Effectiveness of Modular Learning Approach Among Secondary School Students During Pandemic in Zambales, Philippines

ABSTRACT

The world experienced the COVID-19 Pandemic, which severely affected the quality of Education, especially in the Philippines.The option was to change the face-to-face approach to a modular approach. This study aimed to determine the effectiveness of the modular learning approach to students' academic performance.The study was conducted in Sta. Cruz District in the province of Zambales, Philippines. A Descriptive Research Design was employed. A total of one hundred fifty-four (154) teacher-respondents were randomly selected. There was a significant difference in the perception towards dimensions on the level of effectiveness in the implementation of modular learning approach as to Technical Support, Subject Content, Construction, Delivery and Retrieval Mechanism, Assessment of Student Achievement, Adherence to IATF Health Observance Protocols, and School and Local Government Unit Support.This modality'smodular learning approach has improved and increased students' academic performance. The students were rated "Satisfactory" in their academic performance. On the other hand,there is a negligible relationship between academic performance and the level of effectiveness in implementing the modular learning approach. The researcher recommendsrevisiting the learning contents and assessment of student output and providing item analysis to determine the vague or gray areas in the self-learning module for improvement.TheSchool may conduct a time management plan for production, delivery, and retrieval to assure the modules had been delivered on time to the students and considerable time was allotted for assessing and accomplishing student learning outputs.

Keywords: Effectiveness, Implementation, Modular, Learning approach, Academic performance.

1. INTRODUCTION

1.1 Background

The world is experiencing the COVID-19 Pandemic, which severely affects business, economy, health, and Education. The Pandemic has brought dramatic change and challenges, particularly in the field of Education. The issue of the Pandemic has become a big burden and stumbling block for acquiring quality instruction. The Pandemic acted as a hindrance to the youth's realization and wants to complete their education in order to support and lift their parents out of poverty and improve their

financial situation. Because of possible contamination through droplets, the World Health Organization has advised and strongly recommended using face masks, and face shields, washing hands and physical, and social distancing, and avoiding attending big social gatherings [1]. In the Philippines' educational setup, the Department of Education, in its adherence to the Inter-Agency Task Force (IATF) recommendations, has ordered nationwide not to allow face-to-face classroom activities[2].The basic, higher, and graduate education systems were presented with a significant challenge in developing an intervention program for instruction that would not impede or cause to discontinue teenagers' pursuit of education.There are educational institutions, both public and private, that choose to adopt online education, flexible learning, blended learning, hybrid education, or the modular learning strategy. The utilization and adoption of learning approaches were given options among learning institutions to decide based on the nature of the learners and the availability of resources. When analyzing the modular teaching method, we can understand that this is a more effective, recent, and technology-based teaching method in the present educational field. In recent years, the consent of modular curricula has been under discussion in secondary schools. The modular approach provides more flexibility to distance teaching mode as well to learners [3]Unlike most traditional curriculum designs, modular design gives greater student autonomy in constructing the program and a greater range of entry gates and exit points [4].

Modular instruction is one of those teaching methods in which students must learn everything in the module on their own, at their own pace. This method differs from the traditional method in which a teacher presents the lesson and students simply listen to learn the concepts presented. [5]suggests that the modular approach may be a good alternative to traditional classroom settings because it is student-centered, self-paced, and does not require note-taking (2015).According to [6] a major educational development over the last decade has been the creation and growth of remote learning systems in many countries of the world. In many countries, including Western and Asian countries, modular teaching is one of the most widely used and recognized teaching-learning techniques. A modular approach is used in almost all subjects, including natural science, particularly biology and medical education, and even mathematics.This approach is different from the conventional one, in which a teacher provides the lesson and the pupils merely listen to it in order to understand the topics.

1.2 Research Questions

The study aimed to determine the level of effectiveness of implementing the modular learning approach in relation to students' academic performance in Sta. Cruz District, Division of Zambales during SY 2020-2021.Specifically, the study sought to provide answers to the following questions:

a. What is the profile of the teacher-respondents with regards toage;sex;civil status;position;length of years in the service; and highest educational attainment?
b. How do the teachers perceive the level of effectiveness of the implementation of the modular learning approach be described in the following dimensions:Technical Support;Subject contents;Construction,Delivery, and Retrieval Mechanism; Assessment of Student Achievement; Adherence to IATF Health Observance Protocols; and School and local government support?
c. What is the level of student academic performanceas reflected in the general weighted average grade in the first grading period?
d. Is there a statistically significant difference in the perceived dimensions of the level of effectiveness in the implementation of a modular learning approach when respondents are grouped based on profile variables?
e. Is there a significant difference in the perceived dimension on the level of effectiveness when implementing the modular learning approach referred to in problem number 2?
f. Is there a significant relationship between the level of energy in implementing the modular learning approach and the student's academic performance?

1.3 Theoretical Framework

The study is related to the modified version of the packet theory. This is a modular theory of learning and performance that contains parts that may be labeled perception, memory, and decision. The theory combines ideas from scalar timing theory [7], the learning-to-time model [8], and conditioning theories [9], as well as from several additional sources. Like scalar timing theory, it considers a clock as an accumulation process and uses a threshold for comparison of the clock and memory. Like the learning-to-time model, it considers perception and memory as vectors. Like conditioning theories, it uses combinations of values with a linear operator rule. Packet theory is not unique in being a modular

theory: Many theories of conditioning and timing may be regarded as modular [10]. This feature, however, maybe the most important one for the development of theoretical improvements.
Identifying three historical methods for the creation of a theory of distant education is another idea by [11] that is relevant to this study. Theories of autonomy and independence from the 1960s and 1970s, argued by [12], reflect the essential component of the independence of the learner. Work on a theory of industrialization in the 1960s reflects the attempt to view the field of distance education as an industrialized form of teaching and learning[13]. The third approach integrates theories of interaction and communication formulated by [14]. Using the postindustrial model, Keegan presents these three approaches to the study and development of the academic discipline of distance education. It is this concept of industrialized, open, nontraditional learning that, Keegan says, will change the practice of education.

2. METHODOLOGY

2.1 Research Design

The quantitative descriptive-survey research design was used in this study. This method entails observing and describing the level of effectiveness of the modular learning approach implementation in relation to students' academic performance in Sta. During SY 2020-2021, Cruz District, Division of Zambales. Descriptive research is a study that aims to portray the participants accurately.To address the what, where, when, and how questions, descriptive research tries to correctly and methodically describe a population, situation, or phenomenon [15]. It allows witnessing the phenomenon in a completely natural and unchanged setting [16]. Its worth is based on the premise that through observation, analysis, and description, problems can be solved and practices improved.
Given that it discusses the effectiveness of the modular learning strategy and the responder who participated in the study, this research is descriptive and aims to accurately represent the participant.The goal is to describe with greater accuracy and clarity, and typically, this is quantitative.This may involve investigating and explaining the variable or necessary information needed in the study.Additionally, we can analyze and observe traits or actions arising from a natural environment, for example, the effectiveness of the modular learning strategy.

2.2 Sampling Design and Technique

From the total number of two hundred fifty-one (251) faculty members teaching in the secondary level in the entire district of Sta.Using Sloven Formula, Cruz computed sample size would be one hundred fifty-four (154). The teacher-respondents would

be randomly selected. Table 1 shows the distribution of teacher-respondents by schools in Sta. Cruz District, Sta. Cruz, Zambales.

Table 1.Distribution of Teacher-Respondents by Schools in Sta. Cruz District

Name of Schools in Sta. Cruz District	Total # of Teachers	Sample Size	Percentage
Sta. Cruz National High School	40	25	16.23
LipayNational High School	44	27	17.64
St. Michael High School	4	2	1.30
Don BrigidoMiraflor Integrated School	36	22	14.38
Sta. Cruz South High School	21	13	8.44
Mena National High School	21	13	8.44
Guis-Guis High School	30	18	11.78
Don Marcelo C. Marty National High School	30	18	11.78
San Fernando National High School	25	15	9.74

Total	**251**	**154**	**100%**

Fig.1. Map of Sta. Cruz, Zambales Showing the Locale of the Study

2.3 Data Gathering

After the validation process, the researcher reproduced the total number of survey instruments based on the computed sample size. Likewise, the researcher had prepared a letter addressed to the Division Superintendent and Principal of the School to request approval to administer the survey questionnaire and the documentary analysis of the student's academic performance. Because of the present COVID-19 Pandemic and face-to-face meeting with the teacher-respondent is not allowed, the researcher secured the e-mail addresses of the faculty respondents and converted the survey instrument into Google form for easy delivery and recovery of the instrument. The researcher has allotted fifteen (15) days to assure one hundred percent (100%) retrieval of the instrument.

2.4 Statistical Analysis

Statistical Package for Social Sciences (SPSS) version 20 was used to organize, collate, tabulate, and analyze the data. In order to successfully interpret the data, the researcher used weighted mean, t-test, Pearson r Coefficient, and analysis of variance, all with a 0.05 significance level. a statistical data processing software tool for frequency counts, percentages, means, weighted means, and Likert scales.

3. RESULTS AND DISCUSSIONS

3.1 Profile of the Teacher-respondents

Table 2a. Frequency and Percentage Distribution of the Teacher-respondents' Profile(N=154)

Profile of the Respondents		Frequency (f)	Percentage (%)
Age Mean=35.14 years old	21-25	18	11.70
	26-30	27	17.50
	31-35	37	24.00
	36-40	33	21.40
	41-45	21	13.60
	46 and above	18	11.70
	Total	**154**	**100.00**
Sex	Male	38	24.70
	Female	116	75.30
	Total	**154**	**100.00**
Civil Status	Single	45	29.20
	Married	108	70.10
	Others	1	.60
	Total	**154**	**100.00**
Position	Master teacher I	8	5.20
	Master Teacher II	8	5.20
	Master Teacher III	3	1.90
	Teacher I	75	48.70
	Teacher II	29	18.80

	Teacher III	31	20.10
	Total	**154**	**100.00**

Table 2b.Frequency and Percentage Distribution of the Teacher-respondents' Profile(N=154) (Continuation)

Profile of the Respondents		Frequency (f)	Percentage (%)
Length of Years in the Service **Mean=8.71 years**	0-5 years	62	40.30
	6-10 years	52	33.80
	11-15 years	16	10.40
	16-20 years	10	6.50
	21-25 years	8	5.20
	26 years and above	6	3.90
	Total	**154**	**100.00**
Highest Educational Attainment	BS Degree	34	22.10
	BS Degree with masteral units	97	63.00
	Masteral Degree holders	18	11.70
	MS Degree with doctoral units	3	1.90
	Doctoral Degree holders	1	.60
	Post-Doctoral Degree	1	.60
	Total	**154**	**100.00**

This is the analysis and interpretation of the results and discussion in tabular form for a better understanding of the issues raised in accordance with the variables.:Age. Out of 154 teachers who responded, the majority (37%) were in the 31-35 age range, followed by 33 (21.40%) for those in the 36–40 range, 27 (17.5%) for those in the 26–30 range, 21 (13.60%) for those in the 41–45 range, and 18 (11.705) for those in the 21–25 and 46+ age ranges, respectively. The computed mean age of the respondents was 35.14 years old. The data clearly manifest that the respondents were relatively young in their early adulthood. Early adulthood which is characterized by ages 20-40 years old, the physical abilities are at their peak including muscle strength, reaction time, and sensory abilities. The teacher respondents in this study were all of the same age.

Sex. There were 116 female teacher respondents, or 75.30% of the total, compared to 38 male respondents, or 24.70%. The data clearly implies the superiority of the female in the study. Women outnumber men in teaching due to fundamental differences in men's and women's communication skills. Women's worlds were preoccupied with intimacy, consensus, and interdependence, whereas men's worlds were preoccupied with competition, status, and independenceCivil Status.The majority, 108 (70.10 percent), are married; 45 (29.20 percent) are single, and1 (0.60%) are divorced. This demonstrates that most respondents were married, which may be explained by their willingness to manage and accept marriage and family duties. In the areas where married teachers predominate, this finding is consistent. **Position.**75 or 48.70% of the instructors who responded were Teacher-I, and 31 of those teachers possessed the highest level of educational attainment. The bulk of the teacher respondents—97 or 63.00%—have earned a BS degree with master's units; 34 or 22,10% have a bachelor's degree; 18, or 11,70%, have a master's degree; 3, or 1.90%, have an MS degree with doctoral units; and 1, or 0,60%, have both a doctorate and a post-doctorate degree.The results unmistakably demonstrate notwithstanding the multiple pressures at work. In order to advance professionally and get promotions in the future, the respondents are able to find the time to complete their graduate degree programs. The teachers who responded to this study were all college graduates with master's degrees in education.

Table 3 shows the perception of the teacher-respondents on the level of effectiveness of the implementation of the modular learning approach to Technical Support.

Table 3.Perception of the Teacher-respondents on the level of effectiveness in the implementation of the modular learning approach as to Technical Support(N=154)

	Technical Support	Weighted Mean	Qualitative Interpretation	Rank
1	The teachers were given adequate training on the construction of modules.	3.25	Highly Effective	6
2	The teachers were afforded financial support to augment expenses for module printing as the cost of bond paper, ink, cover, and other supplies.	3.31	Highly Effective	5

3	The School provides capacity building to help teachers with the technical aspects of the construction and development of modules.	3.45	Highly Effective	1
4	The teachers were given free training through an online seminar on the principles and technical aspects of the construction of modules	3.44	Highly Effective	2
5	The division conducted training online rollout for implementers on modular learning experiences.	3.40	Highly Effective	3
6	Training was attended for editing and check-up of the accuracy of data and information of modules.	3.36	Highly Effective	4
	Overall Weighted Mean	**3.37**	**Highly Effective**	

The teacher-respondents perceived "Highly Effective" on indicator #3.The School offers capability development to support teachers with the technical aspects of building and developing modules, as evidenced by the computed high mean value of 3.45 and ranked first, while the teachers received sufficient training on building modules, as indicated by the computed low mean value of 3.25 and ranked sixth. The computed overall weighted mean on the responses towards a level of effectiveness on the implementation of the modular learning approach as to Technical Support was3.37with a qualitative interpretation of "Highly Effective".

Providing technical support by providing in-service training or teacher capability building is essential in implementing the modular learning approach. The teachers will be equipped with the desired knowledge and technical skills to construct and develop modules. There are underlying principles and technical aspects that need to be greatly considered as to the learning objectives, assessment, learning motivation, and appropriate teaching strategies. The effectiveness of modular teaching lies mostly in the contents, usefulness, quality, and relevance of the modules given to the learners [17].However, the contents of the modules have identified errors that mislead the learners in learning the correct concepts of the lessons [18].Its usefulness is being questioned because the learners and their learning facilitators cannot understand the various activities stipulated in the modules [19]. There is also poor quality of the printed modules because teachers customize their work to have lesser expenses

in printing modules. As a result, learners were given booklet-style modules [20]. In some cases, the contents and activities in the modules are unrelated to the learners' learning needs. The authors or writers fail to consider the levels and situations of the learners when creating the modules [21].

Table4.Effectiveness of the implementation of the modular learning approach as Perceived by Teachers

Level of effectiveness in the implementation of the modular learning approach		**Overall Weighted Mean**	**Descriptive Equivalent**	**Rank**
1	Technical Support	3.37	Highly Effective	5
2	Subject Content	3.49	Highly Effective	4
3	Construction, Delivery, and Retrieval Mechanism	3.56	Highly Effective	2
4	Assessment of Student's Achievement	3.53	Highly Effective	3
5	Adherence to IATF health observance protocol	3.62	Highly Effective	1
6	School and local government unit support	3.36	Highly Effective	6
	Grand Mean	**3.49**	**Highly Effective**	

Table 4 shows the responses toward the level of effectiveness of the implementation of the modular learning approach. The teacher-respondents perceived the dimensions of the level of effectiveness in the implementation of the modular learning

approach as to Technical Support, Subject Content, Construction, Delivery and Retrieval Mechanism, Assessment of Students' Achievement, Adherence to IATF health observance protocol, and School and local government unit support was "Highly Effective".

Table 5 shows the distribution of the level of student academic performance as reflected in the general weighted average grade in the first grading period.

Table 5. Academic performance of Pupils as reflected in the general weighted average grade in the first grading period

Level of Academic Performance	Frequency (f)	Percentage (%)
Fairly Satisfactory (75-79)	26	16.90
Satisfactory (80-84)	32	20.80
Very Satisfactory (85-89)	96	62.30
Total	**154**	**100.00**
Mean of Academic Performance= 84.27 (Satisfactory)		

The students were rated “Satisfactory," manifested in the mean performance of 84.27. The bulk of student responses, 96 or equivalent to 62.30 percent, earned grades between 85 and 89 (Very Satisfactory); 32 or 20.80 percent received grades between 80 and 84 (Satisfactory), and 26 or 16.90 percent received grades between 75 and 79 (Satisfactory) (Fairly Satisfactory).Academic performance is the measurement of student achievement across many academic topics, and the satisfying academic performance of the students can be attributed to their study habits and learning preferences. Teachers and education officials typically measure achievement using classroom performance, graduation rates, and results from standardized. In the Philippine setting, teachers employ three (3) categories in determining the learners' academic performance. Typically, they use written works, performance tasks, and quarterly assessments. This is used during pre-pandemic, when the

learners attend their classes in School. During the Pandemic, the Department of Education issued interim guidelines for assessing students' academic performance. It is mandated that schools use two (2) categories to assess students' academic performance. This includes written works as well as performance tasks. Teachers are also encouraged to incorporate the use of portfolio assessment as means of evaluating the academic performance of the learners. Some schools include portfolio assessments, while others stick to written works and performance tasks [22].

There was no significant difference in teacher respondents' perceptions of the level of effectiveness of the modular learning approach in terms of Technical Support when they were grouped based on their profiles. The null hypothesis is accepted since the values 0.481, 0.859, 0.767, 0.906, 0.332, and 0.744 are all more than (>) 5 percent significant. The data indicates that the teacher-respondents share a similar perspective on technical support as a dimension of the level of effectiveness in implementing the modular learning approach. Rapid changes in how technology is used for learning necessitate a technology support strategy that minimizes downtime and provides flexibility.The most effective technical support models are constructed directly from a high-quality technology planning process that integrates technology with other school-wide support goals. Successful districts have seen it advantageous to think generally about the best overall approach to addressing support needs holistically before developing detailed details that describe what support will be offered to whom and by whom. While no two districts offer the same combination of tech support products and services to their users, they all have defined core elements that comprise "technical support" and contribute to successfully meeting their local needs. The following questions have assisted districts in defining, planning for, and implementing the core components of technical support. The modular teaching approach allows learners to independently study the proposed program, including goals, objectives, theoretical information, practical exercises, and final tests, and teachers were given adequate training on module construction and financial support. Successful districts have discovered that it is advantageous to think generally about the best overall approach to fully meeting support needs before developing particular details that describe what support will be offered to whom and by whom. While no two districts offer the same combination of tech support products and services to their users, they all have defined core elements that comprise "technical support" and contribute to successfully meeting their local needs. The following questions have assisted districts in defining, planning for, and implementing the core components of technical support. The modular teaching approach allows learners to study the proposed program independently, including goals, objectives, theoretical information, practical exercises, and final tests. Teachers were given adequate training on module construction and financial support.The data further reveals the similarity and likeness of the respondent's opinions on the effectiveness of modular learning as to subject contents. The curriculum is given little consideration in contemporary discussions about edification and learning in higher education, but this may change in the context of quality control methods[23].According to [24], in order to maintain the credibility of DepEd, which seeks to provide high-quality education, the learnings must be more deeply ingrained and the context must include a

quality assurance mechanism. For this reason, DepEd pays close attention to the content of the modules that will be given to students in every region of the nation. The use of self-learning modular in teaching is another form of individual used instruction, this is called the modular approach of teaching and learning that self-learning modular is another form of teaching and learning approach that we called as of now it is modular.

When grouped according to profile variables, there is no significant difference in perception of the effectiveness of the modular learning approach as to the Construction, Delivery, and Retrieval Mechanism manifested on the computed Sig. Values of 0.547, 0.055, 0.901, 0.367, and 0.189 are greater than (>) 5% significant, indicating that the null hypothesis is accepted. As opposed to this, the computed Sig. When categorized according to the sex profile variable, there is a significant difference with a value of 0.019, which is lower than the (<) 5% significant level, and the null hypothesis is thus rejected.Schools establish processes in the distribution and retrieval of modules. This is also presented to the parents during the orientation intended for them [25].Schools consider the health and safety protocols requiring the parents to wear their face masks and shields upon entering the school premises. Their body temperature must also be recorded, a contact tracing log must be filledup, and the health declaration form. Aside from that, they need also to sanitize or wash their hands with soap. It is also important to bring with them their own ball pen, especially in accomplishing the different forms and even the log sheets. From time to time, they are reminded to practice social distancing from the other parents to avoid contamination by the virus. It is important for the parents to follow religiously the roles and processes set by the School. This is for their health and safety. There are also instances when parents neglect to pick up their children's modules. This serves as one of the difficulties and challenges for teachers [26].In this case, teachers contact the parents of the children. They remind them regarding the modules of their children. Most of the time, the teachers deliver the modules to the learners at home to ensure that they have something to use in learning their lessons. It is considered an additional expense for the teachers because they are personally using their funds for transportation. However, because of their love of teaching and because of caring for their learners, teachers are happy to serve their learners. They always consider what is best for their learners. They must provide help to their learners to ensure that they will never be left behind in their studies. Being a teacher requires service with a heart in the retrieval of modules, the same procedures are being implemented by the schools. Parents are signing the distribution and retrieval form as evidence that they receive and returned the modules of their children [27]. In most cases, the distribution and retrieval of modules are executed on the same day. There is no discernible difference in the level of effectiveness of the modular learning approach as to Assessment of Student Achievement when grouped according to profile. Teachers make sure they are accessible in the schedules during these schedules to immediately address the concerns of the parents.As shown on the computed Sig. Values of 0.887, 0.213, 0.262, 0.786, 0.484, and 0.512 are all greater than (>) 5% significant threshold., therefore the null hypothesis is accepted.The data

simply implies the conformity of the respondents towards the importance and value of assessment on students' achievement and progress. It is important that the real scores of the learners are reflected in assessing their performance because this serves as the basis for the teachers in determining the learning needs of the learners. It is crucial for the instructors to identify the learning gaps that the learners are facing in the implementation of modular teaching. Through these, teachers can design and carry out a plan to provide advice and help to these children's studies. Everyone is aware of having no perfect approach that is suited for everyone. This is the reason why there are instances where learners are lagging behind in their lessons. The analysis of variance was used to compare perceived dimensions of efficacy in the use of the modular learning approach when categorized according to profile characteristics such as adherence to the IATF Health Observance Protocol.When grouped in accordance with the profile, there is no appreciable difference in the level of efficacy of the modular learning technique and Adherence to the IATF Health Observance Protocol. Using the calculated Sig. The null hypothesis is supported since values of 0.399, 0.605, 0.292, 0.767, and 0.885 are more than (>) 5% significant level. Contrarily, the computed Sig. When categorized according to highest educational attainment, there is a significant difference (value of 0.020, less than (<) 5% significant level, the null hypothesis is rejected.

The data clearly demonstrate the divergence of opinion towards Adherence to IATF to IATF Health Observance Protocol when grouped according to highest educational attainment. It is anticipated and assumed that teacher-respondents with higher educational attainment will have a thorough understanding of the crucial importance of the IAFT recommendations to ensure that health protocols have been strictly adhered to and followed to avoid contamination and infection of the terrible disease.In preparation for the opening of classes, schools start their activities by following the health and safety protocols issued by the Inter-Agency Task Force on Emerging Infectious Diseases. They start working on the various signage needed during the distribution and retrieval of modules. They also check the available equipment in the School for the printing of modules. School heads prioritize the purchase of printers, bond papers, and computer inks to be used by the teachers. Teachers find time to coordinate with the higher authorities for the softcopies of the modules of the learners. They need to have the complete sets of modules intended for their grade levels for production purses [28]. During these processes, teachers are experiencing difficulties and challenges in the execution of their assigned work in modular teaching. Most of the time, the 8-hour workday is insufficient to complete their scheduled activity for the day.As a result, they bring home their work to ensure that everything is ready for the opening of classes [29].

There was no significant difference inthe level of effectiveness in the implementation of the modular learning approach to School and Local Government Support when respondents were grouped based onprofile.As shown on the computed Sig. values are 0.383, 0.404, 0.735, 0.794, 0.272, and 0.954, all of which are above than (>) 5% significant level, the null hypothesis is

accepted. The data further reveals the respondents' conformity and non-divergence of opinion toward School and local government support. School and government leaders work together to ensure that the modules were printed and delivered on time. DepEd must address the teachers' difficulties and challenges. They must set aside additional funds to purchase printing equipment. Higher officials must come down to their offices to see what is going on in the schools. They must develop better plans and solutions to the teachers' dilemmas in modular teaching. They must make time to speak with teachers about their difficulties and challenges in implementing modular teaching. This is the best way to learn about the current situation on the ground. Allow teachers to speak up and be heard.

Table 6 shows the Analysis of Variance to test the difference in the perceived dimension on the level of effectiveness in the implementation of the modular learning approach. There are significant differences in the perception of dimension on the level of effectiveness in the implementation of modular learning approach as to Technical Support, Subject contents, Construction, Delivery, and Retrieval Mechanism. A compute Sig was used to assess student achievement, adherence to IATF health observation protocols, and school and local government support. The value of 0.000 is less significant than the (0.05) Alpha Level of Significance, hence the null hypothesis is rejected.

Table6.Analysis of Variance to test difference in the perceived dimension on the level of effectiveness in the implementation of modular learning approach

Sources of Variations		SS	df	MS	Sig.	Decision
*Technical Support * Subject Contents *Construction, Delivery, and Retrieval Mechanism *Assessment of Student Achievement *Adherence to IATF Health Observance Protocols *School and local government support	Between Groups	8.419	5	1.684	0.000	**Reject Ho**
	Within Groups	174.944	918	0.191		**Significant**
	Total	**183.363**	**923**			

In many countries, including other Western countries and the Asian region, modular teaching is one of the most widely used and recognized teaching-learning techniques. The modular approach is used in almost all subjects, including natural science, specifically biology and medical education, as well as social sciences and computer education, taking into account individual learner differences that call for the planning of the adoption of the most appropriate teaching techniques to support the individual in growing and developing at her/his own pace [30].

The use of modules as a learning material is no longer new in the field of Education, especially at the tertiary level. This teaching-learning material is distinguished by its concept- and/or skill-focused, small-step, sequential, and self-directing presentation of a unit of learning. It offers instructions on how the various investigations would be carried out [31].Using the Pearson Product Moment Coefficient of Correlation, it was determined that there was a strong correlation between the academic achievement of the students and the usefulness of the modular learning technique(Table 7).There is a negligible relationship between the level of effectiveness in the implementation of the modular learning approach and the student's academic performance manifested on the computed Pearson r - the value of +0.099. Sig. was calculated. The null hypothesis is accepted since the two-tailed test value of 0.222 was greater than % the % significant level.

Table7.Pearson Product Moment Coefficient of Correlation to test the significant relationship between the level of effectiveness in the implementation of the modular learning approach and the student's academic performance

Sources of Correlations		Students' Academic Performance	Level of Effectiveness in the Implementation of Modular Learning Approach
Students' Academic Performance	Pearson Correlation	1	0.099
	Sig. (2-tailed)		0.222
	N	154	154
Level of Effectiveness	Pearson Correlation	0.099	1

in the Implementation of Modular Learning Approach	Sig. (2-tailed)	0.222	
	N	154	154

This finding contradicts the findings of [32], who discovered a significant increase in students' pre-test and post-test results when the instructional material was introduced in class [33]. The instructional modules are a significant educational innovation and teaching strategy. According to another study, the developed instructional materials for interactive learning are useful and beneficial for improving students' communication skills. The instructional materials provide content that is appropriate, effective, and caters to different learning styles and preferences, as perceived by the teacher experts who try out the materials and the number of students who used the material.

4 CONCLUSION AND RECOMMENDATION

There is a negligible relationship between the level of effectiveness in the implementation of the modular learning approach and the student's academic performance manifested on the computed Pearson r- value of +0.099. Calculated Sig. A two-tailed test result of 0.222 is significant at a level of %%, so the null hypothesis is accepted.

The respondent is female in her early adulthood, married, Teacher-I, BS degree and earned masteral units of Education, and had been in the teaching services for almost a decade. The teacher-respondents assessed "Highly Effective" on Technical Support, Subject Content, Construction, Delivery and Retrieval Mechanism, Assessment of Student Achievement, Adherence to IATF Health Observance Protocols, and School and Local Government Unit Support as dimensions of the level of effectiveness in the implementation of modular learning approach. The students were rated "Satisfactory" in their academic performance.
When classified by sex and greatest educational level, there are noticeable differences in how people perceive the construction, delivery, and retrieval mechanisms' adherence to IATF health observation protocols. There is a significant difference in the perception towards dimensions on the level of effectiveness in the implementation of modular learning approach as to Technical Support, Subject Content, Construction, Delivery and Retrieval Mechanism, Assessment of Student Achievement, Adherence to IATF Health Observance Protocols, and School and Local Government Unit Support. There is a negligible relationship between academic performance and the level of effectiveness in the implementation of the modular learning approach.

The researcher recommends that there is a need to revisit the learning contents and assessment of student output and provide item analysis in order to determine the vague or gray areas in the self-learning module. TheSchool may conduct a time management plan for production, delivery, and retrieval to assure the modules had been delivered on time to the students and considerable time was allotted for assessing and accomplishing student learning outputs. The School may provide a technical support mechanism to reimburse the expenses of teachers incurred related to the printing, delivery, and retrieval of modules for improvement. Intensify and strengthen ties with political leaders, the community, businesses, and other stakeholders to ask for their help in promoting the students' educational and developmental welfare

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