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EFFECTIVENESS OF MODULAR LEARNING APPROACH IN TEACHING ELEMENTARY GRADE LEARNERS A LITERATURE REVIEW

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ABSTRACT

The purpose of this research is to evaluate a number of articles that discuss the effectiveness of a modular learning approach in teaching elementary grades ' academic progress. The details, which are based on articles published between 2000-2021, identify the effect of the modular learning approach.

Keywords: Modular Learning Approach

I.INTRODUCTION

The Department of Education (DepEd) uses Modular Distance Learning to ensure learning continuity in the face of the COVID-19 outbreak (MDL). Students use Self-Learning Modules (SLM) that are based on the Department of Education's Most Essential Learning Competencies (MELCS).

Distance learning is a type of learning delivery method in which instruction is provided by a teacher to students who are physically distant. MDLs are the most common type of DL in our country. After a DepEd poll indicated that 8.8 million parents supported MDL, it is now utilized in all public schools. The most popular way of distance learning among parents with children enrolled this academic year is learning through printed modules. Learners in rural areas with poor internet connectivity and no access to online learning are also taken into account. Each SLM includes the learning competencies that learners should acquire. It also includes a test to assess the pupils' prior understanding of the topic. It includes practice or study to help learners connect the dots between current and previous sessions. There's a section where you may get information on the new lesson. It also includes a session report and independent practice tasks. It includes exercises to assist learners in determining their proficiency in reaching the learning

competency. It entails a lesson-related exercise aimed at improving the learner's knowledge or abilities. The results of all of the module's activities are found in the final section.

Students are encouraged to learn on their own time by using modules. The development of greater self-study or study skills is one of the advantages of employing modules for training. Students take an active part in learning the subject's fundamentals. They gain a sense of accountability by accomplishing the module's duties. Enhancing learning on their own, with little or no assistance from others.

The teacher is capable of keeping track of the students' performance. Students can communicate with the teacher via e-mail, text message, or messenger chat. If at all possible, the instructor should pay a visit to children who need remediation or assistance at home. Parents and guardians receive printed modules from their children's teachers once a week. Students should have completed all of the tasks and received their scores before the end of the week.
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The teacher is responsible for monitoring the students' progress. E-mail, text message, and messenger chat are all options for students to contact the teacher. If at all practicable, the instructor should visit kids at home who require remediation or assistance. Once a week, parents or guardians receive printed modules from their children's teachers. By the end of the week, students should have completed all of the tasks and submitted their scores. Because education is no longer limited to the classroom, parents are increasingly working as educators alongside instructors.

The MDL is helping the DepEd adjust to the new normal of education, and educators' constant creativity and active engagement with other stakeholders are the driving forces behind its success.

II. RESULTS

Modular Distance Learning Approach

Classes were cancelled as a result of the COVID-19 pandemic, so there was no face-to-face interaction between teachers and students. To meet these unprecedented obstacles, Philippine schools have changed from traditional face-to-face instruction to a distance learning strategy. This is a method of teaching in which communication happens between teachers and students who are physically dispersed from one another, even during the lesson, and the lesson is delivered from outside the traditional face-to-face forum, as seen by Bonz Magsambol (2020). Most students prefer the ‘modular' remote learning choices, according to Merlina Hernando-Malipot (2020). According to the partial findings of the Learner Enrollment and Survey Forms (LESFs) sent during the enrollment period, 7.2 million learners chose modular distant learning, TV and radio-based education, and other modalities for school year 2020-2021, while only 2 million prefer online. According to Anthony (2020) Modular distance learning is a learning form of individualized Instruction allows learners to utilize self-learning modules it's either in printed

or digital limited contact to the teachers and their parents or guardians take place as their learners' model. Dr. Friestad-Tate, Dr. Schubert, and Dr. Mccoy (as stated in Biggs, 1999), modular learning is an approach that focuses on learning outcomes and relies on connecting objectives to student learning and course design to be successful. These elements work together to create a well-aligned route. It is critical to identify learning outcomes, determine learning and teaching outcomes, and successfully realize adequately assessed student results in order for curriculum to be constructively aligned.

Several investigations were undertaken to determine student achievement in both standard and new normal teaching methods. The use of the "Quadratic Function" module, according to Melad (2016), has proved that a modular approach to teaching improves student accomplishment. When compared to typical teaching methods, using the module as a corrective instructional resource has boosted student achievement. Satyarthi (2021) discovered that the modular teaching method was better than the traditional teaching method in his published research on the effective learning strategy for secondary school students-modular approach. As a result, this modular method can help students boost their learning capacity while also making it easier for them to read self-study materials in addition to books. The study conducted by Oparina & Rakova (2018) on the Modular Approach to Teaching and Learning English Grammar at Technical Universities found that the module approach to teaching is successful in enhancing students' understanding. This modular method to teaching and studying English grammar has been proven to be helpful in terms of educating and increasing students' comprehension and critical reasoning. Valencia (2020**)** Modular Method in Teaching Science 10 found that when students were taught utilizing a modular approach, their experimental findings improved dramatically and they were evaluated as effective. This suggests that the strategy has proven to be effective in promoting pupils' academic achievement. Learning theories have shifted from behaviorism to information processing to constructivism, according to Botman, Van Rensburg, Coetzee, and Heyns (2015), "Conceptual Framework or Educational Design at Modular Level to Promote Transfer of Learning." According to (Bruce, Klopper, & Mellish, 2011), cognitive science and cognitive psychology both demonstrate that the process of developing knowledge is highly dependent on prior knowledge, the context or situation, and the internalization of relevant data in organized knowledge structures. According to **(**Jazim and Rahmawati, 2017), learners develop their mathematical level of comprehension given to them. According to them, the use of modules in mathematics learning causes students with high academic ability to be more active in the discussion process. Furthermore, this approach is beneficial for students with a sluggish mathematical foundation and a low motivation (Abramovits, Berezina, & Shvartsman).

When compared to the traditional method of using a textbook, using a teaching module to teach the English language is aimed at increasing active learning, continuing to improve rational thought, and enhancing the ability to solve problems. It allows the lecturer to perform assessment activities in the classroom. Systematic textbooks use their own styles, and the components, strength of scope of materials, and organization of the materials can all have an impact on the teaching and learning opportunities. As a result, using a module creates a much more adaptable educational experience for both teachers and students**.** Cheng and Abu Bakar (2017) are two of the most influential people in the world. According to Ambayon's (2020) research, modular instruction is more effective in the teaching-learning method when compared to traditional teaching techniques because students know at their own pace with this modular approach. This is an unrestrained self-learning panache in which extremely fast reinforcement, an opinion is presented to continue practicing exercise, which encourages and helps build interest in the subject in the students. As a result, this learning modality promotes a student-centered approach to learning. The implementation of modular instruction, on the other hand, established a lot of

challenges for teachers, students, and parents. According to Antony Charles in his article "Modular approach to teaching mathematics for particular topics at and as well as one level," the modular approach in mathematics learning has been known to be an efficient and reliable tool for assisting learners in developing mathematics themselves. He also stated that the modular approach is a conscience package associated with one specific subject in an efficient way, allowing the learner to distinguish the specific goals, select materials and methods, and assess his own progress. This gave the distance students, as well as the students, the most adaptability. It gave the learners impact on student learning and allowed them to recognize initiative and responsibility. Because the strategic approach requires increased self-awareness on the part of the learner, the modules are better suited to much older students.

The use of modules in learning helps students to learn totally independently and without relying on others. The directions and materials provided are beneficial, and the communication used is simple, easy to follow, and employs plain language. Prastowo (2015**)** defines formalization. A Modular Distance Learning Approach According to Bonz Magsambol (2020), to make sure that learning remains unhampered, DepEd will be implementing a distance learning approach, a learning delivery mode where interaction takes place between the teacher and the students who are geographically separated from each other during instruction. This means lessons will be delivered outside the traditional face-to-face setup. Thus, according to Manlangit, Paglumotan, and Sapera, modular learning is a type of distance learning that executes self-learning modules (SLM) based on DepEd's most essential learning competencies (MELCS). According to Mark Antony Llego (2020), they got to remember and were motivated as a result of their modular distance. According to Dr. Sejpal (2013), modular learning is really a set of tasks that are practically self-contained and a method of teaching that is focused on the development of abilities and capabilities in individual components that should be self-reliant, self-contained, self-instructional, and very well identified with clearly defined goals. According to him, the modular method of teaching is a much more useful, current, and innovative teaching method in today's field of education. The modular approach allows for more flexibility in distance education for both learners and teachers. Ibyatova, Oparina, and Rakova (2018) found that the modular approach was effective in teaching and improved students' insights and independent thought in their study entitled "Modular Approach to Teaching and Learning English Grammar in Technical University." The teacher is in responsible for supervising the learners' progress. While students can contact them via email, phone, text messaging/instant messaging, and other means, Teachers must make regular visits to students who require remedial action or additional help in their modules. Each and every member of the household or other community organizations can help. Furthermore, modular learning is a type of distance learning that implements self-learning modules (SLM) and adheres to the DepEd's most essential learning competencies (MELCS) (Manlangit, Paglumotan, and Sapera).

There has been research undertaken on the impact of modular learning on students' academic performance in mathematics. Lim (2016) found that modular instruction in teaching mathematics, especially in word problem solving, is a successful way to understand, according to his studies on the effectiveness of modular instruction in word problem solving among BEED students.

Furthermore, Khalil and Yousuf (2020) observed in their work on the effectiveness of modular method teaching on secondary school mathematics students' accomplishment that pupils in the modular approach have higher results. Conversely, there are benefits and drawbacks to using modules. The usage of modules promotes self-directed learning, according to **(**Nardo, M.T.B, 2017**).** Students' self-study or learning skills improve when they use modules for learning. Students are engrossed in studying as a result of the concepts offered in the modules. Students

create a sense of responsibility as a result of the tasks they are given. They each have their own individual achievements. They are motivated as they continue to learn. In fact, the students take part in real-life activities. They learn something new and apply what they've learned through their own. Students gain a new perspective from their own achievements, allowing them to build new abilities. Learning through modular instruction allows students to take care of their own studies**.** Gossenheimer, Bem, Carneiro, and de Castro (2017) conducted research on the impact of remote education on school performance in a pharmaceutical care course in the various learning domains. Performed better in the distant education module, according to the report.

In their study on the effectiveness of learning in the usage of learning modules versus students learning outcomes, Rahmawati, Lestari, and Umam (2019) found that students utilizing modules had significantly better mathematical learning outcomes than students who did not include the module. As shown in a study conducted by Ambayon (2020) on the modular-based approach and student achievement in literature, college students who used the modular approach improved from poor to exceptional performance in literature, whereas students who did not use the modular approach improved from weak to good fulfillment. According to Dr. Padmapriya P.V. (2015), modules enable learners to increase their self-learning ability. The current study concluded that this is a self-learning style wherein immediate self-reflection is feasible, motivating students to monitor and control and handle their own styles of learning and, as a result, instilling in them a desire to participate and mindset against science because they are completely independent to explore new things. Students learnt and engaged with the support of modules, which increased their interest in their very own learning. Students who were taught using a modular approach had significantly higher scores than students who were taught using an activity-oriented method. The study discovered that the most successful self-instructional module on performance was one in which the information was composed of a number of units or modules, one of which was focus mainly. According to the study, mathematics students were happier with their grade reports (the most prevalent form of assessment) and learned more from them. It was also less difficult for math pupils.

The findings are consistent with what Amboyan (2019) found in his study, which found that modular instruction is much more effective in teaching learning methods than traditional methods of teaching since students are taught through their own pace in this modular approach. According to Antony Charles' essay "Modular approach to teaching mathematics for chosen topics at plus one level," the modular approach to mathematics learning has been found to be an effective and efficient instrument for assisting pupils in learning mathematics. He also characterized the modular approach as a self-contained package that deals with one single subject in a suitable way, allowing the student to set the objectives, choose resources and methods, and assess his own progress. According to the findings of **(**Sadiq et al., 2014), modular teaching is much more effective in the teaching learning process than traditional teaching approaches. The modular method increases the likelihood of student involvement and participation in terms of completing assigned activities on the spot, allowing students to understand in their own way. Edgar Julius A. Lim (2016) employed a Quasiexperimental approach with third-year BEED students in this study titled "Effectiveness of Modular Instruction in Word Problem Solving of BEED Students." Based on the data, it was established that modular instruction is a successful teaching strategy in teaching math, specifically word problem-solving skills. The claim is in line with the findings of Creus and Angeles (2019), who discovered that module-based localized learning resources resulted in an improved performance for the majority of learners.

Similarly, the results support the study of Selga (2013) where the modular-based worktext was effective in helping students improve their academic achievements in science. Accordingly, the module led to the accomplishment of the subject's basic goals, allows for the development of higher cognitive skills, is well-organized and well-designed, and is appropriate for the students' vocabulary level and performance. Tan-Espinar and Ballado (2017) validated a Mathematics module that improved students' ability to learn independently. They went on to say that a module must be appropriate and that its information must be correct.

The findings are comparable to those of Reyes and De Guia's investigation (2017). They emphasized that a module's suitability rating must be high as proof of content authenticity and usefulness. As a result, it may include, but is not limited to, high-quality information, transparency, engagement, and uniqueness. According to the findings of the study "Comparative Effects of Modular and Traditional Methods in Teaching Analytic Geometry" (Rizaldo et al., 2007), performed significantly better and comprehended the subject matter when taught using the modular technique. According to Victorio B. Duyan (n.d.) in his study "Effectiveness of Modular Approach in Teaching and Learning on Chemistry of GASES and their Application at University of Perpetual Help System Laguna (UPHSL)," the modular approach should be implemented to other subjects and education levels, and teachers should use modular teaching to help students improve' academic performance. The study "Modularization and Students' Learning in Modular Instruction in Relation to Prior Knowledge" by Dochy, F.J.C. and others (n.d.) discovered the significance of existing understanding, implying that in a modular education environment, students request a kind of instruction more completely in accordance with individual development, based on changing ideas in today's society on self-improvement. Students also have the option of shipping a module or working through it more efficiently based on past knowledge.

Modular instruction is a teaching method in which students are required to learn everything in a module on their own time and at their own speed. This method is different from the usual one, in which a teacher provides the lesson and the pupils simply listen in order to grasp the topics. Because it is student-centered, self-paced, and does not require note-taking, the modular method may be a useful alternative to overcome the issues presented by students in typical classroom situations. Gonzales, F. (2015). The academic grades in mathematics of STEM students handled with a modular method produced very excellent results in the school year 2019-2020, according to this report. Despite the difficulty of learning math in the midst of the COVID-19 pandemic, the study proved the efficiency of a modular distant learning approach. The researcher, Jainalyn Annong Aksan(2021), concluded that the STEM students' academic achievement was unaffected by their perceptions of the modular remote learning approach. This suggests that their perceptions had no bearing on the quality of their performance in terms of receiving high, average, or bad grades. In addition, the researcher found that this strategy aided students in improving their grades.

Furthermore, Naboya (2019**)** found that a modular approach to teaching Inorganic Chemistry is more successful than traditional techniques. The effect of the teaching technique on student accomplishment levels in Inorganic Chemistry is moderated by reading comprehension. This suggests that the strategy has proven to be effective in raising pupils' learning performance. While Yazon (2017) found the module to be helpful in aiding the learning process in his article on module evaluation and usefulness in measuring students' learning.

III. SYNTHESIS

According to the publications analyzed, the modular learning approach in teaching style is effective in a variety of ways. However, studies on teaching music, arts, physical education and health are insufficient in the literature examined. MAPEH is a significant subject to teach. To assess the strength and weakness of teaching MAPEH to grade one learner, more research is needed.

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