EFFECTIVENESS OF VIDEO DISCUSSION (VD) STRATEGY IN TEACHING EARTH AND LIFE SCIENCE TO TECHNICAL VOCATIONAL AND LIVELIHOOD (TVL) STUDENTS

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ABSTRACT

In a progressive education system in the Philippines, pupils are also evolving, and teachers must do the same. As a result of the implementation of K–12, students on the TVL track concentrate solely on their strands without realizing that the fundamental subjects are being taken for granted, resulting in lower test scores. To meet the requirements of students, teachers should implement new strategies. This is why the research developed the Video Discussion approach. To evaluate the efficacy of the approach, the research determined the mean scores of students exposed to the conventional and VD approaches. The researcher also addressed if there is a significant difference between the conventional and VD pre and post-tests. The study also determined whether there is a statistically significant difference between the mean gain scores of conventional and VD approaches. Using the formula for calculating the mean, the researcher determined that the post-test scores of the control group increased relative to the pretest scores of the experimental group. In these studies, the researcher also discovered that there is a significant difference between the pre-test and post-test scores of students who are exposed to both the conventional and intervention approaches. Comparing the primary scores to determine if there is a significant difference between the experimental and controlled samples revealed that there is a significant difference. In conclusion, the researcher determined that Video Discussion is an effective instructional medium for teaching Earth and Life sciences

Keywords: Video Discussion, Technical Vocational and Livelihood, Earth and Life Science

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I. CONTEXT AND RATIONALE

As the K–12 program is implemented, students on the TVL track may face numerous alterations to their academic and extracurricular activities. Because they anticipate finding a job that will give them a simple source of income in the upcoming future, the skills they will acquire in relation to their area of expertise will have a significant impact on these students. At this level, students are less concerned with academics and more interested in performing technical and skill-based tasks. Aside from this, the learning techniques of senior high school students may have changed dramatically from those of junior high school students.

All these factors may contribute to the low achievement and summative results of students in science when compared to the Mean Percent Scores of 11th graders (Science Coordinators Report, 2018). If the student is scheduled to take the National Achievement Test (NAT) in the immediate future, this issue can be exacerbated. In addition, the principal subjects offered in the senior year of high school are college prerequisites, so mastery is necessary. Some of these students would also be interested in scholarship programs requiring a minimum GPA. Incompetence in these areas would disqualify the candidate. Senior High School pupils are generally expected to excel in both academics and skills.

Therefore, instructors must develop strategies for adapting to these changes. Many of today's students have short attention spans, making it difficult for teachers to choose an effective instructional strategy. A teaching strategy is an instrument used by a teacher to make his or her lecture simple for students to comprehend. The student's grades will increase if they comprehend the lecture. When enhancing their professional knowledge, teachers should actively study and comprehend advanced teaching measures and teaching equipment, adapt their ideas and conceptions to the new

situation of the teaching reform and the demands of modern teaching methods, and transform students' learning into individual and active learning.

It has been observed that teaching essential subjects such as mathematics and science becomes more challenging for senior high school teachers. Teachers must devise benchmarks to increase student participation in classroom discussions, in addition to motivating students to learn. It is believed that the use of multimedia technology will substantially alter children's learning styles, given that they are digital learners. Rogers (2003) discovered that technology is one of the factors that can be effectively used to implement technological innovation within an organization. The implementation of the multimedia and network teaching models in the classroom could provide students with outstanding media carriers and a comfortable learning environment, as well as significantly increase students' interests and enthusiasms and take individual differences into account. Text, graphics, animation, image, sound, and video information can be provided by multimedia teaching resources, which can substantially increase the learning interest of students and improve their comprehension and memory (Tan, 2000).

The researcher was motivated to implement this learning procedure to address academic disparities in Senior High School Science education in light of the aforementioned gaps and potential initiatives.

II. ACTION RESEARCH QUESTIONS

This study aimed to assess the effectiveness of the instructional technique VD (Video Discussion) in teaching Earth and Life Science to TVL Strand (ICT) students at Panabo National High School. It sought to specifically address the following issues:

1. What are the average scores of students before and after being taught Earth and Life Science using the Video Discussion (VD) Strategy?
2. What are the average scores of students before and after being taught Earth and Life Science using Non – video discussion approach?
3. Is there notable differences in the pre-test and post-test scores of students who were taught Earth and Life Science using the Video Discussion (VD) strategy?
4. Is there notable difference between the pre – test and post – test scores of students exposed to Non – video discussion approach when teaching Earth and Life Science?
5. Is there notable difference between the main gain scores of students exposed to Video Discussion (VD) Strategy and students exposed to Non – video discussion approach when teaching Earth and Life Science?

III. INNOVATION, INTERVENTION, AND STRATEGY

The suggested teaching approach is referred to as Video Discussion (VD). This concept is an adaptation of a traditional approach that integrates technology into the classroom.

Students will easily understand Earth and Life Science topics using the VD approach. 73% of the respondents in research by (Brecht & Ogilby, 2008) utilized video, specifically focusing on video lectures and instructional approaches. The high utilization rate indicates that students typically embrace and utilize video lectures as a substitute for traditional classroom teaching and a form of computer-based instruction.

Hsin and Cigas (2013) used brief videos to increase student satisfaction and motivation in an online computer science/mathematics introductory course. They

attained a significantly greater percentage of engaged pupils, and their average grade point averages increased.

When properly designed, the use of multimedia has a positive impact on academic achievement when compared to traditional instruction (Akkoyunlu & Ylmaz, 2005). Students today are enamored of utilizing technology. They use them so readily and have a more optimistic view of technology than the generation that came before them. Therefore, web-based materials can be utilized in effective learning environments. Students' positive attitudes toward learning materials have a positive effect on their attitudes toward science and the subject being learned (Ercan, 2014).

These are the characteristics of the Video Discussion strategy. Students will be exposed to video at the beginning, middle, and conclusion of the discussion. Students will be motivated because they will be able to experience and observe the topic's actual context. Finally, students will comprehend the teachings with relative ease.

Throughout the entire duration of the investigation, the experimental procedure's matrix will be utilized. This section describes the procedures and activities for both conventional and experimental set-ups. Both approaches will be exhausted at the same rate.

Table 1: Matrix of the Experimental Procedure using the strategy Video Discussion

Duration	**Non – Video Discussion Approach**	**Video Discussion (VD)**
Session 1	Pre – Test written Work Assignment (Advance reading on Universe and Solar System)	Pre – Test Written Work Assignment (Advance reading on Universe and Solar System)
Session 2	Discussion #1 Universe and Solar System. Teacher – centered Discussion (Bitay – Max and Chalk – Board)	Discussion #1 Universe and Solar system Student – Centered Insertion of video in the beginning, middle and end of the discussion
Session 3	Continuation of Discussion #1 Universe and Solar System.	Continuation of Discussion #1 Universe and Solar system

	Teacher – centered Discussion (Bitay – Max and Chalk – Board) Quiz Assignment (read in advance about Earth and Earth Systems)	Student – Centered Insertion of video in the beginning, middle and end of the discussion Video Quiz Assignment (study and read in advance about the Earth and Earth systems.)
Session 4	Discussion #2 Earth and Earth Systems. Teacher – centered Discussion (Bitay – Max and Chalk – Board)	Discussion #2 Earth and Earth Systems. Student – Centered Insertion of video in the beginning, middle and end of the discussion
Session 5	Continuation of Disscussion #2 Earth and Earth Systems. Teacher – centered Discussion (Bitay – Max and Chalk – Board) Quiz	Continuation of Disscussion #2 Earth and Earth Systems. Student – Centered Insertion of video in the beginning, middle and end of the discussion Video Quiz
Session 6	Lessons Review	Video Clip Review of the Lessons
Session 7	Post – Test	Post – Test

IV. ACTION RESEARCH METHODS

A. Participants and/ or other Sources of Data and Information

The respondents of the study was ninety (90) Grade 11 students under the Technical Vocational and Livelihood strand specifically Information Communication and Technology (ICT) A and B track of Panabo National High School. There were 45 respondents in each section both experimental and control group. One section was subjected to the experimental set – up (ICT A) while the other section was under to the control group (ICT B). ICT C was subjected to Pilot Testing for the validation of the Questionnaires.

Table 2: Projected Distribution of the Respondents

Group	**No. of Students**	**Percentage**
Grade 11 – Cookery (Experimental Group)	45	50
Grade 11 – EIM A (Control Group)	45	50
Total	90	100

B. Data Gathering Methods

In this investigation, a quasi-experimental design was utilized. The first prevalent form of quasi-experiment is the nonrandomized control group pretest–post–test design, which is comparable to the lab experiment's pretest-posttest with control group design but without randomization (Campbell & Stanley, 1963).

Asking Permission to conduct the study. The researcher sent a letter to the office of the Schools Division Superintendent via the office of the Secondary School Principal requesting permission to conduct a study involving the identified sections of Grade 11 Technical Vocational and Livelihood: ICT C, Cookery, and EIM.

Conducting a Pilot Testing. Students in Grade-12 ICT C were given a 50-item questionnaire consisting of questions compiled from various sources. The query targeted all Origin and Structure of the Earth competencies. Half of the ICT – C students were required to complete the exam. They were selected by random selection. The collected results were subjected to an item analysis and reliability test. After analysis, it will be administered as a pre- and post-test to Grade 11 TVL – Cooking and EIM students, if found to be reliable.

Preparing the working activities. It was compiled and revised from a variety of sources; it was also subjected to validation. The materials were collected in accordance with the Origin and Structure of the Earth learning competencies.

Preparing the instrument. The effectiveness of the instructional strategy VD (Video Discussion) in teaching Earth and Life Science was determined by administering a 50-item multiple-choice pre-test and post-test questionnaire. The researcher created the questionnaires and tested their reliability and validity.

Questions are compiled based on their respective levels of competency. The instrument's dependability was examined by administering a pilot examination to Grade

12 ICT-C students at Panabo National High School. These individuals were excluded from both the control and experimental groups. Through the pre-test and post-test, the students' performance was evaluated.

Although it undergoes a review, some questions was subjected to paraphrasing to meet the needs of the respondents. With this, the instrument was subjected to validation of experts in the field of science. The questionnaires was given to the respondents before and after the conduct experimentation.

On the other hand, there was a videos prepared for topic of the Origin and Structure of the Earth.

Giving the pre – test and post – test. The effectiveness of the instructional strategy VD (Video Discussion) in teaching Earth and Life Science was determined by administering a 50-item multiple-choice pre-test and post-test questionnaire. The researcher created the questionnaires and tested their reliability and validity.

Questions are compiled based on their respective levels of competency. The instrument's dependability was examined by administering a pilot examination to Grade 12 ICT-C students at Panabo National High School. These individuals were excluded from both the control and experimental groups. Through the pre-test and post-test, the students' performance was evaluated.

Administration and retrieval of questionnaires. A designated statistician tabulated, analyzed, and statistically analyzed the data after the study participants took the pre-test.

Conduct of experiment. The experiment included the following topics: the Universe and Solar System, as well as the earth and its Systems.

In the study, two sets of lecture logs were used to teach the topics. Although they were taught the same material and took the same pre- and post-tests, their performance

varied. The control group was subjected to a conventional strategy, whereas the experimental group was exposed to Video Discussion.

Administration of the post – test. The post-test was administered to both the experimental and control groups immediately following the completion of the experiment. This was administered by the Earth and Life Science instructor. The pre-test and post-test covered the same material and assessed the same competencies. However, certain queries from the pre-test are rephrased for the post-test. Each cohort had one hour to complete the post-test.

Gathering and tabulation of data. The compilation of data began with the administration of a questionnaire-based test to the students. The questionnaire was utilized for both pre- and post-testing to assess the performance of students in Earth and Life Science.

Students were issued the questionnaire before the study was conducted. This was done to obtain baseline data on student performance prior to teaching. The same questionnaire was also administered to the students following the experiment.

After the exam was administered, the results were collected and subjected to statistical analysis using the mean and t-test for correlated data.

Interpretation and drawing of implications. Hypotheses will be test at 0. 05 level of significance. It will be also interpreted according to the scale of proficiency (D.O No. 31, s. 2012)

Scale of Proficiency	**Scores**
Beginning	1 – 8
Developing	9 – 16
Advance Proficiency	17 – 24
Proficient	25 – 32
Advance	33 – 42

V. RESULTS AND DISCUSSIONS

This chapter presents the analytical results and discussion of the conducted experimental research. In this chapter will show the mean, and t test of the said research.

CONTROL GROUP	SD	MEAN
PRE – TEST	2.25	14.00
POST – TEST	2.58	16.76

Figure 1. Mean Scores and Standard Deviation of Control Group

The table displays the pre-test and post-test mean scores and standard deviation for the controlled group. The researcher demonstrated in the table that the mean of the post-test, 16.67, differs from the mean of the pre-test, 14.00. The researcher discovered that students who took the pre-test were on the developing proficiency scale, and as they took the post-test, their proficiency increased from developing to advanced.

EXPERIMENTAL GROUP	SD	MEAN
PRE – TEST	3.22	14.00
POST – TEST	2.83	16.97

Figure 2. Mean Scores and Standard Deviation of Experimental Group

The table shows the mean scores and the standard deviation between the pre – test and post - test of the controlled group. The researcher presented in the table that the mean of the post–test which 16.97 has a difference in the pre – test which is 14.00. The researcher found out that students who undertook pre – test was in the scale of proficiency which is developing, and as they took the post – test students improved from developing to advance proficiency. Based on the results of the mean scores, students easily understand the lesson when they are engage to a video as part of the discussion. It also means that the change of their mood in the subject science were develop as they are engage in a video discussion approach. For being non – focus in the discussion became now focus.

According to Bennett & Anderson, L. (2003), students' attitudes toward science are shaped by their experiences in a variety of science education learning environments. This affects their participation in activities related to science. A positive attitude toward science is crucial for students' success in science. Altherr et al. (2004) state that multimedia elements are of paramount significance in the teaching of science.

Standard deviation revealed that there is a difference between the pre-test and post-test results in terms of their dispersion, as discovered by the researcher. But because of the intervention, it appears that the post-test standard deviation clarified that even though its results in SD have a large degree of dispersion, it also highlights that students now have a relative understanding of the presented lessons.

	Mean	*P – value*	*Interpretation*
Pre – test	14.00	0.0000	Reject the Ho
Post – Test	16.76		

Figure 3. T – Test for the significance between the Pre – Test and Post – Test for the Control Group

The table showed that there is a significant difference between the pre – test and post – test in the controlled group with the value of p – value which is 0.0000. It implied in the results that students was also understood the lesson very well by having an increase on their score in the post – test. It also means that students level up their level of proficiency from developing to advanced proficiency.

	Mean	*P - value*	*Interpretation*
Pre – test	14.00	0.0000	Reject the Ho
Post – Test	16.97		

Figure 4. T – Test for the Significance between the Pre - Test and Post – Test for the Experimental Group

The table showed that there is a significant difference between the pre – test and post – test in the experimental group with a value of p – value which is 0.0000. Based on the results it implied that the intervention which is video discussion is effective in teaching earth and life science for TVL strands. It also means that students level up their level of proficiency from developing to advanced proficiency.

According to another study on the efficacy of video as a medium, the video group outperformed the group without instructional media. The video group substantially outperformed the chart group. Isiaka (2007) concluded that video was an effective medium for teaching and learning in schools.

	Mean	*Sd*	*P - value*	*Interpretation*
Experimental Main Gain Score	2.84	3.40	0.0000	Reject the Ho
Control Main Gain Score	2.72			

Figure 5. T – Test for the Significance between the main gain scores of the Experimental Group and Control Group.

Based on the results it showed that there is a significant difference between the experimental main gain scores and control main gain scores with the p – value of 0.0000. The results implied that the intervention which is video discussion was also effective as one of a medium of instruction in teaching Earth and Life Science for Technical Vocational and Livelihood students.

By displaying real-world scenarios, explaining concepts, observing social groups, and acting as discussion starters, audio and video materials can be used to enhance learning resources. In addition, they are adept at introducing experts and perspectives to the student learning experience and bringing subjects "to life" in order to engage discussion and inspire learning (Oliver et al., 2012).

VI. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

With the used of different statistical test: Likert Scale (Scale of Proficiency). Mean, and t- test; the researcher had come up with the results.

The researcher determined that the post-test scores of the controlled group increased compared to their pre-test scores, like the experimental group, using the mean calculation. The Likert Scale was used to transform ratings from developing to advanced proficiency. The researcher discovered that in the experimental group, the standard

deviation of the post-test decreased compared to the pre-test, indicating that students have a common understanding of themes in earth and life science.

The researcher discovered a substantial difference between pre-test and post-test results when pupils were exposed to both traditional and intervention methods. Students who are engaged in both conventional and intervention methods learnt the lessons effectively because they are exposed to lessons with the same learning competencies.

Upon comparing the major scores, a significant difference was identified between the experimental and controls groups. This suggests that the Video Discussion intervention is effective and can serve as a medium of education for teaching earth and biological science.

Recommendation

As per the results and Conclusion concerns the researcher recommended the following:

Officials of the Department of Education, Panabo City Division may utilize the Video with Discussion as part of the curriculum. School administrators will be guided on the plans and programs to be integrated with the curriculum considering the learning abilities of the students. Giving of training in handling videos inside the classrooms and formation of guidelines in utilizing the said learning strategy.

School Administrators may ask the teachers to incorporate Videos in their lesson plans and daily logs as part of the teaching strategy. This may be regularly checked by immediate supervisors such as master teachers, subject coordinators and administrators. Also, regular classroom observations may be conducted to ensure proper execution and implementation of the said learning strategy.

Teachers may be equipped with the necessary skills, especially in finding concrete videos that students may really understand science and mathematics concepts.

Students may be given counterparts in terms of planning on what type of video they want to discuss certain topics. In this way, their span of attention will be catered and be motivated to listen to the class.

Future researchers should conduct further research regarding the utilization of Video inside the classrooms. They should also incorporate other engaging activities or routines to improve the learning method.

VII. ACTION PLAN

Given the significant result of the study, the researcher had done the following protocols in introducing the concept to the significant individuals who benefited in the said study:

1. The researcher presented the study to the School Principal of Panabo City National High School and Panabo City Division through research forum conducted by the Division Office.
2. The researcher made a standard procedure for applying the strategy for the other teachers to benchmark.
3. The researcher presented the standard procedure to other teachers in Panabo City Division to realize the fulfillment of the said study through seminar workshops, engaging the teachers to be prepared with their classroom materials including the new concept introduced by the researcher.

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LESSON PLAN

Prepared By: Dhan Febmar S. Cajegas

Subject: Earth and Life Science
Content: ORIGIN AND STRUCTURE OF THE EARTH
Section: Cookery

CONTENT STANDARD

The learners demonstrate an understanding of:

- The formation of the universe and solar system
- The subsystems (geosphere, hydrospheres, atmospheres, and biospheres) that make up the earth
- The earths internal structure

PERFOMANCE STANDARD

The learners shall be able to:

- Conduct a survey to assess the possible geologic hazards that your community may experience.
- Conduct a survey or design to assess the possible hydrometeorological hazards that your community may experience.

LEARNING COMPETENCIES

- State the different hypothesis explaining the origin of the universe.
- Describe the different hypothesis explaining the origin of solar system.
- Recognize the uniqueness of earth, being the only planet in the solar system with properties necessary to support life.
- **Explains that the earth consist of four subsystem, across whose boundaries matter and energy flow.**
- **Explain the current advancements/ information on the solar systems.**
- **Show the contributions of personalities/ people on the understanding of the earths systems.**
- Identify the layers of the earth (crust, mantle, core)
- Differentiate the layers of the earth.

I. SPECIFIC OBJECTIVES

- Identify the different subsystems.
- Understand the relationship between one subsystem to the other system.
- Know the new discoveries and contribution of different scientist in development of different subsystems.
- Appreciate the importance of different subsystems in sustaining life on earth

II. SUBJECT MATTER

- Topic: The subsystems (geosphere, hydrospheres, atmospheres, and biospheres) that make up the earth
- **Reference**
    - Book
        - Chemistry for changing times (Eleventh Edition), Hill Kolb
- **Materials**
    - Video Clips

III. INSTRUCTIONAL PROCEDURE

A. Preliminaries (1 min.)

B. Lesson Proper

C. Activity (20 mins.)

- **Activity I: "**Picture analaysis" – (3 mins.)
    - Students will be given different pictures
    - After the presentation of pictures students will analyze what happen in the given picture.

D. Analysis "Questioning"

- **Activity I**
    - **What can you say regarding on the pictures given to you?**

E. Abstraction "Reporting"

- Students will be group into 4.
- Afterwards, Student will be given fact sheets on the different subsystems. They will also be assign in different topics to be focus.
- Students will be given 15 minutes to discuss within their group. Then after the given time for discussion student will be going to report what they have understand on the given topics.

F. Application "Facts Analysis"

- Students will be given facts.

- After receiving the facts student will chop down the importance of those fact create a diagram

IV. EVALUATION

Essay: Answer the following questions concisely.

1. How different subsystem interconnected to each other?
2. Can one system survive when one system collapse? Explain why?

V. ASSIGNMENT (1 min.)

- Study in advance about the layers of the earth and its importance.

Subject: Earth and Life Science
Content: ORIGIN AND STRUCTURE OF THE EARTH
Section: EIM

CONTENT STANDARD

The learners demonstrate an understanding of:

- The formation of the universe and solar system
- The subsystems (geosphere, hydrospheres, atmospheres, and biospheres) that make up the earth
- The earths internal structure

PERFORMANCE STANDARD

The learners shall be able to:

- Conduct a survey to assess the possible geologic hazards that your community may experience.
- Conduct a survey or design to assess the possible hydrometeorological hazards that your community may experience.

LEARNING COMPETENCIES

- State the different hypothesis explaining the origin of the universe.
- Describe the different hypotheses explaining the origin of solar system.
- Recognize the uniqueness of Earth, being the only planet in the solar system with properties necessary to support life.
- Explains that the earth consist of four subsystems, across whose boundaries matter and energy flow.
- Explain the current advancements/ information on the solar systems.
- Show the contributions of personalities/ people on the understanding of the earth's systems.
- **Identify the layers of the earth (crust, mantle, core)**
- **Differentiate the layers of the earth.**

I. SPECIFIC OBJECTIVES

- Identify the different layers of the earth.
- Understand the different functions of the different layers of the earth.
- Appreciate the importance of different layers of the earth.

II. SUBJECT MATTER

- Topic: The earths internal structure
- **Materials**
    - PowerPoint

III. INSTRUCTIONAL PROCEDURE

A. Preliminaries (1 min.)

B. Lesson Proper

C. **Activity (20 mins.)**
   - **Activity I: "**4 pics one word" – (3 mins.)
     - Students will be given different pictures
     - Students will identify what word is trying to portray by the four pictures.

L	Y	R	A	R	S
E	**J**	**R**	**T**	**H**	**S**

D. **Analysis** "Questioning"
   - **Activity I**
     - **What can you say regarding the pictures given to you?**

E. **Abstraction** "QUESTIONING AND DISCUSSION"
   - Student will going to discuss the different layers of the earth through power point presentation.
   - After the discussion students will be asked some questions.

F. **Application** "Video Clip – Analysis"
   - Student will watch again a video clip presentation
   - After watching the student will analyze the video given.

IV. EVALUATION

Essay: Answer the following questions concisely.

1. Discussed the importance of the different layers of the earth?
2. Why mojo is an important part on the layers of the earth?

V. ASSIGNMENT

- Study in advance about the different types of rocks.

Subject: Earth and Life Science
Content: ORIGIN AND STRUCTURE OF THE EARTH
Section: Cookery

CONTENT STANDARD

The learners demonstrate an understanding of:

- The formation of the universe and solar system
- The subsystems (geosphere, hydrospheres, atmospheres, and biospheres) that make up the earth
- The earths internal structure

PERFOMANCE STANDARD

The learners shall be able to:

- Conduct a survey to assess the possible geologic hazards that your community may experience.
- Conduct a survey or design to assess the possible hydrometeorological hazards that your community may experience.

LEARNING COMPETENCIES

- **State the different hypothesis explaining the origin of the universe.**
- **Describe the different hypothesis explaining the origin of solar system.**
- **Recognize the uniqueness of earth, being the only planet in the solar system with properties necessary to support life**.
- Explains that the earth consist of four subsystem, across whose boundaries matter and energy flow.
- Explain the current advancements/ information on the solar systems.
- Show the contributions of personalities/ people on the understanding of the earths systems.
- Identify the layers of the earth (crust, mantle, core)
- Differentiate the layers of the earth.

I. SPECIFIC OBJECTIVES

- Identify the different hypothesis explaining the origin of the universe through video clip.
- Understand the explanation of science on the creation of universe and solar systems through video clips.
- Differentiate the different hypothesis explaining the origin of the solar system.
- Appreciate the uniqueness of earth, being the only planet in the solar system that can support life by watching the video clip.

II. SUBJECT MATTER

- Topic: The formation of the universe and the solar system
- **Materials**

- Video Clips

III. INSTRUCTIONAL PROCEDURE

G. Preliminaries (1 min.)

H. Lesson Proper

- **Motivation A:** "Video Clip Analysis"
  - Student will watch a short video clip.
  - After watching the video clip student will be asked question regarding on the video presented.

I. Activity (20 mins.)

- **Activity I: "**Scrambled letter"
  - The teacher will flash a scramble letter in the screen
  - As the scramble letter flash in the screen the student will guess what kind of word can they form out of the scramble letter.
  - Student who can first guess the word will be given corresponding points.
    - INURSEVE, SSLAROSYMTE, HYTHESSIPO

J. Analysis "Questioning"

- **Activity I**
  - **What do you think are these words?**
  - **Do you have any idea what are those words?**

K. Abstraction "VIDEO - DISCUSSION" **(20 mins)**

- Student will watch a video clip on the origin of the universe and solar system.
- After the short video clip it will be added by a series of questions that will be given to the students, and aided by additional discussion.

L. Application "Video Clip Presentation - Synthesis"

- Student will watch again a video clip presentation
- After watching the student will make a synthesis regarding on the video clip.
- Synthesis and appreciation to the video given video.

IV. EVALUATION

ESSAY: Answer the following questions concisely.

3. How universe were created?
4. What hypothesis is much acceptable to be the cause of the creation of the universe? Explain why?
5. Why earth is considered as the nicest planet among the other planet in the solar system?

V. ASSIGNMENT (1 min.)

- Study in advance about the four subsystems and persons who gives contribution to the understanding of different subsystems.
-

Subject: Earth and Life Science
Content: ORIGIN AND STRUCTURE OF THE EARTH
Section: EIM

CONTENT STANDARD

The learners demonstrate an understanding of:

- The formation of the universe and solar system
- The subsystems (geosphere, hydrospheres, atmospheres, and biospheres) that make up the earth
- The earths internal structure

PERFOMANCE STANDARD

The learners shall be able to:

- Conduct a survey to assess the possible geologic hazards that your community may experience.
- Conduct a survey or design to assess the possible hydrometeorological hazards that your community may experience.

LEARNING COMPETENCIES

- **State the different hypothesis explaining the origin of the universe.**
- **Describe the different hypothesis explaining the origin of solar system.**
- **Recognize the uniqueness of earth, being the only planet in the solar system with properties necessary to support life**.
- Explains that the earth consist of four subsystem, across whose boundaries matter and energy flow.
- Explain the current advancements/ information on the solar systems.
- Show the contributions of personalities/ people on the understanding of the earths systems.
- Identify the layers of the earth (crust, mantle, core) .
- Differentiate the layers of the earth.

I. SPECIFIC OBJECTIVES

- Identify the different hypothesis explaining the origin of the universe through video clip.
- Understand the explanation of science on the creation of universe and solar systems through video clips.
- Differentiate the different hypothesis explaining the origin of the solar system.
- Appreciate the uniqueness of earth, being the only planet in the solar system that can support life by watching the video clip.

II. SUBJECT MATTER

- Topic: The formation of the universe and the solar system

- **Materials**
    - Power Point Presentation

III. INSTRUCTIONAL PROCEDURE

M. Preliminaries

N. Lesson Proper

- **Activity (20 mins.)**
    - **Activity I: "**Scrambled letter" – (3 mins.)
        - The teacher will flash a scramble letter in the screen
        - As the scramble letter flash in the screen the student will guess what kind of word can they form out of the scramble letter.
        - Student who can first guess the word will be given corresponding points.
            - INURSEVE, SSLAROSYMTE, HYTHESSIPO
- **Analysis** "Questioning" **(2 mins.)**
    - **Activity I**
        - **What do you think are these words?**
        - **Do you have any idea what are those words?**
- **Abstraction** "Big Group DISCUSSION with QUESTIONING"
    - Student will be given fact sheets, inside those fact sheets are the different hypothesis on how the universe and solar system were created.
    - Afterwards students will be given 10 minutes to discuss within their group.
    - As they are already done discussing, each group will be ask one representative to represent what they have discussed within their group.
- **Application** "Choose Me and Analyze me"
    - Student will choose one hypothesis and they are going to analyze and synthesize, why that kind of hypothesis they pick.

IV. EVALUATION

"Essay": Answer the following questions concisely.

6. How universe were created?
7. What hypothesis is much acceptable to be the cause of the creation of the universe? Explain why?
8. Why earth is considered as the nicest planet among the other planet in the solar system?

V. ASSIGNMENT (1 min.)

- Study in advance about the four subsystems and persons who gives contribution to the understanding of different subsystems.

Subject: Earth and Life Science
Content: ORIGIN AND STRUCTURE OF THE EARTH
Section: Cookery

CONTENT STANDARD

The learners demonstrate an understanding of:

- The formation of the universe and solar system
- The subsystems (geosphere, hydrospheres, atmospheres, and biospheres) that make up the earth
- The earths internal structure

PERFOMANCE STANDARD

The learners shall be able to:

- Conduct a survey to assess the possible geologic hazards that your community may experience.
- Conduct a survey or design to assess the possible hydrometeorological hazards that your community may experience.

LEARNING COMPETENCIES

- State the different hypothesis explaining the origin of the universe.
- Describe the different hypothesis explaining the origin of solar system.
- Recognize the uniqueness of earth, being the only planet in the solar system with properties necessary to support life.
- Explains that the earth consist of four subsystem, across whose boundaries matter and energy flow.
- Explain the current advancements/ information on the solar systems.
- Show the contributions of personalities/ people on the understanding of the earths systems.
- **Identify the layers of the earth (crust, mantle, core)**
- **Differentiate the layers of the earth.**

I. SPECIFIC OBJECTIVES

- Identify the different layers of the earth through video clip.
- Understand the different functions of the different layers of the earth through video clip presentation.
- Appreciate the importance of different layers of the through video synthesis.

II. SUBJECT MATTER

- Topic: The earths internal structure
- **Reference**
    - Book
        - Chemistry for changing times (Eleventh Edition), Hill Kolb
- **Materials**

- Video Clips

III. INSTRUCTIONAL PROCEDURE

O. Preliminaries (1 min.)

P. Lesson Proper

- **Motivation A:** "Motivational Video"
  - Student will watch a short video clip.

Q. Activity (20 mins.)

- **Activity I: "**4 pics one word" – (3 mins.)
  - Students will be given different pictures
  - Students will identify what word is trying to portray by the four pictures.

L	Y	R	A	R	S
E	**J**	**R**	**T**	**H**	**S**

R. Analysis "Questioning"

- **Activity I**
  - **What can you say regarding on the pictures given to you?**

S. Abstraction "VIDEO - DISCUSSION"

- Student will watch a video clip on the layers of the earth.
- After the short video clip it will be added by a series of questions that will be given to the students, and aided by additional discussion.

T. Application "Video Clip – Analysis"

- Student will watch again a video clip presentation
- After watching the student will analyze the video given.

IV. EVALUATION

"Essay": Answer the following questions concisely.

9. Discuss the importance of the different layers of the earth?

10. Why mojo is an important part on the layers of the earth?

V. **ASSIGNMENT**

- Study in advance about the different types of rocks.