

Course-Based Customized Instructional Video in Earth Science

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ABSTRACT

The study developed an instructional video in Earth Science for BSEd major in Sciences students of Batangas State University ARASOF-Nasugbu. Specifically, the study determines the respondents' perceptions towards the use of instructional video in the acquisition of learning in Earth Science in terms of content, usefulness, relevance, design, and audio and video quality. The study also determines the impact of instructional video to faculty members and students. The description of the course-based customized instructional video in Earth Science is also highlighted in this study. It employed the use of descriptive method of research for the collection of data using survey questionnaire as the main data gathering instrument. The respondents of this study composed of three (3) faculty members and 82 students from second year to fourth year from BSEd major in Sciences. Spearman rho correlation was used to determine the relationship between the evaluation of the respondents on the course-based customized instructional video in Earth Science. The findings revealed that there is a high positive correlation between the evaluation of the respondents as to the impact of the course-based customized instructional video in Earth Science. Some recommendations are also endorsed for enhancing the content, usefulness, relevance, video lesson design, and audio and video quality of the course-based customized instructional video in Earth Science.

Keywords: Earth Science, instructional video, instructional material, course-based, evaluation

INTRODUCTION

The COVID-19 pandemic has brought drastic changes to different countries all across the globe. One of the most affected sectors by the current situation is the educational system in the country. The term “new normal” has become one of the most commonly used terms in the pandemic aftermath in most educational situations. This has brought changes necessary to enhance and improve the quality of learning to meet and satisfy the demands of all educational norms and standards. The new normal currently is a modified educational concept, online learning, where students attend classes online instead of being present in a physical classroom. The changes occurring in education have reshaped and molded students and teachers into people with personalities, intellectual ability, and proficiency in different skills that will make them competent enough to acquire continuous advancement of knowledge and learning.

The emergence of technology in education is one of the gradual changes in the education system. In the 21st century, the role of technology in education is shown in different aspects: technology as part of the curriculum and as a tool for delivering instructions and enhancing the students' learning process (Raja & Nagasubramani, 2018). The integration of technology into the teaching and learning process can contribute to maintaining the high quality of education, especially in the new mode of online learning. There are different approaches and techniques used in studying, in which the only way to adapt to the new educational

set-up continually is through utilizing technology. This has led to the discovery and development of various tools and instructional materials for teaching and learning that are often administered during online classes.

In order to improve teachers' efficiency and students' performance, instructional materials are necessary instruments for teaching and learning. Instructional materials are developed to help the students be motivated in learning and improve the teachers' efficacy in teaching. To encourage students to learn, teachers employ a variety of instructional materials like lectures, textbooks, readings multimedia components. These instructional materials are one of the well-defined solutions to address the problem concerning the difficulties encountered by the students, where it provides the learner a more significant opportunity to understand each lesson presented in the material. The success in acquiring knowledge and skills in a subject matter like Earth Science depends on the materials' applicability, sufficiency, effectiveness, and suitability. One of the effective instructional materials used in teaching Earth Science is the instructional video lesson.

Video lessons are used as a multimedia representation of a particular topic where the viewers can gain relevant and valuable information. Using videos during online learning seems to be an effective tool for engaging students in online classes or even self-paced learning. Internet websites serve as a medium where students and teachers can access videos to modify, design, and develop other versions of video lessons that can be used in learning and teaching a particular subject. The delivery of lessons through videos supports students' learning process, as it provides opportunities for in-depth learning where concepts and ideas are well presented using images, text, and audio (Greenberg & Zanetis, 2012). In line with this, the section 16 of Article II of the Commission on Higher Education (CHED) Memorandum No. 62, series of 2016, states that it is permissible to legally modify and utilize open educational resources or any educational materials, including textbooks, curricula, lecture, notes, assignments, audio and video that is publicized and introduce to open sources and public domain. The support of the Commission of Higher Education to the utilization of Open Educational Resources, under section 8 of Article I, promotes the universal access to acquiring information and knowledge that teachers and students can manifest.

The use of videos for educational purposes allows both teachers and students to increase their knowledge of the subject matter. Video is one way to effectively deliver a lesson, where these videos make the students motivated and interested in the topic or lesson due to their content, clarity, audio, and design. Teachers utilize these video lessons to extend the opportunity for students to learn more, even at home or during any vacant hours, which is commendable for the teaching and learning process. Through the use of video lessons, teachers can be more resourceful and creative, as they have the opportunity to develop their video lessons. For students, the use of video lessons will help them be more engaged in studying a particular subject, resulting in higher performance during an online class. Also, it will increase their knowledge of the proper utilization of instructional materials.

Video lessons are an effective tool for students' learning and acquisition of knowledge that students can use in various ways. It allows the students to pause and repeat watching the material to ensure that they fully comprehend the Earth Science lessons. As a result, a study focusing on the development of an instructional video is deemed essential. Through the data and outcomes, it wanted to demonstrate the importance of instructional video and their influence on education. As a result, it is expected that this research may serve as a strong foundation for developing and enhancing instructional materials like instructional video that will be developed relatively soon by students and teachers to overcome incompetence in subject matter learning.

The COVID-19 pandemic significantly impacted the educational system, causing it to be changed into an online learning system. Students and faculty members must undergo various adjustments as they face numerous problems during the online learning setup. Some instructional materials, such as e-modules, hand-outs, and e-books, may not be sufficient to meet students' needs when it comes to studying at their own pace; therefore, the development of other instructional materials, such as instructional videos, was

considered as a well-defined solution to this pressing problem. Instructional videos are an effective tool during the COVID-19 pandemic's online learning system. It supports student learning by assisting students in becoming more engaged in their studies. Students and faculty members benefit from the instructional video in their teaching process since it allows them to use it conveniently and flexibly. The contents and designs let them further understand the lessons that will be conveyed. Additionally, students will improve their understanding and performance in lessons, notably in Earth Science, with the support of instructional videos.

OBJECTIVES

The study focused on the perceptions of the faculty members and students on the use of instructional video in the acquisition of learning in Earth Science, the evaluation of the faculty members and students on the course-based customized instructional video in Earth Science in terms of content, usefulness, relevance, video lesson design, and audio and video quality, the faculty members and students' assessment on the impact of instructional video on learning Earth Science, and the relationship of the evaluation of the faculty members and students on the course-based customized instructional video to the impact of instructional video on the learning of Earth Science. The final instructional video was also described on the research study.

MATERIALS AND METHODS

The research design used in the study is a descriptive method which describe the developed course-based customized instructional video in Earth Science.

Shuttleworth (2008), a descriptive study design is a scientific method that involves describing and observing the behavior of the subject matter without altering it in any manner.

The research design was appropriate for the study because it was also intended to determine the perceptions of the faculty members and students on the use of instructional video in the acquisition of learning in Earth Science, the evaluation of faculty members and students in terms of content, usefulness, relevance, video lesson design, and audio and video quality, and the faculty members and students' assessment to the impact of instructional video on learning Earth Science.

Research Environment

The study was conducted at Batangas State University ARASOF-Nasugbu, particularly in the College of Teacher Education, since most respondents were enrolled in the Bachelor of Secondary Education program this Second Semester, Academic Year 2021-2022.

Participants of the Study

The respondents of the study were the three (3) faculty members who are teaching science courses in College and Teacher Education, thirty-six (36) second-year students, seventeen (17) third-year students, and twenty-nine (29) fourth-year students from Bachelor of Secondary Education major in Sciences at Batangas State University ARASOF-Nasugbu who are enrolled this Second Semester, Academic Year 2021-2022. The researchers chose the school, faculty, and students for they firmly believe that the respondents would give them sufficient and relevant knowledge and information in this study.

Data Gathering Instruments

The researchers used a research-made survey questionnaire as the primary tool in gathering the data relevant

to the present study to obtain the needed information. This method was the least expensive way of collecting data that respondents could efficiently respond to online and provide options for answering. The questionnaire was carefully crafted and designed with a set of questions related to and aligned to the study.

Construction. The researchers used a research-made survey questionnaire intended for the selected respondents. The questionnaires were adapted from Debajyoti Pal and Syamal Patra, Nevada Department of Education, Chris Purganan, and Shoukot Ali. All items included in the questionnaire were expected to answer the research problem. Included in the content of the questionnaire was the data from the perceptions of faculty members and students on the use of instructional video in the acquisition of learning in Earth Science; the evaluation of teachers and students on the developed instructional video in Earth Science, and a section for different suggestions and recommendations to further enhance the developed instructional video; faculty members and students' assessment to the impact of instructional video on learning Earth Science and the correlation between the evaluation of faculty members and students as to the impact of the course-based customized instructional video in Earth Science. The survey questionnaire was distributed via a Google Form, and respondents were required to respond using their G-Suite accounts.

Administration. The questionnaire that was used in this study was researcher-made. The researchers included a note regarding the importance of carefully and honestly answering every item in the questionnaire. The questionnaires were uploaded in Google Forms, and the link was distributed to the target respondents' G-Suite email accounts and their messenger accounts for convenient data collection.

Scoring. The data collected from the study was classified, tabulated, and interpreted for a better understanding of the results. The Likert Summated Rating Scale was used in scoring the data gathered from the researcher-made survey questionnaire. The scale utilized ranges from one (1) to four (4), with one (1) being the lowest and four (4) being the highest. The Likert Scale that was used in this study is depicted below.

Table 3.1. Likert Summated Rating Scale

SCALE	RANGE	VERBAL INTERPRETATION
4	3.51-4.00	Strongly Agree
3	2.51-3.50	Agree
2	1.51-2.50	Disagree
1	1.00-1.50	Strongly Disagree

Data Gathering Procedure

The researchers developed a survey questionnaire administered among respondents using Google forms. It was presented to the advisers for initial and final checking to further enhance the instrument's content. All the suggestions and recommendations given have been incorporated into the respective respondents before the administration. Once approved, the questionnaire was sent to the respondents through Google form, either in the institutional email account (G-Suite) or Facebook Messenger account. The copy and the link to the instructional video were also sent through the respondent's G-Suite email account and Facebook Messenger account, which will eventually direct them to the Google Drive, where they can access the developed instructional video for further evaluation as to its content, usefulness, relevance, video lesson design, and audio and video quality. The given variables served as the respondent's guide in adequately assessing the instructional video for Earth Science. The researchers gave enough time for the respondents to finish responding to the questionnaire and likewise watch the developed instructional video before proceeding to the collection, summary, and interpretation of data.

Statistical Treatment of Data

The responses collected from the Google form survey questionnaire were assessed using various statistical tools. The data was classified, tallied, and tabulated for better presentation and interpretation of the results. The statistical treatment for the data includes ranking, frequency, weighted mean, and spearman’s rho correlation, which ascertained the respondents’ assessment and evaluation of the developed instructional video in Earth Science.

Ranking. The study utilized this to rank and determined which of the given statements in each set of questions got the highest and lowest weighted mean. The data collected on the perceptions of the faculty members and students on the use of instructional video in the acquisition of learning in Earth Science, the evaluation of the faculty members and students on the developed instructional video, as well as the faculty members and students’ assessment on the impact of instructional video was ranked based on the weighted mean acquired on the Likert scale.

Frequency. This was used to count the number of times or how often the respondents responded to each item in the questionnaire.

Weighted Mean. This statistical tool was used to calculate the average value of all students and faculty members’ responses to each item in the questionnaire. The weighted mean was calculated using the data gathered from the survey to determine the perceptions of the faculty members and students on the use of instructional video in the acquisition of learning in Earth Science, the evaluation of faculty members and students in terms of content, usefulness, relevance, video lesson design, and audio and video quality, and the faculty members and students’ assessment to the impact of instructional video on learning Earth Science.

Spearman’s Rho Correlation. This statistical tool was used to assess the relationship between the two variables of the study. The Spearman’s Rho Correlation was used to determine the relationship between the evaluation of the faculty members and students on the course-based customized instructional video and the impact of the instructional video on the learning of Earth Science.

Table 3.2. Interpretation table of the Spearman’s rho Correlation

CORRELATION COEFFICIENT	VERBAL INTERPRETATION
0.9 to 1	Very High Positive Correlation
0.7 to 0.9	High Positive Correlation
0.5 to 0.7	Moderate Positive Correlation
0.3 to 0.5	Low Positive Correlation
0 to 0.3	Negligible Correlation

RESULTS AND DISCUSSION

Faculty members and students’ perceptions of the use of instructional video in the acquisition of learning in Earth Science.

Items	Faculty Members			Students		
	WM	VI	R	WM	VI	R
I am able to improve my teaching/learning when I use the course-based customized instructional video.	3.00	Agree	10.5	3.40	Agree	10

I am able to complete my teaching/learning tasks more quickly by using developed course-based customized instructional video.	3.33	Agree	4	3.41	Agree	8
I am more effective when it comes to my teaching/learning when I use developed course-based customized instructional video.	3.33	Agree	4	3.41	Agree	8
I find it easier for me to teach/study when I use a developed course-based customized instructional video.	3.67	Strongly Agree	1	3.39	Agree	11
I find the developed course-based customized instructional video is beneficial to my academics.	3.00	Agree	10.5	3.48	Agree	2
I find it more convenient to use online developed course-based customized instructional video.	3.00	Agree	10.5	3.45	Agree	4
I am able to understand the lesson easier using the developed course-based customized instructional video in teaching/learning.	3.00	Agree	10.5	3.41	Agree	8
I find that the interaction with the developed course-based customized instructional video in teaching/learning is simple and straightforward.	3.33	Agree	4	3.50	Agree	1
I am convinced that it is a good idea to use developed course-based customized instructional video during online teaching and learning.	3.33	Agree	4	3.45	Agree	4
I find that watching developed course-based customized instructional video rather than reading materials is a better way for me to teach/learn online.	3.00	Agree	10.5	3.35	Agree	12.5
I am able to improve my knowledge and understanding of subjects.	3.00	Agree	10.5	3.35	Agree	12.5
I believe that using developed course-based customized instructional video in an online learning environment satisfy all the learning objectives.	3.33	Agree	4	3.32	Agree	14
I watch the course-based customized instructional video as it supports me with my teaching/learning.	3.00	Agree	10.5	3.43	Agree	6
I will continue using the developed course-based customized instructional video during online learning.	3.00	Agree	10.5	3.45	Agree	4
Average Weighted Mean	3.17	Agree	3.41		Agree	

Legend: WM – Weighted Mean, VI – Verbal Interpretation, R – Rank

It showed that the faculty members and BSEd Science students have a good perception of the use of instructional video in the acquisition of learning in Earth Science, as manifested by the average weighted mean of 3.41 for the students and 3.17 for the faculty member. This can be viewed that the utilization of instructional video in the acquisition of learning in Earth Science was beneficial in both teaching and learning.

Based on the data gathered from the faculty members, the fourth statement, which states that it is easier for them to teach when they use a developed course-based customized instructional video, ranked first with a weighted mean of 3.67 with a verbal interpretation of Strongly Agree. While the following statements tied on the lowest rank: I am able to improve my teaching/learning when I use the course-based customized instructional video; I find the developed course-based customized instructional video is beneficial to my

academics; I find it more convenient to use online developed course-based customized instructional video; I am able to understand the lesson easier using the developed course-based customized instructional video in teaching/learning; I find that watching developed course-based customized instructional video rather than reading materials is a better way for me to teach/learn online; I am able to improve my knowledge and understanding of subjects; I watch the course-based customized instructional video as it supports me with my teaching/learning, and; I will continue using the developed course-based customized instructional video during online learning, with a weighted mean of 3.00 with a verbal interpretation of Agree.

Statement eight received the highest weight of 3.50 and a verbal interpretation of Agree based on the data presented, stating that interaction with the developed course-based customized instructional video in teaching and learning is simple and straightforward. It is related to a study conducted by While statement twelve got the lowest rank with a weighted mean of 3.32 and a verbal interpretation of agree that using developed course-based customized instructional video in an online learning environment satisfies all the learning objectives.

Evaluation of faculty members and students on the developed course-based customized instructional video in Earth Science

Content

Items	Faculty Members			Students		
	WM	VI	R	WM	VI	R
<i>The content of the developed course-based customized instructional video...</i>						
contain concepts that are significant in the educational context.	3.33	Agree	6.5	3.49	Agree	3
is accurate and aligned with the target learning objectives of each lesson.	3.67	Strongly Agree	2	3.45	Agree	5
is well-organized.	3.33	Agree	6.5	3.51	Strongly Agree	2
is clear and well-presented.	3.33	Agree	6.5	3.41	Agree	7
is explained in a comprehensive manner.	3.00	Agree	10	3.44	Agree	6
provides assessment questions.	3.33	Agree	6.5	3.40	Agree	8
contains key topics that are clearly stated and outlined.	3.33	Agree	6.5	3.46	Agree	4
is connected to the lectures in the classroom.	3.67	Strongly Agree	2	3.52	Strongly Agree	1
is not overwhelming.	3.33	Agree	6.5	3.32	Agree	10
contains instructions for the activities are clearly stated.	3.67	Strongly Agree	2	3.38	Agree	9
Average Weighted Mean	3.40	Agree		3.44	Agree	

Legend: WM – Weighted Mean, VI – Verbal Interpretation, R – Rank

The table presented that the evaluation of faculty members and BSEd Science students on the content is substantial as it gained an average weighted mean of 3.44 for students and 3.40 for faculty members. Therefore, the researchers found out that the content is aligned and significant in the delivery and acquisition of information in Earth Science.

Based on the results obtained from the faculty members, the following statements tied for the highest rank:

the content of the developed course-based customized instructional video is accurate and aligned with the target learning objectives of each lesson; The content of the developed course-based customized instructional video is connected to the lectures in the classroom, and; The content of the developed course-based customized instructional video contains instructions for the activities are clearly stated with a weighted mean of 3.67 with a verbal interpretation of Strongly Agree. Last in the rank is the fifth statement, which states that the content of the developed course-based customized instructional video is explained in a comprehensive manner. It has a weighted mean of 3.00 with a verbal interpretation of Agree.

From the data gathered from the students, the highest rank is the eighth statement which stated that the content of the developed course-based customized instructional video is connected to the lectures in the classroom with a weighted mean of 3.52 with a verbal interpretation of Strongly Agree. Last in rank, which posits that the content of the developed course-based customized instructional video is not overwhelming, garners a weighted mean of 3.32 with a verbal interpretation of Agree.

Usefulness

Items	Faculty Members			Students		
	WM	VI	R	WM	VI	R
<i>The developed course-based customized instructional video.</i>						
support the efficient learning of information in the subject matter.	4.00	Strongly Agree	3	3.49	Agree	8
can used as a tool for acquiring knowledge and learning skills ranging from the basic to the advanced.	3.33	Agree	8	3.52	Strongly Agree	3.5
are used to explain specific concepts and ideas within the topics covered in each lesson.	4.00	Strongly Agree	3	3.51	Strongly Agree	5
demonstrate the process of transferring knowledge.	3.33	Agree	8	3.54	Strongly Agree	1.5
are convenient to use and to adapt for teaching and learning.	4.00	Strongly Agree	3	3.54	Strongly Agree	1.5
are proper, simple, and comprehensible.	3.33	Agree	8	3.5	Agree	6.5
serve as a learning tool that can be used at home.	4.00	Strongly Agree	3	3.52	Strongly Agree	3.5
are used as medium for providing and delivering instructions.	4.00	Strongly Agree	3	3.5	Agree	6.5
influence interest in teaching and learning.	3.67	Strongly Agree	6	3.48	Agree	9
Average Weighted Mean	3.74	Strongly Agree		3.51	Strongly Agree	

Legend: WM – Weighted Mean, VI – Verbal Interpretation, R – Rank

Findings showed that faculty members and BSEd Science students viewed the developed course-based customized instructional video in Earth Science as useful since it acquired a weighted mean of 3.51 for students and 3.74 for faculty members. These findings implied that the course-based customized

instructional video aid the faculty members and students in the efficacy of their teaching and learning process.

From the data gathered from the faculty members, the following statements ranked first: The developed course-based customized instructional video support the efficient learning of information in the subject matter; The developed course-based customized instructional video is used to explain specific concepts and ideas within the topics covered in each lesson; The developed course-based customized instructional video is convenient to use and to adapt for teaching and learning; The developed course-based customized instructional video serve as a learning tool that can be used at home, and The developed course-based customized instructional video is used as a medium for providing and delivering instructions, with a weighted mean of 4.00 having a verbal interpretation of Strongly Agree. On the other hand, the three following statements ranked the lowest: The developed course-based customized instructional video is used as a tool for acquiring knowledge and learning skills ranging from the basic to the advanced; The developed course-based customized instructional video demonstrates the process of transferring knowledge, and; The developed course-based customized instructional video is proper, simple, and comprehensible, having a weighted mean of 3.33 with a verbal interpretation of “Agree.”

Based upon the data generated from the students, statements no. 4 and no. 5 stated that the developed course-based customized instructional video demonstrates the process of transferring knowledge and the developed course-based customized instructional video is convenient to use and to adapt for teaching and learning, ranked first with a weighted mean of 3.54 having a verbal interpretation of “Strongly Agree.” However, the ninth statement, which states that the developed course-based customized instructional video influences interest in teaching and learning, ranked the lowest with a weighted mean of 3.48 and a verbal interpretation of “Agree.”

Relevance

Relevance	Faculty Members			Students		
	WM	VI	R	WM	VI	R
<i>The developed course-based customized instructional video...</i>						
can support teachers/students while teaching and learning the lessons.	3.00	Agree	4.5	3.57	Strongly Agree	1
contain contents that are important to the learners and teachers.	3.00	Agree	4.5	3.52	Strongly Agree	4
prepare and enable students to learn about Earth Science topics.	3.33	Agree	2.5	3.54	Strongly Agree	3
contain learning objectives that are attained in the learning content, examples and practice tasks in the instructional video.	3.67	Strongly Agree	1	3.55	Strongly Agree	2
contain learning exercises that are aligned on the learning objectives.	3.33	Agree	2.5	3.49	Agree	5
Average Weighted Mean	3.27	Agree		3.53	Strongly Agree	

Legend: WM – Weighted Mean, VI – Verbal Interpretation, R – Rank

It can be obtained from the table that the faculty members and BSEd Science students assessed that the developed course-based customized instructional video in Earth Science is significant, with a weighted

mean of 3.53 for students and 3.27 for faculty members. Hence, the researchers observed that the students found the developed course-based customized instructional video more relevant than the faculty members' view.

Based on the data gathered from the faculty members, the fourth statement, which states that the developed course-based customized instructional video contains learning objectives that are attained in the learning content, examples, and practice tasks in the instructional video, ranked first with a weighted mean of 3.67 with a verbal interpretation of Strongly Agree. However, last in rank is the statement no. 1 and no.2, with a weighted mean of 3.00 and a verbal interpretation of Agree stating that the developed course-based customized instructional video can support teachers/students while teaching and learning the lessons, and it contains contents that are important to the learners and teachers.

From the same table above, the students Strongly Agreed that the developed course-based customized instructional video can support teachers/students while teaching and learning the lessons with a weighted mean of 3.57 and ranks highest among the criteria. The fifth statement ranked the lowest in the criteria with a weighted mean of 3.49 with a verbal interpretation of Agree, which states that the developed course-based customized instructional video contains learning exercises aligned with the learning objectives.

Video Lesson Design

Items	Faculty Members			Students		
	WM	VI	R	WM	VI	R
<i>The developed course-based customized instructional video...</i>						
contains text that are easy to read.	3.00	Agree	4.5	3.45	Agree	5
has a layout that is consistent; information and photos are well-placed for easy reference.	3.33	Agree	2	3.46	Agree	4
contains key points and concepts that are well-highlighted to assist teachers/students to remain focused while watching.	3.00	Agree	4.5	3.5	Agree	2.5
contains title, introduction and discussion that are clearly brought out.	3.33	Agree	2	3.52	Strongly Agree	1
length is sufficient to discuss all the important information for each chapter.	3.33	Agree	2	3.5	Agree	2.5
Average Weighted Mean	3.20	Agree		3.49	Agree	

Legend: WM – Weighted Mean, VI – Verbal Interpretation, R – Rank

The table tabulated that the video lesson design was commendable as the faculty members and BSEd Science students evaluated the developed course-based customized instructional video in Earth Science with a weighted mean of 3.49 for students and 3.20 for faculty members. These results entailed that the developed course-based customized instructional video contained appropriate design and consistent layout.

Based on the table presented above, The developed course-based customized instructional video has a layout that is consistent; information and photos are well-placed for easy reference, The developed course-based customized instructional video contains a title, introduction, and discussion that are clearly brought out, and The developed course-based customized instructional videos' length is sufficient to discuss all the important

information for each chapter ranked as the highest having a weighted mean of 3.33 and a verbal interpretation of Agree.

On the other hand, the statements that state that the developed course-based customized instructional video contains text that is easy to read and the developed course-based customized instructional video contains key points and concepts that are well-highlighted to assist teachers/students to remain focused while watching tied on the lowest ranking with a weighted mean of 3.00 having a verbal interpretation of Agree.

The table also represents the data generated from the students wherein the fourth statement states that the developed course-based customized instructional video contains a title, introduction, and discussion that are brought out ranked as highest, having a weighted mean of 3.52 and a verbal interpretation of Strongly Agree. The first statement states that the developed course-based customized instructional video contains text that is easy to read, however, it ranked as the lowest with a weighted mean of 3.45, having a verbal interpretation of Agree.

Audio and Video Quality

Items	Faculty Members			Students		
	WM	VI	R	WM	VI	R
<i>The developed course-based customized instructional video...</i>						
contain good quality of videos and images, and clarity of the spoken texts are manifested in the video.	3.33	Agree	3	3.45	Agree	2
convey clarity on the audio making it free from background noise.	3.33	Agree	3	3.39	Agree	4
have an appropriate sound that is more engaging and pleasing to watch.	3.33	Agree	3	3.41	Agree	3
transition displayed information is in the right speed for easier and better understanding of the concept.	3.67	Strongly Agree	1	3.46	Agree	1
Average Weighted Mean	3.42	Agree		3.43	Agree	

Legend: WM – Weighted Mean, VI – Verbal Interpretation, R – Rank

It can be gleaned from the table that the audio and video quality is preferable as the evaluation of the faculty members and BEd Science students on the developed course-based customized instructional video in Earth Science resulted in a weighted mean of 3.43 for students and 3.42 for faculty members. Thus, these inferred that the developed course-based customized instructional video contained a good quality in terms of audio and video.

In the table above, from the faculty, the developed course-based customized instructional videos' transition displayed information is in the right speed for more accessible and better understanding of the concept rank as the highest among all with a weighted mean of 3.67 and a verbal interpretation of strongly agree. The developed course-based customized instructional video contains good quality videos and images, and clarity of the spoken texts is manifested in the video; the instructional video conveys clarity on the audio, making it free from background noise; the instructional video has an appropriate sound that is more engaging and pleasing to watch, rank lowest and tied in the rank with the weighted mean of 3.33 and a verbal interpretation of agree.

The same table above also revealed the students' responses in their evaluation of the audio and video quality. The fourth statement, which states that the developed course-based customized instructional videos'

transition displayed information is at the right speed for a more accessible and better understanding of the concept, ranks first with a weighted mean of 3.46 and verbal interpretation of Agree. Meanwhile, the developed course-based customized instructional video conveys clarity on the audio, making it free from background noise, ranking as the lowest with a weighted mean of 3.39 and a verbal interpretation of Agree.

Faculty Members and Students' Assessment on the Impact of Instructional Video on Learning Earth Science

Items	Faculty Members			Students		
	WM	VI	R	WM	VI	R
<i>The developed course-based customized instructional video</i>						
help teachers/students to remember the lessons for many days.	3.00	Agree	11.5	3.49	Agree	8
promote easily understanding on every lesson.	3.67	Strongly Agree	3	3.55	Strongly Agree	3
make it easy to share information and video content.	3.33	Agree	9.5	3.56	Strongly Agree	1
make it easy to teach and learn.	3.00	Agree	11.5	3.55	Strongly Agree	3
grab teachers/students' attention.	3.33	Agree	9.5	3.52	Strongly Agree	5.5
increase teachers/students' concentration.	3.33	Agree	9.5	3.5	Agree	7
generates teachers/students' interest in the class.	3.67	Strongly Agree	3	3.46	Agree	10
foster deeper understanding and learning.	3.33	Agree	9.5	3.55	Strongly Agree	3
serves as a channel for collaboration.	3.33	Agree	9.5	3.46	Agree	10
inspire and motivates the teachers and students on their teaching and learning process.	3.67	Strongly Agree	3	3.52	Strongly Agree	5.5
establishes connection between teachers and students.	3.67	Strongly Agree	3	3.39	Agree	12
increase and lengthens the memory of the content.	3.67	Strongly Agree	3	3.46	Agree	10
Average Weighted Mean	3.42	Agree		3.50	Agree	

Legend: WM – Weighted Mean, VI – Verbal Interpretation, R – Rank

The course-based customized instructional video was effective as the faculty members, and BSEd Science students assessed the impact of instructional video on Earth Science, with a weighted mean of 3.50 for students and 3.42 for faculty members. The researchers found out that course-based customized instructional videos influenced both the faculty members and students in their teaching and learning.

The data gathered from faculty on the assessment on the impact of instructional video on learning earth science showed that the developed course-based customized instructional video promotes quickly understanding of every lesson, generates teachers/students' interest in the class, inspires and motivates the teachers and students on their teaching and learning process, establishes a connection between teachers and students, lesson increase and lengthens the memory of the content, tied for the first rank with a weighted

mean of 3.67 and a verbal interpretation of Strongly Agree. The developed course-based customized instructional video help teachers/students to remember the lessons for many days, and the developed course-based customized instructional video makes it easy to teach and learn ranks as the lowest and tied in the rank with a weighted mean of 3.00 and verbal interpretation of Agree

Meanwhile, based on the data gathered from the students, the developed course-based customized instructional video makes it easy to share information and video content, ranking first with a weighted mean of 3.56 and a verbal interpretation of Strongly Agree. While statement eleven ranks as the lowest, stating that the developed course-based customized instructional video establishes a connection between teachers and students with a weighted mean of 3.39 and a verbal interpretation of Agree.

Correlation of the Evaluation of the Faculty Members and Students on the Course-Based Customized Instructional Video to the Impact of Instructional Video on the Learning of Earth Science.

Faculty Members

			Evaluation	Impact
Spearman’s rho	Evaluation	Correlation Coefficient	1.000	1.000
		Sig. (2-tailed)	.	.
		N	3	3
	Impact	Correlation Coefficient	1.000	1.000
		Sig. (2-tailed)	.	.
		N	3	3

The relationship of the evaluation of the faculty members on the course-based customized instructional video to the impact of instructional video on the learning of Earth Science was shown in Table 4.8 using Spearman’s Rho Correlation. It revealed a very high positive correlation having a Spearman’s rank correlation coefficient of 1.000, between the evaluation of the faculty members on the course-based customized instructional video and the impact of instructional video on the learning of Earth Science. This means that the higher the evaluation of the course-based customized instructional video of the faculty members, the higher the impact on the teaching of Earth Science.

Students

			Evaluation	Impact
Spearman’s rho	Content	Correlation Coefficient	1.000	0.877
		Sig. (2-tailed)	.	.000
		N	82	82
	Impact	Correlation Coefficient	.877	1.000
		Sig. (2-tailed)	.000	.
		N	82	82.

The relationship of the evaluation of the student on the course-based customized instructional video to the impact of instructional video on the learning of Earth Science was displayed in Table 4.9 using Spearman’s Rho Correlation. It presented a very high positive correlation having a Spearman’s rank correlation coefficient of 0.877 between the evaluation of the students on the course-based customized instructional video and the impact of instructional video on the learning of Earth Science. This means that the higher the evaluation of the course-based customized instructional video of the students, the higher the impact on the

learning of Earth Science.

Description of final the course-based customized instructional video in Earth Science

The developed course-based customized instructional video contains various parts, such as the title of each chapter; the learning objectives that deal with what should be achieved and obtained in each discussion; the introduction has seen at the beginning of the instructional video to introduce the topic; the discussion that was adapted from various sources; the assessment to check the viewers' understanding of the discussion; and the references for the discussion. The topics in each instructional video were based on the course syllabus of the Earth Science subject.

Along with that, the developed course-based customized instructional video contains information and essential concepts about Earth Science. It supports and aids the faculty members and students in teaching and learning. It is applicable in teaching and learning considering the situation of our educational system today. The developed course-based customized instructional video comprised the appropriate design for the faculty members to properly present the information and engage and motivate the students. It also utilized audio and video quality suitable for presenting the information through video layout, sounds, graphics, illustrations, and voice-over.

CONCLUSION

Based on the findings of the study, the researchers with this concluded that:

1. The faculty members and students perceived that utilizing a developed course-based customized video lesson is vital in performing their role in the teaching and learning process. This provides various options for an easy and beneficial way of acquiring information.
2. The respondents' evaluation of the developed course-based instructional video in Earth Science in terms of the contents, usefulness, relevance, video lesson design, and audio and video quality were acceptable and favorable based on the gathered results. The respondents also provided suggestions that needed to be considered in improving the instructional video.
3. The respondents assessed and agreed to all the impacts of the instructional video lesson in Earth Science as these materials contributed to teaching and acquiring learning within the course.
4. There is a correlation between the evaluation of course-based customized instructional video and the impact of the instructional video lesson on learning Earth science. It shows in the study that there is a high positive correlation between the two variables.
5. The final course-based customized instructional video in Earth Science was described as having different parts that should be followed when developing an instructional video for effective instructional material.

RECOMMENDATIONS

Based on the findings and conclusions made from the study, the accompanying suggestions are thusly proposed by the researchers:

1. The university may consider using instructional video in the teaching and learning process within a course among the BatStateU-ARASOF Nasugbu students, especially the science students.
2. The developed course-based customized instructional video should be subjected to revision and editing process before being used in teaching and learning of Earth Science.
3. Future researchers are allowed to enhance the developed course-based customized instructional video in terms of content, usefulness, relevance, video lesson design, and audio and video quality in order

for the faculty members and students to view the instructional materials as effective and efficient. They may also use this study as one of their related literature and references to construct their study.

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