental and control groups will receive orientation sessions, and their voluntary participation will be sought.

#### *Scoring Procedure*

A teacher-made pretest was administered to both groups during the study. This provides relevant information about the students' basic knowledge of the topics covered and observation and experience in learning social science. Mean scores and responses were tabulated as baseline data.

Afterward, the participants are exposed to video-based instruction and non-video-based instruction. Section "A" was treated with video-based instruction, while Section "B" undertook non-video instruction. Both groups had their in-class sessions in the classroom, while out-of-class activities were handled using a blended learning modality.

The group subjected to video-based instruction was asked to view instructional videos in school, at home, or through internet links and files sent/uploaded on Google Classroom as part of their out-of-class activities. These adopted instructional videos ranged from 3 to 10-minute videos explaining concepts/competencies covered during the in-class sessions, which were done in the classroom. Activities and tasks were designed and handed in any form to foster individualized and collaborative student-centered learning. A combination of formative and alternative assessments was utilized to measure understanding of the concepts.

The other group was engaged in non-video-based instruction by which the delivery of concepts and competencies was done mainly using a purely modular distance learning modality. They were assessed using paper-and-pencil tests through answer sheets provided.

The participants were under intervention for two weeks. A post-test was administered at the end of the intervention period to determine whether there was a significant difference in their academic achievement and engagement. Afterward, a learner acceptance checklist and satisfaction rating questionnaire were administered for descriptive results.

Subsequently, the learners who were exposed to video-based instruction were administered a questionnaire consisting of 17 items by Francis Donkor (2011) to assess their acceptance (Learner-Acceptance Scale) and satisfaction (Learner-Satisfaction Scale). This questionnaire followed the scoring procedure below.

| Score | Range     | Descriptive Rating | Qualitative Description |
|-------|-----------|--------------------|-------------------------|
| 4     | 3.51-4.00 | Strongly Agree     | Very High               |
| 3     | 2.51-3.50 | Agree              | High                    |
| 2     | 1.51-2.50 | Disagree           | Low                     |
| 1     | 1.00-1.50 | Strongly Disagree  | Very Low                |

*Statistical Treatment*

The statistical procedure employed in this research is the Analysis of Co-Variance (ANCOVA) to test the significant difference in the academic performance of the focused and the controlled groups and the effectiveness of using video-based instruction in the Social Science subject.

The study also used descriptive statistics such as frequency counts, mean, and standard deviation to identify the learners' acceptance and satisfaction with video-based instruction.

**RESULTS AND DISCUSSION**

*Level of acceptance of learners on video-based instruction*

Engaging with video-based instruction has proven to be a challenging experience for learners, promoting motivation and a comprehensive approach to learning. Table 1 presents the calculated means and standard deviations to determine if learners responded positively to video-based instruction. Along with the current population tested as the experimental group, To assess the extent of learners' acceptance of video-based instruction (VBI), the average rating of each of the ten acceptance items and the overall average rating for all items were calculated based on the participants' responses.

Table 1

*Descriptive Statistics of Learners' Level of Acceptance on Video-Based Instruction*

| Element of Acceptance of the VBI   | Mean | SD   | Interpretation |
|--|------|------|----------------|
| <b>Perceived usefulness</b>  |      |      |                |
| 1. VBI improves my performance in doing practical work in Social Science.      | 3.46 | 0.50 | High           |
| 2. VBI improves my acquisition of practical skills in Social Science.          | 3.48 | 0.50 | High           |
| 3. VBI enhances my effectiveness in performing tasks in Social Science.        | 3.56 | 0.50 | Very High      |
| 4. I find the VBI useful in acquiring knowledge in Social Science.             | 3.54 | 0.5  | Very High      |
| <b>Perceived ease of use</b>   |      |      |                |
| 5. Operating the VBI is easy for me.   | 3.12 | 0.59 | High           |
| 6. I find it easy to get the VBI to learn practical lessons in Social Science. | 3.34 | 0.51 | High           |

|   |             |             |             |
|---|-------------|-------------|-------------|
| 7. It was easy for me to become skillful in Social Science with the use of the VBI.   | 3.22        | 0.58        | High        |
| 8. I find the VBI easy to use.  | 3.26        | 0.59        | High        |
| <b>Behavioral intention to use</b>  |             |             |             |
| 9. I intend to use the VBI regularly in learning practical lessons in Social Science. | 3.58        | 0.57        | Very High   |
| <b>Actual usage</b>   |             |             |             |
| 10. I use the VBI regularly to learn practical lessons in Social Science              | 3.44        | 0.54        | High        |
| <b>Overall mean for the level of acceptance of the Video-Based Instruction</b>        | <b>3.40</b> | <b>0.54</b> | <b>High</b> |

The scores in Table 1 show that entire items had high and very high mean ratings. Additionally, the overall mean rating of 3.40 ( $SD = 0.54$ ) for the entire items is above average. Given the standard deviation on the overall level of acceptance of the video-based instruction, every deviation from the mean is equal to 0.54, which generally reflects that the acceptance of the students concerning the intervention varies from high to very high. This result shows that video-based instruction is highly accepted for learning social science concepts.

As demonstrated in Table 1, the item "Operating the VBI is easy for me." (Item #5) received a relatively low mean rating of 3.12 ( $SD = 0.59$ ). Despite the lower mean score, the value of 3.12 was still significantly high. This may imply that even if learners are exposed to video-based instruction, they still need to exert more effort regarding perceived ease of use, which might add a little burden for them to practice. Meanwhile, the top mean rating of 3.58 ( $SD = 0.57$ ) connected to the item "I intend to use the VBI regularly in learning practical lessons in Social Science" (Item #9). The observed high behavioral intention to use can be attributed to the learners' satisfaction with the quality of materials, including the subject matter, text, illustrations, and audio components, contributing to their attentiveness and enjoyment.

Accordingly, in a study by Sun and Zhang (2020), high school students reported that video-based instruction allowed them to learn at their own pace and offered more active learning opportunities than traditional classroom instruction. Video-based instruction positively affected student achievement, with more significant effects observed when students had control over the pace and sequence of the video content (Means and colleagues, 2013).

#### *Level of satisfaction of the learners towards the use of video-based instruction in the Social Science subject*

Learners' attitude towards video-supported materials has dramatically led to more comprehensive learning. To assess the degree of learners' satisfaction with video-based instruction (VBI), the average rating for each of the seven satisfaction factors, as reported by the respondents, and the overall average rating for all items, were calculated.

Table 2 presents the descriptive statistics concerning the learners' satisfaction level with video-based instruction. Results show that all the items had high and very high mean ratings. Furthermore, the resulting mean rating of 3.54 ( $SD = 0.51$ ) for all items was significantly higher than the average. The standard deviation on the overall level of satisfaction with the video-based instruction means that every deviation from the mean is equal to 0.51, which generally reflects that the students' satisfaction level with the intervention varies from high to very high. Thus, students highly rated the learner satisfaction items. This result shows that learners are satisfied with using video-based instruction as a learning intervention on social science concepts.

As shown in Table 2, the item "I find the video lessons enjoyable" (Item #11) obtained the highest mean rating of 3.74 ( $SD = 0.48$ ). This outcome indicates that learners enjoyed their experience in video-based instruction. Hence, having access to VBI can assist and encourage students and provide a unique competition



for their learning experience. However, the least mean rating of 3.34 ( $SD = 0.51$ ) is associated with the item "The VBI has contributed greatly to my acquisition of relevant skills in Social Science" (Item #12). This result revealed that even though learners are delighted with video-based instruction, they still need some help for the attainment of relevant help in technical aspects.

The overall (global) satisfaction with using the VBI for learning social science was very high ( $x = 3.54$ ,  $SD = 0.51$ ), suggesting that learners were highly motivated and satisfied with the video-based instruction, as indicated by their satisfaction levels. According to the study of Donkor (2010), the high overall satisfaction reflects the learners' great motivation for using the VBI, as they considered them fun and fascinating.

The results also support the study of Guo et al. (2014), where students who watched video lectures were more engaged and likelier to complete the course than those who received only text-based instruction. Video-based instruction has been found to increase engagement and motivation among learners.

Table 2

*Descriptive Statistics of Learners' Level of Satisfaction with Video-Based Instruction*

| <b>Element of Satisfaction of the VBI</b>  | <b>Mean</b> | <b>SD</b>   | <b>Interpretation</b> |
|--|-------------|-------------|-----------------------|
| 11. I find the video lessons enjoyable.  | 3.74        | 0.48        | Very High             |
| 12. The VBI have contributed greatly to my acquisition of relevant skills in Social Science. | 3.34        | 0.51        | High                  |
| 13. I find the video lessons to be effective in meeting the learning objectives.             | 3.54        | 0.54        | Very High             |
| 14. I would describe the video lessons as being highly interesting.                          | 3.44        | 0.54        | High                  |
| 15. I would recommend use of the video lessons to other learners.                            | 3.56        | 0.50        | Very High             |
| 16. The video lessons make me spend more time studying to acquire practical skills.          | 3.52        | 0.50        | Very High             |
| 17. I am satisfied with my learning from the VBI.  | 3.62        | 0.49        | Very High             |
| <b>Overall mean for the level of satisfaction with Video-Based Instruction</b>               | <b>3.54</b> | <b>0.51</b> | <b>Very High</b>      |

*The significant difference between video-based and non-video-based instruction towards academic performance.*

This section shows the co-variance (ANCOVA) analysis of post-test results between students' performance exposed to Video-Based Instruction and Non-Video-Based Instruction.

Table 3 compares learners' academic performance treated with video-based instruction and learners unexposed to video-based instruction regarding post-test.

Table 3

*Comparison of academic performance of the learners in post-test scores.*

| Group                       | N   | MEAN  | SD   |
|-----------------------------|-----|-------|------|
| Video-Based Instruction     | 50  | 45.50 | 4.87 |
| Non-Video-Based Instruction | 50  | 38.08 | 6.97 |
| Total                       | 100 | 41.79 | 7.05 |

| Source              | Type III Sum of Squares | df  | Mean Square | F-value | Sig.    |
|---------------------|-------------------------|-----|-------------|---------|---------|
| Group               | 1362.892                | 1   | 1362.892    | 85.424  | 0.000** |
| Pretest (covariate) | 1998.593                | 1   | 1998.593    | 125.268 | 0.000** |
| Error               | 1547.587                | 97  | 15.955      |         |         |
| Total               | 179563.000              | 100 |             |         |         |

Note: \*significant at 0.05 level      \*\*significant at 0.01 level

As revealed in Table 3, the mean score of the learners exposed to video-based instruction is highly comparable to the learners who are not exposed to video-based instruction. Compared to the two groups, learners exposed to VBI have a highly distinguished mean of 45.50 with a standard deviation of 4.87 compared to a lower mean score of learners not exposed to VBI with only 38.08 and a standard deviation of 6.97. Accordingly, the mean score of learners exposed to VBI falls between 40.63 as the least and approximately 50.37 as the uppermost. In contrast, the mean score of learners not exposed to VBI falls between 31.11 as the lowest and approximately 45.05 as the highest. This is a clear indication that video-based instruction has a significant effect on improving the academic performance of learners.

The results support the study of Wong (2020) on the efficiency of learning through video clips, which seems that using videos in learning is advantageous in quizzes or examinations (Beheshti et al., 2018). A study by Ljubojevic et al. (2014) on the effects of including videos and scenes in instructions on students' exam outcomes has a good effect. In another situation, Hsin and Cigas (2013) discovered that having videos as part of the progression resulted in more learners passing the subject. Brecht and Ogilby (2008) discovered a promising result: failing marks were reduced by 72% when the learning videos were accessible.

To compare the significant difference between the learner's score outcomes exposed to video-based instruction and those exposed to non-video-based instruction, the analysis of co-variance (ANCOVA) shows a very significant difference with the p-value of 0.000\*\*. This suggests that there is a significant difference in academic performance between learners exposed to video-based instruction and learners who were not exposed to video-based instruction. Thus, the null hypothesis is rejected.

Furthermore, the findings are like the study of Chen (2012) that the use of thematic video-based instruction is a significant component that may influence the assessment of students' learning achievement. The ANCOVA was performed after establishing the necessity of within-cell regression homogeneity,  $F = 2.364$ ;  $p > 0.05$ . The results from the post-test indicated a significant difference between the two groups, with an observed F-value of 4.447 and a significance level of  $p < 0.05$ . The outcomes demonstrated that students in the experimental group achieved higher post-test scores than those in the control group. Therefore, the findings of this case study support the notion that interactive theme videos contribute to enhanced learning, aligning with the principles of the cognitive theory of multimedia learning proposed by Mayer (2001)

### Summary of Findings

This study aimed to investigate the use of Video-Based Instruction and its effect on the academic performance of the Grade 11 Social Science class at Valencia National High School. Specifically, it endeavored to: determine the level of acceptance of learners on video-based instruction, assess the degree of satisfaction of the learners towards the use of video-based instruction in the Social Science subject, and find out if there is a significant difference between video-based and non-video-based instruction towards academic performance.

Two grade 11 sections of Humanities and Social Sciences (HUMSS) of Valencia National High School were officially enrolled for 2022-2023, with 50 learners drawn through purposive sampling techniques. The study employed a quasi-experimental research design and administered a 17-item questionnaire, known as the Learner-Acceptance Scale and Learner-Satisfaction Scale, which was adapted from the work of Francis Donkor (2011), a teacher-made pretest to give relevant information as to the student's basic knowledge on the topics covered in learning social science regarded as baseline data, an adopted video-based instructional materials, self-learning modules, and a teacher-made post-test to examine whether there is a significant difference in their

academic performance. Descriptive statistics such as frequency counts, mean, and standard deviation and analysis of co-variance (ANCOVA) were used to treat the data. Based on the data gathered, the following are the focuses of the study:

The level of acceptance among learners towards video-based instruction has far exceeded the theoretical mean, which described that video-based instruction manifested by perceived convenience, accessibility, behavioral attention, and definite usage is really accepted as the means of learning social science concepts.

The student satisfaction with video-based instruction indicates that all items received mean ratings significantly higher than the theoretical mean, implying that learners were quite satisfied with their experiences with the VBI.

The academic performance of learners exposed to video-based instruction is highly comparable to the learners who are not exposed to video-based instruction. A significant difference between the learner's performance exposed to video-based instruction and those exposed to non-video-based instruction reveals that VBI significantly improves learners' academic performance.

### **Conclusions**

Based on the study findings, the following conclusions have been drawn.

The central purpose of utilizing video-based instruction is to sustain and improve distance education. This goal will only be attainable if students are satisfied with the resources and refuse to use them. The findings offer critical considerations for distant education practitioners, such as lecturers, instructional creators, academic establishments, and open schools, when designing and implementing video lessons to teach social science. The helpfulness and convenience of the utilization of educational resources must be prioritized if learners are to be satisfied. Teachers must aim to provide distance learning materials for practical skills that learners find helpful, simple to use, and fun.

This is one of the few studies that research students' suitability and enjoyment of video lessons used for online social science learning. A lack of consumer acceptability and satisfaction could hinder the productive implementation of new tools or products, including video-based instructional resources in social science lectures.

An interactive presentation requires being consistent, exact, and providing a clear framework to learners. This study utilized the cognitive theory of multimedia learning to integrate video-based instruction to enhance learning outcomes. As a result, video-based training could assist students in understanding the learning content and achieve high levels of learning satisfaction.

The efficiency of video lectures in learning is advantageous in tests or exams. Introducing videos and clips into lectures and their influence on students' test results favorably affected the outcomes. More learners passed formative and summative examinations because of adopting VBI.

### **Recommendations**

Concerning the study's results and conclusions, the following recommendations are made:

Learners need to engage in video-based instruction to perform better in school, significantly improving their motivation to learn and increasing their skill and understanding of the subject.

Social Science teachers may consider using video-based instruction appropriately in the class, specifically in Social Science, to improve their students' academic performance. Hence, the application of video-based instruction in teaching their learners makes them adjust their teaching strategies to suit the learners' performance.

School administrators are highly encouraged to create a more excellent program that will support the student's needs and interest in using video-based instructions by conducting relevant training and seminars on the making and conduct of VBI. Having such helps start teachers' professional and personal development while providing professional development chances for the mentor teacher.

Future researchers can pave the way to conduct more studies in video-based instruction to increase the performance and engagement of the learners. Further, they need to be authorized to validate the study's results

across different settings and larger samples to develop a conclusive generalization on teachers' teaching practices and academic performance in the social science aspect.

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