

ENHANCED MODULE IN ART SKILLS: AN INNOVATIVE INSTRUCTIONAL MATERIAL IN ILLUSTRATIONS

KRIS ANNE J. SAN SEBASTIAN
 krisanne.sansebastian@deped.gov.ph
 Laguna State Polytechnic University, Philippines

ABSTRACT

This study's focus is on the production of a Enhanced Module in Art Skills which can be used as an innovative instructional material in teaching Illustrations 9. The study was limited to the assessment of whether the use of intervention material would be effective. The gathering of data school was done during the Second Quarter of the School-Year 2022-2023 in Gov. Felicisimo T. San Luis Integrated Senior High School where the researcher is teaching. The respondents were ten (70) illustrations students and some TLE teachers from different schools from Pagsanjan, Sta. Cruz and Pila who validated the Enhanced Module in Art Skills.

Mean and Standard Deviation were used to determine the respondents' perception of the utilization of innovative instructional material. T-test was used to determine the significant relationship between Enhanced Module in Art Skills and the second-quarter performance of Grade 9 students. Thus, this helped the researcher to answer the hypothesis.

Teachers perceived that the use of Enhanced Module in Art Skills instructional material (i.e., activities, content, objectives, design was very effective), and it helped the respondents enhance their performance in Illustrations 9. They benefited from using the module as innovative instructional material to easily understand the lesson. Moreover, there was a significant effect to the performance of the grade 9 students with the use of the Enhanced Module in Art Skills.

It is recommended that TLE teachers focus and give emphasis of the objectives of the lesson or any instructional materials and resources. Also, that the performance monitoring may focus on the students' needs and enable them to learn especially on laboratory performances. They may find the meaning of laboratory skills out of the context if they experience more hands on activities.

Keywords:

Instructional module, objectives, activities, content, assessment, adaptability, aesthetic value, usefulness

INTRODUCTION

Teaching at any level requires that the students be exposed to some form of stimulation or intervention to improve learners' academic achievement. Department of Education provides different instructional materials in building the foundation of learning. Modern research has broadened scientific knowledge and revealed the interdisciplinary nature of the sciences. For today's students, this advance translates to learning a more diverse range of concepts.

In connection with this, providing new interdisciplinary modules have been proposed to help students engage on their subjects despite of experiencing new normal. Teachers and instructional leaders are advised to make new concepts of learning and innovate new materials to aid students' learning.

Bunagan (2019) defined Innovative Instructional Material as meant to teach the concepts and skills. It is a material given to students to help master competency -based skills during the teaching-learning process. It consists of both learning strategies (for students) and content enhancement (for teachers). It is a multifaceted approach to help students to become independent and successful learners.

At present, in the Philippine education system, intervention materials are highly regarded as tools to enhance achievements of the learners. It refers to a teaching aid introduced into the teaching methods to stimulate the activity of the students and thereby increased their level of understanding (Dy, 2017).

In line with the above discussion, the general goal of innovative instructional material delivery is to ensure that students are acquiring knowledge and skill that are deemed essential for their success in basic education learning in art skills.

Thus, the researcher is encouraged to conduct a study in relation to art skills enhanced module as innovative instructional material in teaching Illustration great assurance that its findings will surely benefit the learners develop understanding of the concepts.

1. What is the status of the Enhanced Module in Art Skills component relative to:
 - 1.1 Objectives
 - 1.2 Activities;
 - 1.3 Content;
 - 1.4 Design?
2. What is the status of the Enhanced Module is Art Skills features in terms of:
 - 2.1 Adaptability;
 - 2.2 Aesthetic Value;
 - 2.3 Creativity;
 - 2.4 Appropriateness?
3. What is the level of student's performance in terms of:
 - 3.1 Practical output;
 - 3.2 Written Output?
4. Do the components of the Enhanced Module in Art Skills have a significant effect to the performance of Grade 9 students?
5. Do the features of the Enhanced Module in Art Skills have significant effect to the performance of the Grade 9 students?

REVIEW OF RELATED LITERATURE

One of the indicators used in the conduct of this research is performance, and students practical and written outputs are its necessary variables.

According to Ali et al., (2020), it appears that the modular learning students perform significantly better than the group taught by the traditional method of teaching. The Modularization also promoted positive changes in teaching style. Teachers and students are in favor of modular distance learning thus it is recommended to use this approach in conventional classrooms at various levels of education.

Furthermore, Sadiq and Zamir, (2014), state that modular teaching is a more effective approach in teaching university students of Master in Educational Planning and Management. This method can be applied widely to other fields and subjects as well as other levels of education because this approach can fulfill the diversified needs of learning of students of all level. Moreover, the authors state that modular

teaching is more effective on university students in the teaching-learning process as compared to ordinary teaching methods. Because in this modular approach the students learn at their own pace.

In the article by Aksan (2021) entitled “The Effect of Modular Distance Learning Approach to Academic Performance in Mathematics of Students in Mindanao State University- Sulu Senior High School,” it was stated that the academic grades in Mathematics of the STEM students treated by modular approach achieved very satisfactory in the school year 2019-2020. And that modular distance learning approach in learning Math was still effective despite its challenges amidst the COVID-19 pandemic.

Likewise, Dargo, J. M., & Dimas, M. (2021), states that the use of the modular teaching approach was more effective than the traditional method of instruction. In light of the COVID-19 pandemic where no face-to-face classes can take place and with the problems in the use of the internet and technology, modular distance learning is the best option to continue delivering education that could yield good results.

In the article, “The Challenges and Status of Modular Learning: Its Effect to Students’ Academic Behavior and Performance” by Agarin (2021), it was inferred that the teacher’s” physical interaction with the learners influence the learners” academic performance.

Another indicator found relevant in this study is enhanced modules.

Natividad, E. (2021), defined module as a unit of work in a course of instruction that is virtually self-contained and a method of teaching that is based on the concept of building up skills and knowledge in discrete units. A module is a set of learning opportunities organized around a well-defined topic that contains the elements of instruction, specific objectives, teaching-learning activities, and evaluation using criterion-referenced measures.

According to Gumapac, J. R., Aytona, E. M., & Alba, M. G. R. (2021), distance/modular education are somehow as effective as classroom instruction. In other words, students who undergo online or modular learning can have a quality education provided that the basic needs are met.

However, (Olivo, 2021), states that parents claimed that time allotment in the completion of learning activities was insufficient since the activities were so many. In addition, some parents said that some topics in the modules are so hard to vent for them and they cannot help and guide their children in answering the learning tasks.

Modular learning can be in printed or digital format. According to Shuja, A. Qureshi, I. A., Schaeffer, D.M., & Zareen, M. (2019) modular learning is learners” learning at their own pace, in their own way and using self-learning modules (SLMs). It can be printed/digitized format/electronic copy that is appropriate to learners, and other learning resources like learners” materials, textbook, activity sheets, study guides and other learning materials. Learners can access electronic copies of learning materials on a computer, tablet PC, or smartphones. CDs, DVDs, USB storage and computer-based applications can be used to deliver e-learning materials, including offline E-books.

In addition, modular learning is a form of learning that uses self-learning modules (SLM) and follows the most essential learning competencies (MELCS) provided by DepEd. The success and effectiveness of distance learning depends on the study materials, (Jayaram and Dorababu 2020).

Therefore, to cater to the needs and abilities of each student, DepEd focused on modules as the main learning tool that can serve all students, which can be combined with other modalities of delivery learning that students have access to. Self-study materials depend on harnessing the various means and channels of communication to adapt them to the needs of learners. In distance learning like modular learning, teachers and students are apart from each other, thus SLMs must serve as teachers. All the learning experiences that a learner can have in a classroom set up will be experienced by the learners in the distance learning with the prepared SLMs. The SLMs prepared encourage autonomous/ self-directed learning (Malipot, 2020).

However, using modules has its advantages and disadvantages. According to (Nardo, M.T.B, 2017), the use of modules advocates self-directed learning. Using modules for learning leads to better self-study or learning skills among students. The concepts presented in the modules engross students in learning. The tasks provided develop a sense of responsibility among students. and they progressed on their own. They learn to learn; they are empowered. In addition, the students participate in real experiences. They discover new things, and they experience their knowledge on their own. Students learn

to reflect on their own experiences, thus developing new skills, learning through modular direct students to be in charge of their own learning. The use of modules has its disadvantages also.

METHODOLOGY

This chapter consist the research design population and sampling. Data gathering procedure, data gathering instrument and statistical treatment used in the study.

Research Design

This study will use the Descriptive Quantitative research method in gathering information. This method enables the researcher to interpret the theoretical meaning of the findings and hypothesis development for further studies. Specifically, the researcher stylized a questionnaire type of descriptive quantitative research method, the Likert scale to be specific, which enables researcher to gather information from the respondents without the respondents having any difficulties in answering the questions required for the researcher to have information regarding the enhanced module in art skills as an innovative instructional material in illustration.

Quantitative research is the process of collecting and analyzing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations. (Bhandari, 2021)

Respondents of the Study

The respondents that will be used in the study will be the fifty 50 (grade 9 students from GFTSIHS. In selecting the respondents, the researcher used the random sampling technique.

Sampling Technique

Random sampling is one of the simplest forms of collecting data from the total population. Under random sampling, each member of the subset carries an equal opportunity of being chosen as a part of the sampling process.

According to Ariola et.al. (2006) when it is not possible to study the entire population, a smaller sample was taken using a random sampling technique. Randomly selected teacher respondents will be used as respondents of the study which will be assessed by students.

Research Instrument

In order to collect data needed, research instrument will be use. Questionnaires will be use to gather information from the respondents. It includes questions/ statements about the enhanced module in art skills as an innovative instructional material in illustration. Questionnaire is answerable by using rate scale or the respondent rate. It will be use to gather data that will assess by the grade 9 students from GFTSIHS

In the questionnaire, a five-point rating scale indicated below will used to determine of the selected respondents.

5	4.20 – 5.0	To a very great extent
4	3.40 – 4.19	To a great extent
3	2.60 – 3.39	To a moderate extent

2	1.80 – 2.59	To a low extent
1	1 – 1.79	To a very low extent

Research Procedure

The research study was started by giving the title for approval during the school year of 2021-2022. The gathering of related literature and study were done by gathering information through internet and some observation of the researchers from the previous situation of the teachers due to the changes brought by the pandemic. Then the researcher will formulate questionnaire as guided by the research adviser. The final draft of the questionnaire will be presented to all panel members. Upon approval, the researcher will ask for the permission of school heads to conduct the survey. The researcher will ensure the confidentiality of the information given by the respondents.

Later, the data will be gathered, given appropriate statistical treatment, analysed and interpreted.

Statistical Treatment

The gathered data will be tabulated, and interpret using following tools. Mean and standard deviation have been used to determine the level of enhanced module in art skills as an innovative instructional material in illustration. This response will be tabulated and use as the basis for the statistical treatment of data.

Mean will be used to convert the responses into scores as basis for determining the verbal interpretation as scaled into five optional answers.

Standard deviation will be used to have a better idea on how the data entries differ from the mean.

Pearson r and regression was used to determine the significance relationship of enhanced module and students' performance.

RESULT AND DISCUSSION

In this study, the status of Enhanced Module in Art Skills components was described in terms of activities, content, design and objectives and were determined by the weighted mean and standard deviation.

Table 1. Status of the Enhanced Module in Art Skills Components Relative to Activities

STATEMENTS	MEAN	SD	REMARKS
<i>Activities are all connected to the topic.</i>	4.89	0.31	Strongly Agree
<i>Instructions are clear and understandable.</i>	4.95	0.23	Strongly Agree
<i>Task applies to the learning are being assessed.</i>	4.80	0.40	Strongly Agree
<i>Tool generates data that are relevant to the course's desired learning outcome.</i>	4.91	0.29	Strongly Agree
<i>Activities being used are enjoyable, fun, and exciting.</i>	4.84	0.37	Strongly Agree
Weighted Mean <i>Verbal Interpretation</i>	4.88 Very High		

Table 1 illustrates the status of the Enhanced Module in Art Skills Components Relative to Activities

From the statements above, “*Instructions are clear and understandable*” yielded the highest mean score ($M=4.95$, $SD=0.23$) and was remarked as Strongly Agree. This is followed by “*Tool generates data that are relevant to the course's desired learning outcome*” with a mean score ($M=4.91$, $SD=0.29$) and was also remarked as Strongly Agree. On the other hand, the statement “*Task applies to the learning are being assessed*” received the lowest mean score of responses with ($M=4.80$, $SD=0.40$) yet was also remarked Strongly Agree.

The status of the Enhanced Module in Art Skills Components Relative to Activities attained a weighted mean score of 4.88 and was Very High among the respondents. Each study session follows a standard template that provides users with a familiar framework and so makes it easier to plan study activities.

However, (Olivo, 2021), states that parents claimed that time allotment in the completion of learning activities was insufficient since the activities were so many. In addition, some parents said that some topics in the modules are so hard to vent for them and they cannot help and guide their children in answering the learning tasks.

Table 2. Status of the Enhanced Module in Art Skills Components Relative to Content

STATEMENTS	MEAN	SD	REMARKS
<i>Meaningful information regarding the topic is directly provided.</i>	4.63	0.49	Strongly Agree
<i>Instrument's length and level of complexity are appropriate for the users.</i>	4.63	0.49	Strongly Agree
<i>Discussion is effective and helpful to answer and/or perform the task given by the teachers.</i>	4.68	0.47	Strongly Agree
<i>The organization of information is clear and also used language that is understandable and specific.</i>	4.57	0.60	Strongly Agree
<i>Information is informative, precise and enough for every lesson that is being discussed.</i>	4.57	0.60	Strongly Agree
Weighted Mean Verbal Interpretation	4.62 Very High		

Table 2 illustrates the status of the Enhanced Module in Art Skills Components Relative to Content

From the statements above, “*Discussion is effective and helpful to answer and/or perform the task given by the teachers*” yielded the highest mean score ($M=4.68$, $SD=0.47$) and was remarked as Strongly Agree. This is followed by “*Meaningful information regarding the topic is directly provided*” and “*Instrument's length and level of complexity are appropriate for the users*” with a mean score ($M=4.63$, $SD=0.49$) and was also remarked as Strongly Agree. On the other hand, the statement “*The organization of information is clear and also used language that is understandable and specific*” and “*Information is informative, precise and enough for every lesson that is being discussed*” received the lowest mean score of responses with ($M=4.57$, $SD=0.60$) yet was also remarked Strongly Agree.

The status of the Enhanced Module in Art Skills Components Relative to Content attained a weighted mean score of 4.62 and was Very High among the respondents. During the formative years, learners add increasing qualities of knowledge to what is already learnt through explorations as they grow and expand horizon on the quality of content mastered

African Literature Review (2020) also said content, as earlier on described, refers to what is expressed in a literary piece of work. It necessarily constitutes of the message which the author wishes to pass on to an audience. The message communicated by an author in a literary piece of writing most often constitutes of themes.

Table 3. Status of the Enhanced Module in Art Skills Components Relative to Design

STATEMENTS	MEAN	SD	REMARKS
<i>Appropriate on the lesson that is being presented.</i>	4.84	0.37	Strongly Agree
<i>Provides aesthetical vision that can catch the attention of the students.</i>	4.75	0.44	Strongly Agree
<i>Composition of the module including colors, lines, textures and shapes are not messy.</i>	4.68	0.47	Strongly Agree
<i>Patterns are used to make a more precise version for the students.</i>	4.59	0.50	Strongly Agree
<i>Designs are created according to the subjects' learning outcome and appropriately made for the students.</i>	4.63	0.49	Strongly Agree
Weighted Mean <i>Verbal Interpretation</i>	4.70 Very High		

Table 3 illustrates the status of the Enhanced Module in Art Skills Components Relative to Design

From the statements above, “*Appropriate on the lesson that is being presented*” yielded the highest mean score ($M=4.84$, $SD=0.37$) and was remarked as Strongly Agree. This is followed by “*Provides aesthetical vision that can catch the attention of the students*” with a mean score ($M=4.75$, $SD=0.44$) and was also remarked as Strongly Agree. On the other hand, the statement “*Patterns are used to make a more precise version for the students*” received the lowest mean score of responses with ($M=4.59$, $SD=0.50$) yet was also remarked Strongly Agree.

The status of the Enhanced Module in Art Skills Components Relative to Design attained a weighted mean score of 4.70 and was Very High among the respondents. As such, creativity is certainly an important aspect of technical and vocational education and training, in which design and innovation are among the core subjects

Table 4. Status of the Enhanced Module in Art Skills Components Relative to Objectives

STATEMENTS	MEAN	SD	REMARKS
<i>Provide a measurable and observable circumstances that is aligned with the course's learning outcomes.</i>	4.84	0.37	Strongly Agree

<i>Describe the degree in which students will perform.</i>	4.89	0.31	Strongly Agree
<i>Achievable and include explicit and transferable learning objectives that empower students.</i>	4.80	0.40	Strongly Agree
<i>Provide objectives that can imply the elicit affective, psychomotor and cognitive domain.</i>	4.79	0.41	Strongly Agree
<i>Action-oriented and focus on the most important and essential learning needs of the class.</i>	4.73	0.45	Strongly Agree
Weighted Mean	4.81		
Verbal Interpretation	Very High		

Table 4 illustrates the status of the Enhanced Module in Art Skills Components Relative to Objectives

From the statements above, “*Describe the degree in which students will perform*” yielded the highest mean score ($M=4.89$, $SD=0.31$) and was remarked as Strongly Agree. This is followed by “*Provide a measurable and observable circumstances that is aligned with the course’s learning outcomes*” with a mean score ($M=4.84$, $SD=0.37$) and was also remarked as Strongly Agree. On the other hand, the statement “*Action-oriented and focus on the most important and essential learning needs of the class*” received the lowest mean score of responses with ($M=4.73$, $SD=0.45$) yet was also remarked Strongly Agree.

The status of the Enhanced Module in Art Skills Components Relative to Objectives attained a weighted mean score of 4.81 and was Very High among the respondents. Large class size and shortage of time (i.e., nature of block teaching approach) have been found to be challenges for making the instructional process effective in helping the students achieve the objectives stipulated in the curriculums

Natividad, E. (2021), defined module as a unit of work in a course of instruction that is virtually self-contained and a method of teaching that is based on the concept of building up skills and knowledge in discrete units. A module is a set of learning opportunities organized around a well-defined topic that contains the elements of instruction, specific objectives, teaching-learning activities, and evaluation using criterion-referenced measures

Status of the Enhanced Module is Art Skills Features

The status of Enhanced Module is Art Skills Features was described in terms of adaptability, aesthetic value, creativity and appropriateness and were determined by the weighted mean and standard deviation.

Table 5. Status of the Enhanced Module is Art Skills Features in terms of Adaptability

STATEMENTS	MEAN	SD	REMARKS
<i>Provide the needs of the learner despite of the current educational system.</i>	4.95	0.23	Strongly Agree
<i>Address prior problems encountered by the students and help them learn with their own paced.</i>	4.84	0.37	Strongly Agree

<i>Let the students evaluate their progress and self-reflect on their needs.</i>	4.89	0.31	Strongly Agree
<i>Contains activities that are responsive and interactive.</i>	4.63	0.49	Strongly Agree
<i>Topics are break evenly so that learners will not be bombarded with the lessons they have.</i>	4.89	0.31	Strongly Agree
Weighted Mean Verbal Interpretation	4.84 Very High		

Table 5 illustrates the status of the Enhanced Module is Art Skills Features in terms of Adaptability

From the statements above, “Provide the needs of the learner despite of the current educational system” yielded the highest mean score ($M=4.95$, $SD=0.23$) and was remarked as Strongly Agree. This is followed by “Let the students evaluate their progress and self-reflect on their needs” and “Topics are break evenly so that learners will not be bombarded with the lessons they have” with a mean score ($M=4.89$, $SD=0.31$) and was also remarked as Strongly Agree. On the other hand, the statement “Contains activities that are responsive and interactive” received the lowest mean score of responses with ($M=4.63$, $SD=0.49$) yet was also remarked Strongly Agree.

The status of the Enhanced Module is Art Skills Features in terms of Adaptability attained a weighted mean score of 4.84 and was Very High among the respondents. Adaptability deals on how the modules can be used and can be applied in different situations by teachers and the students.

Mondal, GC (2020), states that the concept of adaptability has been widely recognized as research and established in the last decade. Mainly within the factors of planning, adaptability is considered as goals to develop modular adaptable factories. However, the exploration of adaptability enterprise architecture is a complex task

Table 6. Status of the Enhanced Module is Art Skills Features in terms of Aesthetic Value

STATEMENTS	MEAN	SD	REMARKS
<i>Shows different visual and designs that can catch the attention of the students.</i>	4.95	0.23	Strongly Agree
<i>Uses materials that are catchy and appropriate with the module.</i>	4.95	0.23	Strongly Agree
<i>Consists of information that are enjoyable and fun for student's learning.</i>	4.95	0.23	Strongly Agree
<i>Cultivate the beauty of learning using fine contents and activities.</i>	4.79	0.41	Strongly Agree
<i>Express the nature of learning through providing exciting inputs.</i>	4.95	0.23	Strongly Agree
Weighted Mean Verbal Interpretation	4.91 Very High		

Table 6 illustrates the status of the Enhanced Module is Art Skills Features in terms of Aesthetic Value

From the statements above, “Shows different visual and designs that can catch the attention of the students”, “Uses materials that are catchy and appropriate with the module”, “Consists of information that are enjoyable and fun for student’s learning” and “Express the nature of learning through providing exciting inputs” yielded the highest mean score ($M=4.95$, $SD=0.23$) and was remarked as Strongly Agree. On the other hand, the statement “Cultivate the beauty of learning using fine contents and activities” received the lowest mean score of responses with ($M=4.79$, $SD=0.41$) yet was also remarked Strongly Agree.

The status of the Enhanced Module is Art Skills Features in terms of Aesthetic Value attained a weighted mean score of 4.91 and was Very High among the respondents. It implies that the aesthetic value concerns with artistic presentation of the enhanced module for the students’ interest and motivates them to learn more and expresses their skills.

Reigeluth, C. (2013), stated that aesthetic value refers to the pleasant appearance of the material to attract users. The appearance of the materials motivates users appreciate and use the enhanced module that lead to enjoyment

Table 7. Status of the Enhanced Module is Art Skills Features in terms of Creativity

STATEMENTS	MEAN	SD	REMARKS
<i>Different layouts and techniques for the module are used.</i>	5.00	0.00	Strongly Agree
<i>All pages are creatively and aesthetically made.</i>	4.95	0.23	Strongly Agree
<i>Colors used are appropriate on the topic and content of the module/</i>	4.80	0.40	Strongly Agree
<i>Good strategies for editing and printing have been used.</i>	4.95	0.23	Strongly Agree
<i>The combination of multimedia used is well presented.</i>	4.84	0.37	Strongly Agree
Weighted Mean	4.91		
Verbal Interpretation	Very High		

Table 7 illustrates the status of the Enhanced Module is Art Skills Features in terms of Creativity

From the statements above, “Different layouts and techniques for the module are used” yielded the highest mean score ($M=5.00$, $SD=0.00$) and was remarked as Strongly Agree. This is followed by “All pages are creatively and aesthetically made” and “Good strategies for editing and printing have been used” with a mean score ($M=4.95$, $SD=0.23$) and was also remarked as Strongly Agree. On the other hand, the statement “Colors used are appropriate on the topic and content of the module” received the lowest mean score of responses with ($M=4.80$, $SD=0.40$) yet was also remarked Strongly Agree.

The status of the Enhanced Module is Art Skills Features in terms of Adaptability attained a weighted mean score of 4.91 and was Very High among the respondents. As the perspective that enhancement of creativity can be carried out through learning and training is accepted, the design and development of instructional modules plays a significant role in enhancing the creativity levels of both trainers and trainees, especially in the field of education. Teaching and learning resources in varying degrees of depth and difficulty that cater for the individual, groups and organizations can be prepared.

Kaplan (2019) states that creativity is necessary to inventive thinking in any domain, and underappreciated in many formal educational environments. All solution making and construction require

creative thinking. Yet, almost no schools teach for creativity or train teachers to teach for creativity. The following study explores the value of creativity in educational design in teacher training, and is part of a sequence of studies investigating critical thinking in education. Creativity theories were included in an online course in cognition and critical thinking in education as foundational psychological frameworks to apply in educational practice and in the design of creative activity in the course. Participants studied and applied creativity frameworks in instruction and learning design in the form of lessons and projects. Lesson Designs were full-length lessons with applications of creativity theory. Project Designs were group projects incorporating creativity theory into an educational resource. Uses of creativity theory in lessons and projects were analyzed for understanding and application of theory

Table 8. Status of the Enhanced Module is Art Skills Features in terms of Appropriateness

STATEMENTS	MEAN	SD	REMARKS
<i>Ensure that the learners will have a baseline knowledge regarding the subjects.</i>	4.95	0.23	Strongly Agree
<i>Usable in sharpening student's critical thinking skills, which are fundamental to the development of analytic reasoning.</i>	4.84	0.37	Strongly Agree
<i>Provides adequate information that are needed by the learners.</i>	4.95	0.23	Strongly Agree
<i>Uses real-world examples and hands-on activities so that learners are able to experience learning more efficiently.</i>	4.79	0.41	Strongly Agree
<i>Provides information that caters the needs of the students.</i>	4.80	0.40	Strongly Agree
Weighted Mean <i>Verbal Interpretation</i>	4.86		Very High

Table 8 illustrates the status of the Enhanced Module is Art Skills Features in terms of Appropriateness

From the statements above, “*Ensure that the learners will have a baseline knowledge regarding the subjects*” and “*Provides adequate information that are needed by the learners*” yielded the highest mean score ($M=4.95$, $SD=0.23$) and was remarked as Strongly Agree. This is followed by “*Usable in sharpening student's critical thinking skills, which are fundamental to the development of analytic reasoning*” with a mean score ($M=4.84$, $SD=0.37$) and was also remarked as Strongly Agree. On the other hand, the statement “*Uses real-world examples and hands-on activities so that learners are able to experience learning more efficiently*” received the lowest mean score of responses with ($M=4.79$, $SD=0.41$) yet was also remarked Strongly Agree.

The status of the Enhanced Module is Art Skills Features in terms of Appropriateness attained a weighted mean score of 4.85 and was Very High among the respondents. Some learning takes place from the things that learners hear; more learning takes place from the things that learners see; and, still more learning transpires from what learners do. Hence, the importance of providing adequate, appropriate and varied instructional materials to concretize and substantiate learning.

According to Jakob as cited by Pantaleo (2015), usability and appropriateness are qualities and attributes that assess how users use the material. They refer to a method in improving ease of use during the design process.

Level of Students' Laboratory Performance

Table 9. Level of Students' Laboratory Performance in terms of Practical Output

Score	frequency	Percentage	Descriptive Equivalent
90 – 100	24	32%	Outstanding
85 – 89	32	43%	Very Satisfactory
80 – 84	19	25%	Satisfactory
75 – 79	0	0	Fairly Satisfactory
Below 74	0	0	Did Not Meet Expectations
Total	75	100	
Weighted Mean			87.72
Verbal Interpretation			Above Average Mastery

Table 9 revealed the level of students' laboratory performance in terms of practical output. It was shown that 24 or 32% of the respondents attained grades ranging from "90 to 100" which had a verbal interpretation of "Outstanding", 32 or 43% of the respondents obtained grades ranging from "85 to 89" which was a verbal interpreted as "Very Satisfactory", while 19 or 25% of the respondents attained grades ranging from "80 to 84" which had a verbal interpretation of "Satisfactory".

The mean grade of 87.72, verbally interpreted as "above mastery level" indicates that the respondents performed beyond satisfactory level as evidenced by the result of their practical output. Modules can be fabricated on a modest budget using minimal resources, making implementation practical for smaller institutions.

Dejene, W. & Chen D. (2018), aimed to investigate whether the innovation improved students' performance on the practical skills examination. It was found that performance on skill stations for which students had prepared by e-modules was significantly higher than on stations with text-based preparation, both within and between cohorts. This improvement cannot be explained by overall differences between the two cohorts. The results show that results of skills training can be improved, by the introduction of e-modules without increasing teacher time.

Table 10. Level of Students' Laboratory Performance in terms of Written Output

Score	frequency	Percentage	Descriptive Equivalent
90 – 100	43	57%	Outstanding
85 – 89	32	43%	Very Satisfactory
80 – 84	0	0	Satisfactory
75 – 79	0	0	Fairly Satisfactory
Below 74	0	0	Did Not Meet Expectations
Total	75	100	
Weighted Mean			93.77
Verbal Interpretation			Above Average Mastery

Table 10 revealed the level of students' laboratory performance in terms of written output. It was shown that 43 or 57% of the respondents attained grades ranging from "90 to 100" which had a verbal interpretation of "Outstanding", while 32 or 43% of the respondents obtained grades ranging from "85 to 89" which was a verbal interpreted as "Very Satisfactory".

The mean grade of 93.77, verbally interpreted as "above mastery level" indicates that the respondents performed beyond satisfactory level as evidenced by the result of their writteb output. Modules can be fabricated on a modest budget using minimal resources, making implementation practical for smaller institutions.

Dejene, W. & Chen D. (2018), aimed to investigate whether the innovation improved students' performance on the practical skills examination. It was found that performance on skill stations for which students had prepared by e-modules was significantly higher than on stations with text-based preparation, both within and between cohorts. This improvement cannot be explained by overall differences between the two cohorts. The results show that results of skills training can be improved, by the introduction of e-modules without increasing teacher time.

Significant Effect of Components and Features of the Enhanced Module in Art Skills on the performance of Grade 9 students

Table 11. Significant Effect of Components of the Enhanced Module in Art Skills on the performance of Grade 9 students

Components	Performance	t-stat	p-value	Analysis
Activities	<i>Practical Output</i>	2.85	0.006	Significant
Content		3.68	0.000	Significant
Design		4.94	0.000	Significant
Objectives		0.60	0.548	Not Significant
Activities	<i>Written Output</i>	2.71	0.008	Significant
Content		2.46	0.016	Significant
Design		5.15	0.000	Significant
Objectives		0.31	0.755	Not Significant

Table 11 disclosed the effect of components of the enhanced module in arts on the performance of Grade 9 students.

A significant analysis was obtained on the effect of components of the enhanced module in arts on the practical output performance students in terms of activities ($t=2.85$, $p=0.006$), content ($t=3.68$, $p=0.000$), and design ($t=4.94$, $p=0.000$), p-values were all greater than (0.05) level of significance which supports the analysis. On a different note, the objectives of the module showed no effect on students' performance on practical output gaining the ($t=0.60$, $p=0.548$).

In addition, a significant analysis was revealed on the effect of enhanced module in arts on the written output performance students in terms of activities ($t=2.71$, $p=0.008$), content ($t=2.48$, $p=0.016$), and design ($t=5.15$, $p=0.000$), p-values were all greater than (0.05) level of significance which supports

the analysis. However, the objectives of the module had no effect on students' performance on written output gaining the ($t=0.31$, $p=0.755$).

This means further that among the components and features of the module, only the objectives shown no implication on the students' performance.

From the findings above, we can infer that at 0.05 level of significance, the null hypothesis "There is no significant effect of components of the enhanced module in arts on the performance of Grade 9 students." is rejected. Thus, the alternative should be accepted which incites that there is a significant

Table 12. Significant Effect of Features of the Enhanced Module in Art Skills on the performance of Grade 9 students

Features	Performance	t-stat	p-value	Analysis
Adaptability	<i>Practical Output</i>	5.75	0.000	Significant
Aesthetic Value		7.36	0.000	Significant
Creativity		11.26	0.000	Significant
Appropriateness		13.15	0.000	Significant
Adaptability	<i>Written Output</i>	11.93	0.000	Significant
Aesthetic Value		17.15	0.000	Significant
Creativity		7.60	0.000	Significant
Appropriateness		11.89	0.000	Significant

Table 12 disclosed the effect of features of the enhanced module in arts on the performance of Grade 9 students.

A significant analysis was obtained on the effect of features of the enhanced module in arts on the practical output performance students in terms of adaptability ($t=5.75$, $p=0.000$), aesthetic value ($t=7.36$, $p=0.000$), creativity ($t=11.26$, $p=0.000$), and appropriateness ($t=13.15$, $p=0.000$), p-values were all greater than (0.05) level of significance which supports the analysis.

In addition, a significant analysis was revealed on the effect of enhanced module in arts on the written output performance students in terms of adaptability ($t=11.93$, $p=0.000$), aesthetic value ($t=17.15$, $p=0.000$), creativity ($t=7.60$, $p=0.000$), and appropriateness ($t=11.89$, $p=0.000$), p-values were all greater than (0.05) level of significance which supports the analysis.

From the findings above, we can infer that at 0.05 level of significance, the null hypothesis "There is no significant effect of features of the enhanced module in arts on the performance of Grade 9 students." is rejected. Thus, the alternative should be accepted which incites that there is a significant effect between them.

CONCLUSION

On the basis of the foregoing findings, the following conclusion was drawn.

From the findings above, we can infer that at 0.05 level of significance, the null hypothesis "There is no significant effect of components of the enhanced module in arts on the performance of Grade 9 students." is rejected.

Furthermore, from the findings above, we can infer that at 0.05 level of significance, the null hypothesis "There is no significant effect of features of the enhanced module in arts on the performance

of Grade 9 students.” is rejected. Thus, the alternative should be accepted which incites that there is a significant effect between them.

RECOMMENDATIONS

Based on the drawn conclusions resulted to the following recommendations:

1. It is highly suggested that teachers focus and give emphasis of the objectives of the lesson or any instructional materials and resources that will be used in the classrooms so that students will be able to develop engagement and clearly understand the concepts.
2. It is recommended that the performance monitoring may focus on the students’ needs and enable them to learn, especially on laboratory performance.
3. Furthermore, teachers may also emphasize the value of using modules in laboratory and promotes its importance for the learners. Enhancement module and/or extended activities may help them to fully understand laboratory activities
4. Students may not that inclined to classroom laboratory tasks and activities, so that it is highly recommended to provide engaging resources and instructional materials wherein their can exhibit their laboratory skills
5. Lastly, they may find the meaning of laboratory skills out of the context if they can experience more hands on activities.

ACKNOWLEDGEMENTS

The researcher would like to extend her gratitude to the following people who have motivated and inspired her to pursue this study:

Hon. Mario R. Briones, Ed.D., University President, for his leadership, acumen, support, and valuable contribution in the educational research.

Rosario G. Catapang, Ed.D., Dean of Graduate School for her valuable support and understanding. And being the researcher’s adviser for her highly valued support, professional guidance and advice.

Dr. Benjamin O. Arjona, the researcher’s internal statistician, for her selfless sharing of expertise in the field and for her constant motivation.

Dr. Julie Rose P. Mendoza, the researcher's technical adviser for comments, feedback, and recommendations.

Dr. Rellie B. Kalacas, the researcher’s subject specialist, for the accommodating aura and expert feedbacks.

Ms. Armie De Lima, the researcher’s external statistician, for his patience and contributions that helped the researcher in interpreting the data.

Mr. L. Magalona, the researcher’s language critic, for editing the paper’s language inaccordance with academic standard norms.

Marites A. Ibañez, CESO IV, Schools Division Superintendent,

Roderick C. Tobias, Ph.D. Principal II, for his understanding and support to the researcher to finish this study.

The **researcher's family** for the constant love and motivation.

Mr. Jennald E. San Sebastian, her husband, for the love, assistance, concern, and unending support.

Kirk Mharcuz, Noelle Elijah, Khan Matthew and Kaius Malachi, her kids, her inspiration to pursue her dreams.

Kobe, her brother, for household assistance, patience and support.

The **KING** of kings, the **ALMIGHTY GOD**, who never ceases to amaze and to show miracles in the life of the researcher.

K.A.J.S.S.

REFERENCES

- Abad, F. B. (2019). Training Workshop on Strategic Interventions for Successful Learning Department of Education. Retrieved July 11, 2017, from http://nlpdl.nlp.gov.ph:81/DE02/Memoranda/DE00M2005/DE02M020050_117.pdf.
- Abdurazakov, F. (2022), Pedagogical Importance of Using Module Educational Technologies in The System of Continuous Education on The Basis of Modern Approaches, ISSN: 2776-0979, Volume 3, Issue 1, Jan., 2022.
- Abrami, P. C., Bernard, R. M., Bures, E. M., Borokhovski, E., & Tamim, R. M. (2013). Interaction in distance education and online learning: Using evidence and theory to improve practice. *Journal of Computing in Higher Education*, 23(2-3), 82–103.
- Adalikwu, S. & Iorkpilgh, I. (2017), The Influence of Instructional Materials on Academic Performance Of Senior Secondary School Students In Chemistry In Cross River State.
- African Literature Reviews (2020). *Content and style in Literature*. Retrieved from <https://africanliteraturereviews.wordpress.com/content-style-in-literature/>
- Agarin, M. A. L. (2021), The Challenges and Status of Modular Learning: Its Effect to Students' Academic Behavior and performance. *EPR International Journal of Multidisciplinary Research*.
- Aksan, J. A. (2021). Effect of Modular Distance Learning Approach to Academic Performance In Mathematics Of Students In Mindanao State University-Sulu Senior High School Amidst Covid-19 Pandemic. *Open Access Indonesia Journal of Social Sciences*, 4(4), 386-409. <https://doi.org/10.37275/oaijss.v4i2.64>.
- Alelaimat, A. (2014), The Effect of Educational Modules Strategy on the Direct and Postponed Study's Achievement of Seventh Primary Grade Students in Science, in Comparison with the Conventional Approach, doi:10.5539/hes.v2n2p40 URL: <http://dx.doi.org/10.5539/hes.v2n2p40>.
- Ali, R., Ghazi, S. R., Khan, M. S., Hussain, S., & Faitma, Z. T. (2020). Effectiveness of modular teaching in biology at secondary level. *Asian Social Science*, 6(9), 49.

- Ambayon, M. (2020), Modular-Based Approach and Students' Achievement in Literature.
- Baldwin, J. (2016), Evaluation Instruments and Good Practices in Online Education.
- Battista, M. T. (2020), Spatial visualization and gender differences in high school geometry, *Journal for Research in Mathematics Education*, (2020).
- Betlen, E. (2021), Effect of Modular Learning Approach on The Academic Achievement of Students A Literature Review Paper, *GSJ: Volume 9, Issue 7, July 2021 ISSN 2320-9186*.
- Biggs, J. (2019), *Teaching for Quality Learning at University*. Buckingham: SRHE/OU Press.
- Branch and Kopcha (2013) *Is the effectiveness of lecture capture related to teaching approach or content type?*. Retrieved from <https://www.Technology and Livelihood Educationdirect.com/Technology and Livelihood Education/article/pii/S0360131513003011>.
- Bulusan, F. (2019). *Selecting Potential Instructional Materials for Literature Teaching in the 21st Century Milieu: Findings from a Systematic Review of Literature*. Retrieved from https://www.researchgate.net/publication/333038112_Selecting_Potential_Instructional_Materials_for_Literature_Teaching_in_the_21st_Century_Milieu_Findings_from_a_Systematic_Review_of_Literature.
- Castro and Tumibay (2019) *Integration of education: Using social media networks to engage students*. Retrieved from https://scholar.google.com.ph/scholar?hl=tl&as_sdt=0%2C5&as_vis=1&q=usability+of+instagram+for+education&btnG=#d=gs_qabs&u=%23p%3DuBLEYYdYPcEJ.
- Chaomei, C. (2015). Top 10 unsolved information visualization problems. Philadelphia, PA: IEEE Computer Society.
- Chen (2016) *A literature review: efficacy of online learning courses for higher education institution using meta-analysis*. Retrieved from <https://link.springer.com/article/10.1007/s10639-019-10027-z>.
- Chen, Z. & Stelzer, T. (2020), Using multimedia modules to better prepare students for introductory physics lecture, *Phys. Rev. ST Phys. Educ. Res.* 6, 010108 – Published 11 June 2020.
- Dangle, P., Sumaoang, D. (2020) The Implementation of Modular Distance Learning in the Philippine Secondary Public Schools.
- Dargo, J. M., & Dimas, M. (2021), Modular Distance Learning: It's Effect in the Academic Performance of Learners in the New Normal. *JETL (Journal of Education, Teaching and Learning)*, 6(2), 204-208.
- de Jong, T. (2017), The guided discovery principle in multimedia learning.

- Dee Fink, L. (2015), *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*, Revised and Updated, ISBN: 978-1-118-12425-3.
- Dejene, W. & Chen D. (2018), The practice of modularized curriculum in higher education institution: Active learning and continuous assessment in focus, <https://doi.org/10.1080/2331186X.2019.1611052>.
- Dimopoulos, D; Stefanos, P. & Pantis, G. (2019), Planning Educational Activities and Teaching Strategies on Constructing a Conservation Educational Module, *International Journal of Environmental & Science Education* Vol. 4, No. 4, October 2019, 351-364.
- Dwyer, F. M. (2018). *Strategies for improving visual learning*. State College, PA.: Learning Services.
- Eichler, J. (2016), *Flipped Classroom Modules for Large Enrollment General Chemistry Courses: A Low Barrier Approach to Increase Active Learning and Improve Student Grades*.
- El Said, R. (2021) *How Did the Covid-19 Pandemic Affect Higher Education Learning Experience? An Empirical Investigation of Learners' Academic Performance at a University in a Developing Country*.
- Friedman, L. (2015), *The space factor in mathematics: gender differences*, *Review of Educational Research*, (2015).
- Gerjets, P. *et al.* (2019), Learning with hypermedia: the influence of representational formats and different levels of learner control on performance and learning behavior, *Computers in Human Behavior*, (2019).
- Glaveanu, A. (2018), *Influence of Age on the Usability Assessment of the Instagram Application*. Retrieved from https://scholar.google.com.ph/scholar?hl=tl&as_sdt=0%2C5&as_vis=1&q=usability+of+instagram&oq=usability+of+ins#d=gs_qabs&u=%23p%3DkRBT9N8OHJoJ.
- Gumapac, J. R., Aytona, E. M., & Alba, M. G. R. (2021), Parents Involvement in Accomplishing Students Learning Tasks in the New Normal. *International Journal of Research in Engineering, Science and Management*, 4(7), 367-380.
- Hazaa, F. & Osman, K. (2016), The Impact of Module Based Curriculum and Extra-Curriculum Activities' in Developing Environmental Skills among Saudi's Secondary Students, <https://doi.org/10.1016/j.sbspro.2011.03.364>.
- Hedin (2019) *Advances in Social Media Research: Past, Present and Future*. Retrieved from <https://link.springer.com/article/10.1007/s10796-017-9810-y>.

- Hegarty, D. *et al.* (2019), Types of visual-spatial representations and mathematical problem solving, *Journal of Educational Psychology*, (2019).
- Hertzog, P. (2018), The use of WhatsApp in design-based modules.
- Idowu, P., Brinton, G., Hartman, H., Neuhard, S., Abraham, R., & Boyer, E. (2016). Information visualization applied in presenting some fundamental power system topics. Published proceedings of the American Society for Engineering Education Annual Conference and Exposition, Chicago, IL, Session 1335.
- Irvine, N. (2017), Best practices in online course design. UC Irvine, Teaching, Learning & Technology Center. Retrieved from http://www.tltc.uci.edu/pdf/BEST%20PRACTICES_2.pdf.
- IT Support (2019). *Instructional Content*. Retrieved from <https://it.granite.edu/instructional-content>.
- Jayaram, K. (2015), Self-Learning Materials in Distance Education System, *International Journal of Current Research* Vol. 7, Issue, 10, pp.21929-21934, October, 2015.
- Jayaram, K. Dorababu, K.K (2020). Self-Learning Materials in Distance Education System <https://www.journalcra.com/article/self-learning-materials-distance-education-system>.
- Kaplan, D. (2019). *Creativity in Education: Teaching for Creativity Development*. Retrieved from <https://m.scirp.org/papers/90370#ref11>.
- Katsioloudis, P. (2018), Identification of Quality Visual-based Learning Material for Technology Education.
- Khalil, Yousuf, I. (2020) Effect of Modular Approach Teaching on Achievement of Secondary School Mathematics Students. <http://journal.aiou.edu.pk/journal1/index.php/jse/article/view/156>.
- King, S. B. (2014). Graduate student perceptions of the use of online course tools to support engagement. *International Journal for the Scholarship of Teaching and Learning*.
- Knight, P. T. (2017). *Being a Teacher in Higher Education*. Buckingham: SRHE/OU Press.
- Kolloffel, B. (2019), Exploring the relation between visualizer–verbalizer cognitive styles and performance with visual or verbal learning material, <https://doi.org/10.1016/j.compedu.2011.09.016>.
- Kristanto, A. (2017). *The Development of Instructional Materials E-Learning Based on Blended Learning*. Retrieved from <https://eric.ed.gov/?id=EJ1146460>.

Krukru, K. (2015). Effects of instrumental materials on student's academic performance. Social studies in selected secondary schools in Nigeria. Retrieved from <https://www.grin.com/document/338942>.

Kumar, V. & Nanda, P. (2019) *Social Media as a Tool in Higher Education: A Pedagogical Perspective*. Retrieved from https://www.researchgate.net/publication/334763143_Social_Media_as_a_Tool_in_Higher_Education_on_A_Pedagogical_Perspective.

Kwant, K. et al, (2015), Preparation by mandatory E-modules improves learning of practical skills: a quasi-experimental comparison of skill examination results, DOI 10.1186/s12909-015-0376-4.

Lane, A. & Porch M. (2020), The impact of background factors on the performance of non-specialist undergraduate students on accounting modules - a longitudinal study: a research note, <https://doi.org/10.1080/09639280210153308>.

Lantz, C. (2020). Visual Readability in Instructional Images. *Visual Communications Journal*, 8 (2), 19-27.

Lim, E. (2016) Effectiveness of Modular Instructions in Word Problem Solving of BEED Students. <https://www.semanticscholar.org/paper/Effectiveness-of-Modular-Instruction-in-Word-ofLim/fb6763e0927bd172c18e234791a19c95560a06ca#paper-header>.

Magsambol, N. (2020), Briones says modular learning „expensive, „has „big effect“ on environment. <https://www.rappler.com/nation/briones-modular-learning-expensive-effect-environment>.

Malipot, H. (2020) DepEd: Most students prefer „modular“ learning over online. <https://mb.com.ph/2020/07/03/deped-most-students-prefer-modular-learning-over-online/>.

Martin, F. (2020), Adaptive Learning Modules.

Melad, F. (2016) Modular Approach in Teaching Mathematics: Quadratic Function <https://saspjournals.com/wp-content/uploads/2016/07/SJPMS-3399-105.pdf>.

Minnick, D. (2019), R. A Guide to Creating Self-Learning Materials, Los Baños, Laguna: IRRI, 2019.

Mondal, GC (2020). Factors that Determine the Choice of Instructional Strategies in Teaching At Secondary Schools, Academia.Edu.

Naboya, D. (2019), Effect of Modular Approach on the Level of Achievement of Students in Inorganic Chemistry.

Nardo, B. (2017) Modular Instruction Enhances Learner Autonomy. <http://pubs.sciepub.com/education/5/10/3/index.html>.

- Natividad, E. (2021), Perceived Effectiveness of Self Learning Modules in the Implementation of Modular Distance Learning in the Elementary Level. *Available at SSRN 3889429*.
- Okobia, E. O. (2016). Availability and teachers' use of instructional materials and resources in the implementation of social studies in junior secondary schools in Edo State, Nigeria. *Rev. Eur. Stud.*, 3(2), 90-97.
- Olivo, M. G. (2021), Parents' Perception on Printed Modular Distance Learning in Canarem Elementary School: Basis for Proposed Action Plan. *International Journal of Multidisciplinary: Applied Business and Education Research*, 2(4), 296-309. <https://doi.org/10.11594/ijmaber.02.04.03>.
- Panel, C. & Boulton, C. (2018), Virtual learning environment engagement and learning outcomes at a 'bricks-and-mortar' university, <https://doi.org/10.1016/j.compedu.2018.06.031>.
- Pantaleo (2015). *Visual Approach* retrieved from https://digscholarship.unco.edu/cgi/viewcontent.cgi?article=1324&context=dissertations&fbclid=IwAR1_WMA1tyOOz_EVTvWL_GM8yxK_PmUuJubp6ctzCYLkU0Epy8F4zz4MWfo.
- Prunuske, A. (2016), A Randomized Crossover Design to Assess Learning Impact and Student Preference for Active and Passive Online Learning Modules, *Med.Sci.Educ.* (2016) 26:135–141 DOI 10.1007/s40670-015-0224-5.
- Reigeluth, C. (2013), *Instructional-design theories and models: A new paradigm of instructional theory*. Retrieved from https://scholar.google.com.ph/scholar?start=10&q=instructional+design&hl=tl&as_sdt=0,5&as_vis=1#d=gs_qabs&u=%23p%3DWLc_hHNaJ5cJ.
- Robinson, C. C., & Hullinger, H. (2018). New benchmarks in higher education: Student engagement in online learning. *Journal of Education for Business*, 84(2), 101–108.
- Runco, M. (2020), *Academic press. Encyclopedia of creativity*. Retrieved from <https://www.google.com/books?hl=en&lr=&id=7zm6DwAAQBAJ&oi=fnd&pg=PP1&dq=related+literature+about+creativity&ots=eTCeZf>.
- Russel, J.D. (2015), *Instruction*. Minneapolis: Burgess Publishing Co., 2015.
- Sadiq, S., & Zamir, S. (2014). Effectiveness of modular approach in teaching at university level. *Journal of Education and Practice*, 5(17), 103-109.
- Seal, J. (2013), *E-learning and disability in higher education: accessibility research and practice*. Retrieved from https://scholar.google.com.ph/scholar?hl=tl&as_sdt=0%2C5&as_vis=1&scioq=%22literature+stud

[y%22+usability+of+mobile+applications&q=accessibility+of+online+education&oq=accessibility+of+online+](#)

Serrat, M. et al. (2014), Independent learning modules enhance student performance and understanding of anatomy.

Shuja, A. Qureshi, I. A., Schaeffer, D.M., & Zareen, M. (2019) Effect of m-learning on student's academic performance mediated by facilitation discourse and flexibility.
<https://www.kmel-journal.org/ojs/index.php/online-publication/article/view/408/402>.

Swaak, J. et al. (2016), Measuring intuitive knowledge in science: the development of the what-if test, Studies in Educational Evaluation.

Tajudeen, F., Jaafar, N., & Sulaiman, A. (2016), *Role of social media on information accessibility*. Retrieved from
https://scholar.google.com.ph/scholar?hl=tl&as_sdt=0%2C5&as_vis=1&scioq=%22literature+stud+y%22+usability+of+mobile+applications&q=accessibility+of+social+media&oq=accessibility+of+soci#d=gs_qabs&u=%23p%3DmjPEwFGODiIj

Tominez, B., Dela Cruz, B. and Gabatino, B. (2016). *Usage of Instructional Materials among Teacher Education Faculty in Nueva Vizcaya, Philippines*. Retrieved from
<https://ejournals.ph/article.php?id=3205>.

Valencia, R. (2020). Modular Approach in Teaching Science 10
<https://www.ijtsrd.com/papers/ijtsrd30318.pdf>.

Wileman, E. R. (2013). Visual communicating. Englewood Cliffs, NJ: Educational Technology Publications.

Yazon, D. (2017) Validation and Effectiveness of module in Assessment of Students Learning
<https://www.ijsr.net/archive/v7i11/ART20193221.pdf>.

Yue, Y. (2020). *What Do Effective Instructional Materials Look Like?* Retrieved from
<https://riseprogramme.org/blog/effective-instructional-materials>.

Yunus, M. & Said N. (2021), Designing A Module as A Strategic Solution to Enhance Creativity in The Teaching of Writing, DOI: 10.18488/journal.23.2021.102.94.104 Vol. 10, No. 2, 94-104.

Zamir, S. (2014), Effectiveness of Modular Approach in Teaching at University Level Sadia Sadiq National University of Modern Languages, Journal of Education and Practice www.iiste.org ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.5, No.17, 2014 103.