

# INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2026, Vol. 7, No. 4, 1801 – 1829

<http://dx.doi.org/10.11594/ijmaber.07.04.26>

## Research Article

### Learning Module: Its Effects on Learning Competencies in Edukasyon sa Pagpapakatao 2

Annile Presbitero-Brazal\*

Naga Central School I, Jacob Penafrancia Ave. Naga City, Philippines

#### Article history:

Submission 17 February 2026

Revised 31 March 2026

Accepted 23 April 2026

#### \*Corresponding author:

E-mail:

[annile.brazal2018@deped.gov.ph](mailto:annile.brazal2018@deped.gov.ph)

#### ABSTRACT

This study determined the effectiveness of the learning module (LM) and the enhancement of the learning competencies of Grade 2 pupils in Edukasyon sa Pagpapakatao (EsP), in Naga Central School I, School Year 2023-2024. The descriptive-comparative method was used. There were 30 Grade 2 pupils in Naga Central School 1 who were involved in the study. Researcher-made test and evaluation-checklist were used to gather data. Mean, Standard deviation, Weighted Mean, Proficiency Level, t-test for dependent samples, and Cohen's d were used to treat the data gathered.

Conclusion drawn were: (1) the status of Learning Competencies of Grade 2 pupils in Edukasyon sa Pagpapakatao (EsP) along the K-12 Curriculum Guide showed Approaching Proficiency; (2) the design of the learning module played a crucial role in fostering an engaging and comprehensive educational experience; (3) the crafted learning module had a very high validity in terms of face, construct, and content; (4) the implementation of the learning module in Edukasyon sa Pagpapakatao (EsP) significantly enhanced pupil performance; (5) there was a significant difference between the pretest and post-tests of the pupils in Edukasyon sa Pagpapakatao (EsP); and (6) the learning module was effective in developing the competencies of Edukasyon sa Pagpapakatao (EsP) for Quarter 2.

**Keywords:** *Edukasyon sa Pagpapakatao, Learning competencies, Learning module*

#### Background

In an increasingly interconnected world, education serves as a critical vehicle for addressing both global, national and local issues. The subject of Edukasyon sa Pagpapakatao (EsP) plays a pivotal role in shaping the moral

and ethical foundations of Filipino students. This curriculum emphasizes the importance of values, social responsibility and critical thinking through a curriculum that remains relevant in the context of contemporary challenges. Developed and acquired competencies in

#### How to cite:

Presbitero-Brazal, A. (2026). Learning Module: Its Effects on Learning Competencies in Edukasyon sa Pagpapakatao 2. *International Journal of Multidisciplinary: Applied Business and Education Research*. 7(4), 1801 – 1829. doi: 10.11594/ijmaber.07.04.26

Edukasyon sa Pagpapakatao (EsP) are vital for making our learners ready to become responsible and humane citizen of the world.

Students across the globe are grappling with urgent challenges such as climate change, social inequality and how technology might be impacting human connection. These challenges require not just being aware of these but acting and making ethical decision along with the references that revolve around the essential parts of the content modules of Edukasyon sa Pagpapakatao (EsP) 2. Providing children with a thorough understanding of the challenges that face this planet aims to create a generation of social actors prepared to contribute sustainable solutions. As we are already in the digital age, certain problems need to highlight advance Edukasyon sa Pagpapakatao (EsP) competency development. One of these is the growing incidences of hate speech and discrimination. Competencies in Edukasyon sa Pagpapakatao (EsP) can teach students to respect and appreciate diversity, and to speak out against injustices.

Meanwhile, Filipino pupils are going through issues that arise from the country's multiculturalism, social structure, or economy. Poverty, accessibility of quality education, cultural value system/tradition are just some of the matters Filipinos confront day by day. The Edukasyon sa Pagpapakatao (EsP) 2 learning modules provide a favourable opportunity for students to enhance their understanding of their social standing. The learning module focuses on the use of picture story and poem reading relating to social responsibility in connection to actions and activities that demonstrate care and concern for members of the school and community. Such poem is a great instance to encourage students in keeping the respect and help them to be aware that everyone add contribution in maintaining order, in a sense that can be connected to their legacy to the society. Moreover, another picture story focuses on helping a person with disability, which is followed by a question, "How do you think the character in the story felt when someone helped him? How do you feel when you help someone?", given for the students to ponder and answer. The said activities are indeed a great aid for seven-year-old students to have a

fully grasp of the essence of practicing empathy and respect for differences.

Furthermore, according to Alovera et al. (2020), instructional materials motivate students to learn more about the concepts by providing challenging activities that require them to move to the next content. They said that teachers and students perceived the effectiveness of contextualized concepts and activities as a tool for teaching and learning. Localized and contextualized materials should be reproduced and immediately distributed, upon the implementation of the K to 12 Curriculum.

This is aligned with the Department of Education Order No. 018 series 2020 or the Policy Guidelines for the Provision of the Learning Resources in the Implementation of the Basic Education Learning Continuity Plan which states that:

DepEd is mandated to protect and promote the right of access to quality basic education. Accordingly, it is legally tasked to provide a learner-centered, inclusive, responsive, relevant and contextualized K to 12 basic education.

It sets forth Flexible Learning Options (FLOs), which includes alternative delivery modes and its corresponding learning resources that are responsive to the need, context, circumstances, and diversity of learners. The learning resources serve as learning toolkits for learners where procedures, instructions, and other details are provided to aid the learning process.

Competencies in Edukasyon sa Pagpapakatao (EsP) as one of the core subjects in the K-12 curriculum teaches the pupils about Filipino values, ethics, culture, and identity. Edukasyon sa Pagpapakatao (EsP) curriculum aimed to develop learners' moral and ethical values that guide them in their everyday lives. Grade 2 was an important stage in a child's education as it served as the foundation of their academic journey. In Grade 2 Edukasyon sa Pagpapakatao (EsP) subject, pupils were expected to acquire several skills and competencies pertaining to Filipino values, ethics, and citizenship. One of the most important skills was the ability to identify and express emotions appropriately.

In Edukasyon sa Pagpapakatao (EsP) 2 – Quarter 2, each competency is carefully tied to

specific activities in the learning module, creating a smooth and meaningful journey for the learners. At the beginning of the quarter, children are guided to show friendliness and trust toward neighbors, relatives, guests, new acquaintances, and even people from other places. This is practiced in Suriin Natin #1–5, where they encounter situations that encourage them to build trust and kindness in their relationships. From there, the lessons deepen as learners are asked in Subukin Natin A #1–5 to share about themselves in relation to others' circumstances—whether differences in livelihood, origin, or disability. This activity helps them develop empathy and respect for diversity.

In Subukin Natin B #1-5, using a polite language is the core principle when speaking between both peers and elders. The guided dialogues are helpful for learners to be exposed on how respect is manifested in daily communication.

The module then returns to the theme of generosity in Suriin Natin #1–5, where learners are encouraged to share possessions, talents, skills, or anything valuable with others. This reinforces the idea that giving is an important part of friendship and community. In Isagawa Natin #1–5, learners reflect on the principle that doing good for others is also an act of loving oneself. They are asked to explain and demonstrate how kindness strengthens both personal character and relationships. The journey continues with Subukin Natin C #1–5, where learners identify actions that show care for members of the school and community. In this sense, students are extra mindful of their daily responsibilities

Lastly, the poem entitled "Ang mga Numumuno sa Paaralan", as designated in Pagyamanin Natin #1-5, encourages students to show care for school leaders and the people in the community, but in various ways. Here, the poem really points out how leadership and the way of being compassionate matters.

Now, looking at the whole Quarter 2 competencies, they are not considered as vague ideas, but they are directly connected in the module's activities. Each section of Suriin Natin, Subukin Natin, Isagawa Natin, and Pagyamanin Natin, provides a significant

opportunity for learners to make sure that values of friendliness, respect, empathy, generosity, kindness, and care for the community are expressed in an interconnected and progressive way.

This study was in pursuit of the Department of Education's mission and vision and the goal of ADVANCE NAGA 2022-2025, ensuring improved learning outcomes for learners in the Naga City Division Enclosure no. 1 states that:

"DepEd's mission is to protect and promote the right of every Filipino to quality, equitable, culture-based, and complete basic education where: teachers should facilitate learning and constantly nurture the learners."

"DepEd vision is to dream of every Filipino who passionately loves their country, and whose competencies and values enable them to realize their full potential and contribute meaningfully to building the nation."

In teaching and learning, learning modules are a versatile and effective way to deliver education and training, adaptable to a wide range of subjects and learning environments. Learning modules are structured units of educational content designed to teach a specific topic or set of skills. They can be delivered in different platforms, via online, printed materials, or in-person instruction, and such were most of a time a component of a wider course or training program.

In Chen (2019), the study explored the impact of multimedia learning modules on second-grade students' mathematical skill. The results showed that students using these modules exhibited improvements in mathematical abilities and showed better conceptual understanding in mathematics compared with students receiving traditional classroom instructions. Similarly, the study by Martinez (2016) sought to determine the use of mobile learning modules to boost Grade 2 students' language abilities. The experimental study design pretest and post-test measurement used two groups, one received the mobile learning module treatment, whereas the second group had no mobile learning module and continued with standard classroom teaching methods. According to the findings, students who participated in the mobile learning module activity showed notable growth in language proficiency, such as

vocabulary, reading ability and writing fluency. Furthermore, the results showed that the experimental group performed significantly better on language skills and vocabulary acquisition than the control group.

Lee (2018) also did a study to find out how differentiated learning modules affected Grade 2 students' understanding of science. The results showed that students who used the differentiated learning modules had a better understanding of science and were able to remember what they learned better than the students in the control group. Additionally, Faye and Gueye (2022) conducted research which aimed to investigate the influence of game-based learning modules on social studies learning in Grade 2 learners using game-based modules and the other receiving traditional social studies instruction. The results revealed that students who engaged with game-based learning modules showed increased motivation, enjoyment, and retention of social studies content compared to those in the control group.

In another study Benito et al. (2022) used a self-learning module which was effective in improving the academic performance of Grade 3 learners in Mathematics. They also proved that using a self-learning module made the learners active, interactive, and independent learners during the learning. They also mentioned that the modular approach to teaching Basic Mathematics was an effective method for improving Mathematics learning.

In the study conducted by Cobanbana and Pañaresb (2023) which aimed to develop Mathematics Learning Strategy Module, result showed that the module has met the validity criteria of 3.4, practical criteria of 82%, and it also has fulfilled the criteria of effectiveness. The positive feedback from participants indicated that the module significantly enhanced their understanding and engagement with mathematical concepts.

Moreover, Benito et al. (2022) investigated the effectiveness of Self-Learning Module in Teaching Mathematics. They found out that the Self-Learning Module helped the learners in this situation, they were able to answer effectively by applying what they learned based on their reading. The learners could remember specific subject matters, receive tutoring, track

their progress toward their goals, comprehend how their knowledge connects to the subject matter in a larger context, and earn badges they had mastered. The learners followed the instructions and processes in the modules. In most cases, modularization allows learners to learn at their own pace. Furthermore, they said that students performed higher in the Self-Learning Modules as they cited the study entitled Study on the Efficacy of Learning in the Usage of Learning Modules versus Students Learning Outcomes. Researchers found that the learners who utilized modules had better average Mathematical learning outcomes than learners who did not use the modules (Rahmawati, Lestari, & Umam 2019). This indicated that structured learning aids can greatly improve students' comprehension and retention of intricate concepts. The modules' interactive nature may also be a reason for the better performance, as it lets student work at their own pace. In the end, these results show how important it is to include self-directed learning resources in school programs to help students do better in school.

In the study by Homillano (2023) that looked at the link between self-confidence and the ability to solve math problems in the context of creative problem-solving and independent learning, it showed that self-confidence had a positive effect on students' performance. The researchers emphasized that the introduction of Self-Learning Modules substantially mitigated the instructional load on educators, allowing students to interact with the content at their own pace. This method led to more personalized and flexible education that met each student's needs.

Also, the study of Rahmawati et al. (2019) assessed the impact of using learning modules on the academic performance of students at MTs Hasanuddin Teluk Betung. Differences in the average mathematics scores between students who utilized the modules and those who did not were investigated. Results indicated that students who used the modules had higher average mathematics learning outcomes compared to those who did not.

On the other hand, Khalil et al. (2021) found that the implementation of self-learning modules led to an improvement in students'

achievement levels in Economics. This indicates that self-learning modules can be an effective tool for enhancing academic outcomes in subjects like Economics. Furthermore, the adoption of such educational strategies may also foster greater student independence and engagement in the learning process. Additionally, Pakyo et al. (2021) found that self-learning modules are an effective method for teaching students, particularly in the context of Grade 7 MAPEH at Mountain Province General Comprehensive High School. Their findings stressed how important it is to change how someone teach to meet the needs of different students. Furthermore, Padmapriya (2015) found that students who learned in a modular way did better on average than those who learned with activity-based methods. The result of such study showed that self-learning modules could help high school students do better in biology. Also, it is important for school leaders to make sure that teachers get sufficient training to be able to make these modular packages. The result of such, make sure that teachers are better able to help students learn.

Gallardo (2021) later expressed that making a self-learning module is an important education objective that is beneficial to help meet the needs and resources of students and ensure that they get a good education. Gallardo opined that this method is flexible and easy to use, so it works for people with different learning styles and abilities. Self-learning modules also help teachers by supplying them more time to offer students the attention and help they deserve. Incorporating self-learning modules to the curriculum can also help students become more independent, self-regulated, and motivated, which can lead to better academic performance and a more interesting school experience. Moreover, Anderson (2016) revealed that using intervention material had assisted the learners in Biology to improve their performance in understanding the concepts of photosynthesis, respiration, Mendelian, and non-Mendelian genetics. His use of computer-based materials and exercises on concept mapping allowed these learners to improve their performance significantly in answering and understanding genetic problems and concepts. As a result, the learners developed a deeper

understanding and appreciation of the complex concepts in Biology, leading to improved academic achievement and increased student confidence. Thus, Cubillas (2018), made intervention materials where least- mastered competencies of students are provided. These materials were evaluated as Very Satisfactory by experts. Hence, the SIMs were considered effective teaching aids that can help students achieve mastery of English competencies at the elementary level.

In the light of the studies conducted, the Department of Education (DepEd) had employed strategic solutions to combat the deteriorating academic performance of students in any core subjects in the K-12 Curriculum. As stipulated in DepEd Order no. 39 series of 2012, regarding the use of intervention materials to address the gaps in the teaching and learning process. The use of Strategic Intervention Materials is needed to bridge the learning gaps among K-12 learners in mastering the least- mastered skills and competencies. These can be used through remediation to increase their level of academic achievement. It is highly encouraged that teachers and educators should make more appropriate learning materials such as worksheets, self-learning modules, activity sheets, instructional guides, and more. Hence, Sirisuthi et al. (2021) aimed to evaluate the effectiveness of a newly developed learning module. The findings revealed that the module's efficiency exceeded the target criterion. Additionally, the module demonstrated high quality, appropriateness, congruence, feasibility, and utility. Furthermore, the absence of significant differences between pretest and post-test scores after a two-week period suggested effective learning retention. Overall, students reported a high level of satisfaction with the learning module.

Meanwhile, Houghton (2023) discussed that Learning Modules program can be incorporated elements in Problem-Based Learning (PBL), blended learning, and flip classroom (FC). Such program clearly shows how blended learning works, but how well it fits with PBL and FC depends a lot on how well the tutorials go. For the program to work, the teachers need to be able to lead meaningful discussions and group activities that will boost the students'

learning. The Learning Modules can meet the goals of PBL and FC by putting a higher value on active participation. This makes the learning environment immersive.

Roque (2022) found that self-learning modules now offers complete learning packages, which include pretests, discussions, and evaluation questions. This modular approach helps ensure that all students, no matter their situation, can access structure learning. Public school teachers in the Philippines have adopted this method showing how important they are in maintaining educational quality during the pandemic. Their flexibility and dedication support student learning and help create a strong educational environment in difficult times. As teachers find new ways to engage students, ongoing professional development remains very important.

Serrano et al. (2022) found that using a modular learning approach had a positive impact on the academic performance of secondary school students in Zambales, Philippines. Most students achieved “Satisfactory” remarks because of this method. However, the study also showed that the connection between students’ success and how well the modular approach was implemented was only minimal. This suggests that while modular learning can help improve academic achievement, there are likely other factors which importantly affects how students perform.

In the context of Edukasyon sa Pagpapakatao (EsP) learning competencies play a crucial role in shaping the values and character of students in the Philippines. Such competencies focus on helping students develop a strong sense of moral responsibility, respect, and discipline. Through Edukasyon sa Pagpapakatao (EsP), students are encouraged to practice empathy, make responsible decisions, and build positive relationships with others. These skills guide them in facing real-life challenges and contribute to their overall growth as responsible members of society.

In the research of Lynn et al. (2022) assessing the students’ mastery of various Edukasyon sa Pagpapakatao (EsP) competencies, they strongly emphasized the importance of fostering strong values among students, which is largely influenced by their families,

schools, and communities. Thus, the challenge of instilling these values remains, particularly as certain competencies in Edukasyon sa Pagpapakatao (EsP) are still inadequately mastered and require further attention. In the Glossary of Education Reform (2015), it mentioned that learning competencies are the capability to use or apply a related set of knowledge, abilities, and skills required to successfully perform “critical work functions” or tasks. These serve as the basis of skill standards for specific levels of knowledge, abilities, and skills. It is well a potential measurement criterion in assessing competency attainment. Competency-based learning refers to the system of instruction, grading, assessment, and academic reporting that is based on students demonstrating that have learned the skills and knowledge they are expected to know as they move up through their education. Moreover, Heick (2016) emphasized that a fundamental aspect of competency-based learning is its emphasis on achieving mastery. In this approach, students are encouraged to persist in them learning until they can adequately demonstrate their understanding and proficiency in specific competencies, which represent the desired learning outcomes.

According to Henri et al. (2017), competency-based learning was focused on the student’s ability to showcase a range of suitable learning outcomes. This educational framework puts students at the core, letting them progress through lessons at their own pace and according to their individual needs. When students demonstrate what they know and can do, they’re able to move forward, boosting their motivation and keeps them engaged. This approach also encourages a growth mindset, helping students see challenges as opportunities to learn and improve, not as setbacks.

Tileston (2023) describes mastery learning as a teaching method tailored to students’ levels of understanding. Building on Benjain Bloom’s classic model, teachers first introduce a specific topic, then use assessments to check for understanding. If some students don’t master the content right away, they’re given targeted support and extra resources, so everyone gets the help they need to succeed. This process encourages students to take charge of their

learning, which allows them to revisit topics until they truly understand. As a result, classrooms become more responsive to each student's need. Similarly, Colby (2017) presents Competency-Based Education (CBE) as a transformative approach, allowing students to learn anytime and anywhere. This model moves away from the traditional time-based system and deeply focuses on what students know and can do. By adopting CBE, schools can offer personalized learning paths that let students build essential skills at their own pace.

Abouchacra (2021) highlights that learning competencies are more than just lists of skills—they describe how knowledge, behaviours, and abilities can be applied in real life situations. Developing these competencies helps students to adapt to the demands of today's fast-changing job market and prepare them for a variety of careers. This contributes to Quarles (2020) statements that competencies are developed throughout the learning process and combine understanding, skills, and abilities. These competencies are built across different courses and are assessed at various points to ensure students are making progress. Focusing on both specific and transferable skills gives students the flexibility they need for lifelong success.

Moreover, Kennedy et al. (2019) point out that the definition of competency can vary from country to country. For example, in the UK, competencies are seen as standards for specific jobs, while in the USA, they're more about the traits that help people excel. In Germany, the concept is even broader, focusing on preparing people to perform well in diverse situations. Understanding this difference is important for creating educational programs that work across borders.

DeLorenzo et al. (2024) argued that traditional education isn't meeting the needs of modern students and advocate for a shift to competency-based education. Their book offers practical guidance for school leaders who want to implement this change, emphasizing the importance of student-centered learning. This shift from simply covering material to helping students truly master content leads to greater engagement and empowers students to take ownership of their education. The study of Gabriel et al. (2022) stressed the importance of

making learning competencies relevant to students' lives. When lessons are meaningful and relatable, students are more likely to be engaged and successful. Teachers need to adapt their methods to connect with students' interest for better results. Relative to this, Tabuena (2020) developed a comprehensive test called "Philippine Music Achievement Test" which aims to address the K to 12 learning competencies in the scope of music education. The said test comprised 80 items, including both Low Order Thinking Skills (LOTS) and High Order Thinking Skills (HOTS). The results shows that the test was aligned with educational standard as well as designed to engage to students in cognitive processes conforming with Bloom's taxonomy.

Inquiry-based teaching methods motivated Letina (2020) to explore hope this affect the development of students' learning-to-learn competencies in primary science. Results showed that learners engaged in inquiry-based activities demonstrated stronger competencies than those taught with traditional strategies. Also, Yuningsih et al. (2020) explored the effectiveness of the Problem-Based Learning (PBL) model in enhancing biology learning competencies among junior high school students. It also revealed that implementing a PBL framework can significantly improve student competencies in the biology subject area. Additionally, Remorosa et al. (2023) examined the impact of micro-lectures combined with an interactive educational platform on mathematics learning competencies. Just like previous studies, it demonstrated that blended approach is effective in enhancing students' understanding of differentiation rules, particularly in an asynchronous online learning context. The integration of micro-lectures with interactive tools facilitates a more engaging learning experience, thus improving academic achievement. Calot (2020) looked at how the K to 12 curriculum was applied in secondary schools in Northern Samar, which primarily focuses on English learning. The study found that both teachers and students were highly dedicated to the learning process, which led to students successfully meeting the English competency standards set by the curriculum.

The division of learning competencies and its impact on students' performance in Grade 4 Science were examined by Morada et al. (2024). They discovered that educators and school administrators know how to deconstruct these skills to aid in students' learning. The application of the Most Essential Learning Competencies (MELCs) to sixth-grade pupils in the Philippine public schools was also studied by Zalun (2023). The findings demonstrated a favourable connection between the use of MELCs and higher student accomplishment, highlighting the importance of these competencies in education sector. Tacitten et al. (2021) explained that a successful Competency-Based Education (CBE) system needs clearly defined competencies, reliable assessments to check mastery, strong support systems, and structures that encourage students to learn at their own pace. Haryono et al. (2017) considered how 21st-century skills—like critical thinking, creativity, and adaptability—are more important than ever because of globalization and today's knowledge-driven society. They emphasized that teachers should help students develop these skills, and that teacher training programs play a key role in preparing educators who are passionate about engaging students and delivering quality teaching.

Since the present study is about development of instructional material, its validity is an important aspect to undertake. A study that upholds validity can be trusted and considered meaningful in addressing its research questions. To achieve this, researchers must follow proper standards and practices that align with accepted methods of inquiry.

Studies that investigated the validity of instructional materials made were done by Abdullah (2020), Maliga (2018), Garin (2017), Tan-Espinar (2016), Cortas (2019), Patino (2018), Columbano (2019), Rogayan et al. (2023), Morelos (2021), Tety (2016) and Middleton et al. (2016). They emphasized the importance of the acceptability and validity of the learning materials along content, language, presentation, and evaluation and other criteria like face, construct and content validity considered as significant and critical to the

developers, curriculum planners, teachers, and learners.

Discussions about validity of instructional materials were also discussed. Construct validity is empirically explored by means of Rasch and is central to any quality assessment. Whenever a certain attribute must be measured, construct validity is involved, as it is the most applicable form of validity to assess measurements (Creswell, 2015). Construct validity is concerned with the efficacy of a test to gauge learner knowledge about the relevant topics of concern. The purpose of the assessment for construct validity is to reach its goal (Messick, 2014). According to Heath et al. (2024), validity in research is vital in conducting accurate studies or investigations that yield dependable results. Validity refers to the extent to which research accurately measures what it intends to measure, thereby ensuring the credibility and relevance of the findings.

Moreover, Smith (2015), concepts such as reliability, validity and generalizability typically associated with quantitative research. This ultimately contributes to the advancement of qualitative research, distinct from quantitative approaches, while also fostering a more collaborative and nuanced approach to knowledge production. Additionally, Elias et al. (2023), stated that validity is how researchers talk about the extent that results represent reality. The concept of validity and reliability ensures the difference between "good" and "bad" research outcomes. A commitment to testing and increasing the validity and the reliability of research results enhances research quality.

Nevertheless, the process of validation in educational instruments is crucial as emphasized by Sireci (2022). The effective validation ensures an accurate reflection of the participants' responses regarding to their understanding and abilities, making it vital for the credibility of assessing educational matters. Tety (2016) underscores the importance of instructional and intervention material in the teaching-learning process. Tety argues that materials are crucial for attaining successful educational outcomes insofar as they improve instructional delivery and blend in smoothly with the curriculum. Teachers can create an

atmosphere that encourages active learning and knowledge retention by offering well-designed resources. In this sense, creating strong teaching resources is not only advantageous but also essential for a fruitful teaching-learning relationship.

On a local level, researching Learning Modules and Competencies in Edukasyon sa Pagpapakatao (EsP) 2 is important for number of reasons. Knowing how effective these modules are can improve education and help students develop better character, it is vital to assess how effectively the current materials meet the needs of students and the ideals they should uphold as the educational landscape changes. Being an ultimate benefactor, the learners would benefit greatly groom the current work's objective. Importantly, it will make teaching the subject easier for teachers, which will improve the competencies' growth and mastering. Additionally, parents would be encouraged to assist their kids in completing the Learning Module's tasks. The improvement of the teaching-learning process would also be supported by curriculum developers and school administrators, and other researchers might be inspired to conduct comparable studies and assess the efficacy of using learning modules in the subjects they teach. Lastly, research can shed light on instructional techniques that promote student engagement and learning outcomes. Thus, this investigation can also enhance decisions, ensuring that educational reforms are evidenced-based and relevant to the changing demands of society. Hence, this study was undertaken.

## **Methods**

This section describes the research design and methodology that was used to carry out this study. It also describes the study's participants, the research design, instrumentation, data collection process, and statistical process for data analysis.

### **Research Design**

This study used descriptive-comparative and development methods of research. The descriptive was utilized to determine the learning competencies of Grade 2 pupils in Edukasyon sa Pagpapakatao (EsP) along the K-12

Curriculum Guide (CG) Codes such as EsP2P-lla-b-6, EsP2P-llc-7, EsP2P-lld-8, EsP2P-lle-10, EsP2P-llf-11, EsP2P-llg-12, and EsP2P-llh-1-13 (Dexter, Talbert and Pense, nd). The same method was used in determining the design of the learning module (LM) in terms of Alamin Natin, Subukin Natin, Tuklasin Natin, Suriin Natin, Pagyamanin Natin, Isapuso Natin, Isagawa Natin, and Tayahin Natin. Descriptive method was also used in identifying the curricular validity of the learning module (LM) along face, content, and construct. Likewise, this method was also used to identify the level of the learning competencies in Edukasyon sa Pagpapakatao (EsP) after the conduct of the learning module among the Grade 2 pupils (McCombes, 2022).

Furthermore, the comparative-method was utilized in determining the significant difference between the proficiency level of Grade 2 pupils in Edukasyon sa Pagpapakatao (EsP) before and after the conduct of the learning module (Irunifard and Roudsari, 2022). The Cohen's *d* was used in determining the effectiveness of the developed module in Edukasyon sa Pagpapakatao (EsP).

### **Research Instruments**

To collect important data for this study, research instruments like researcher-made test, and evaluation-checklist were used.

Researcher-Made Test. This data-gathering tool was used to determine the proficiency level of Grade 2 pupils in Edukasyon sa Pagpapakatao (EsP). This was a forty (40)-item multiple-choice test created by a Grade 2 teacher aligned with the K-2 curriculum guide with its corresponding Table of Specification as shown in Appendix C. The Table of Specification allowed the researcher to construct a test which focused on the key areas and gave proof that the test had content validity (Musah et al., 2022). The researcher-made test was composed of 40 test items with each learning competencies. Validators also checked the RMT. To determine whether the items included in the test were very difficult and overly discriminating, a dry run was conducted to learners who were not respondents of the study. Each item was checked by experts (Master Teachers).

Item analysis as shown in Appendix D was done to ensure that the test items were good. Test items which registered to be very difficult or very easy were revised. The reliability coefficient and validity index of the test was also computed. The reliability and validity coefficient of the researcher-made test is high with the variance of 0.51 as shown in Appendix E.

**Evaluation Checklist.** This was a researcher-made questionnaire with four (4) indicators for each question that was used to evaluate the design of the developed Learning Module (LM) (Istyarini et al. 2021). This was also used to determine the validation of the said material. Further, the evaluation-checklist determined the validity with three components such as face, content, and construct. For assessing the design and validity of the learning modules (LM), a four-point Likert scale was employed. Respondents rated items on a scale where 4 denoted Highly Valid, 3 signified Valid, 2 indicated Less Valid, and 1 represented Least Valid. This scale made it easier to evaluate the learning module (LM) in a nuanced way and offered insightful information about its effectiveness and design. The evaluation-checklist is like a researcher-made questionnaire since the items it contained aimed to collect relevant, comprehensive, and aligned with the variables of the study (Creswell and Creswell, 2018).

### ***Procedures of Investigation***

This part presented the systemic process undertaken to realize the goal of the study. Each phase was carefully structured such that the objectives it wanted to undertake would provide accurate results. Nevertheless, the research was conducted after permission to conduct the study was given by the Public Schools District Supervisor of Naga North District 1. The permit is shown in Appendix A.

For research objectives 1 and 4, data were gathered using the researcher-made test which was based on a Table of Specification. Items included were subjected to a dry run after which item analysis was made before it was administered to the respondents as pretest and post-test. Results were subjected to appropriate statistical tools like Mean, Standard deviation and Proficiency Level.

For research objectives 2 and 3, an evaluation-checklist was used. A four-point Likert scale was used. The tool contained items pertaining to the design and curricular validity of the Learning Module developed by the researcher. Responses of the evaluators were treated using Weighted Mean. For research questions 5 and 6, the data obtained in answer to Research objectives 1 and 4 were used. Hence, the significant difference between the pretest and post-test was treated using t-test for dependent samples. Ultimately, determining the effectiveness of the learning module was ascertained through the Cohen's d.

### ***Data Analysis Techniques***

Data processing was done using both descriptive and inferential statistics. Data analysis was done using online statistical software.

**Mean.** This was used to treat the data on the proficiency of the learners before and after using the learning module in Edukasyon sa Pagpapakatao (EsP) 2. Individual scores of the learners were recorded; the sum was determined and was divided by the number of pupils. This was appropriate since the result would be aligned to the description of proficiency scale used based on DepEd Order No. 8, s. 2015 (Dagoc and Oco, 2024).

**Standard Deviation.** This was used to determine the characteristics of the dispersion or variability of the learners' score in the pretest and posttest. It presents the homogeneity or heterogeneity of their scores (Dagoc and Oco, 2024).

**Mean Percentage Scores (MPS).** The MPS provides a clear, quantitative snapshot of how a group of students performs on an assessment, representing the average percentage of items answered correctly. This helps teachers and administrators understand the general trend of student achievement. This is computed by determining the total scores of the learners then divide it by the possible total scores (considering that all the learners answered all the items correctly) then multiply it by 100.

**Proficiency Level.** This was used to show the overall description of the learners' performance in the pretest and post-test. This was determined by using the mean dividing it with the number of items and multiplying it by 100.

**Weighted Mean.** This was used in treating the design and curricular validity of the learning module developed for Edukasyon sa Pagpapakatao (EsP) 2 based on a four-point Likert scale. This was found appropriate since it accounted for the relative description from each item while providing a single value that represented the overall level of each indicator and variable (Hair et al., 2019).

**t-test for dependent samples.** This was used to measure the significant difference between the means obtained by the learners in the pretest and post-test (Talika et al., 2024).

**Cohen's d.** This was used to measure the effectiveness of the learning module developed for Edukasyon sa Pagpapakatao (EsP) 2. The standard deviation and number of samples in the pretest and post-test were used. (Goulet-Pelleter & Cousineau, 2018).

## Result and Discussion

This section presents the data gathered on the effectiveness of the Learning Module (LM). The arrangement of the presentation follows the order and sequence of the issues and problems undertaking in this study. Each presentation is supported with interpretations that explain the meaning of the figures, allowing the readers to connect the results with the study's purpose. The gathered data is presented through tables, and matrices to make it comprehensible to the readers.

## Status of the Learning Competencies of the Grade 2

### Pupils in Edukasyon sa Pagpapakatao (EsP)

The status of learning competencies was determined through a pretest administered to Grade 2 pupils. It consisted of 40 items taken by 30 pupils. The minimum level of proficiency required was set at 24 correct responses. Results shown in Table 1 reflect that 28 out of 30 pupils achieved the minimum level of proficiency in the test, with the highest score of 38 and the lowest score of 15. The computed mean score was 29.67, equivalent to a mean percentage score (MPS) of 74.33 (see Appendix F). Overall, the proficiency level of the group was determined to be 74.18, which is slightly below the expected percentage of mastery. These results provide an overview of the learners' initial grasp of the learning competencies before the intervention was used.

The data obtained reveals several insights into pupil performance. The mean score of 29.67 equivalent to a PL of 74.18 is below the mastery level of 75%. Such result implies that majority of the students have not yet reached the standard competency level. The standard deviation of 5.58 implies that the range of scores from 15 to 38 shows different levels in performance. This indicates that some students demonstrated near competence and others struggled. The average learners only present slightly more than half of the total learning competencies examined, as validated by the mean percentage score (MPS) of 74.33. Despite these data, the highest score of 38 indicated that the abilities can be attained with the proper assistance and intervention.

Table 1a. Quarter 2 Pretest Results for Edukasyon sa Pagpapakatao (EsP) 2

Test	No. of Test Takers	No. of Items	Highest Score	Lowest Score	Mean	SD	MPS	PL
Pretest	30	40	38	15	29.67	5.58	74.33	74.18

Note: Beginning Level (B) = 0.00 to 24.9; Developing (D) = 25.0 to 49.9; Approaching Proficiency (AP) = 50 to 74.9; Proficient (P) = 75 to 100.

The above-mentioned data, shows that few pupils are approaching mastery and there are many still face challenges in obtaining the

minimum required proficiency. A 74.18 proficiency level emphasizes that the group is at a "Approaching Proficiency", which describes

that foundational knowledge exists but remains to be incomplete. A remedial instruction is advisable for pupils scoring near the minimum level, while those with higher scores may benefit from enrichment activities. The gap between the highest and lowest scores indicates that learning disparities could be influenced by distinction in study habits, readiness, learning support at home, or prior knowledge.

Such results show the necessity of targeted interventions to enhance the level of proficiency of Grade 2 students. In this way, teachers are urged to strengthen scaffolding techniques, customized instruction approach, and remedial procedures to close comprehension gaps between the students. Also, the said data shows the importance of offering ongoing assessments to monitor and evaluate the students' progress.

Integrating these results to a broader goal of mastering competencies, proactive assessment of learning problems and supplying relevant measures are vital for students to develop necessary fundamental skills for higher grade levels. Lynn et al. (2022) assessed the levels of proficiency of Grade 6 students, specifically in Edukasyon sa Pagpapakatao (EsP) curriculum. The said study aimed to better assess the students' grasp of various Edukasyon sa Pagpapakatao (EsP) competencies. The authors emphasized the importance of fostering strong values among students, which is largely influenced by their families, schools, and communities. They recommended that teachers, school administrators, and officials from the Department of Education collaborate to promote value formation in all Filipino students. Recognizing the school as a second home, they stressed its crucial role in helping students effectively develop essential skills. However, the challenge of instilling these values remains, particularly as certain competencies in Edukasyon sa Pagpapakatao (EsP) are still inadequately mastered and require further attention.

Meanwhile, Glossary of Education Reform (2015) mentioned that learning competencies are the capability to use or apply a related set of knowledge, abilities, and skills required to successfully perform "critical work functions" or tasks. These serve as the basis of skill standards for specific levels of knowledge, abilities,

and skills. It is well a potential measurement criterion in assessing competency attainment. Competency-based learning refers to the system of instruction, grading, assessment, and academic reporting that is based on students demonstrating that have learned the skills and knowledge they are expected to know as they move up through their education.

Likewise, Heick (2016) emphasized that a fundamental aspect of competency-based learning is its emphasis on achieving mastery. In this approach, students are encouraged to persist in their learning until they can adequately demonstrate their understanding and proficiency in specific competencies, which represent the desired learning outcomes. This commitment to mastery not only enhances students' confidence but also ensures they have a deep, well-rounded understanding of the material before advancing. As a result, competency-based learning and the mastery principle work well together to provide a customized learning environment.

The findings were also supported by Bloom's Mastery Learning Theory (Hussain, 2016). He stressed that all learners could learn if they are provided with the appropriate learning conditions, whereby students are not advanced to a subsequent learning objective until they demonstrate proficiency with the current one.

### **The Design of the Learning Module (LM)**

The fundamental purpose of designing and writing this Learning Module (LM) was to respond the need to enhance the learning competencies in Edukasyon sa Pagpapakatao (EsP) among Grade 2 pupils along K-12 curriculum content standards in Quarter 2. The main goal of this intervention program is to enhance the proficiency level in Edukasyon sa Pagpapakatao (EsP) among the Grade 2 pupils. By focusing on the identified gaps, the module aims to support learners in achieving the expected performance standards, thereby contributing to their holistic development. In addition, the learning module serves as a supplemental tool that helps teachers reinforce instruction and provide interventions tailored to the needs of their pupils.

One strategic approach to engage modern learned and prepare them for success in today's evolving world is by way of integrating 21<sup>st</sup> century learning skills into the content and design of the self-made learning module. The said module equips students with the essential capabilities necessary to thrive in the modern world which emphasizes skills like critical thinking, collaboration, communication, digital literacy, and creativity. Such integration guarantees that learning goes beyond memorizing facts, in a sense that allows students to apply knowledge in real-life situations and address problems effectively. Moreover, it fosters active participation, encouraging learners to work with peers, express ideas, and explore novel solutions. Finally, the integration of these skills strengthens the importance of the module and equips students to address the evolving requirements of dynamic worlds.

The Learning Module was created with eight (8) key elements/parts. These elements align with the established criteria from the Department of Education for crafting Strategic Intervention Materials and Self-Made Learning Modules. The design's quality was reviewed through a Likert Scale survey focusing on its goals, materials, learning activities, and testing methods. The validation process confirmed that the module was effective, relevant, and suitable for the students; by applying these principles we develop a tool that is both structured and adaptable giving teachers a reliable resource and helping pupils master required skills. Moreover, the breakdown of Learning Module's elements and design are the following:

Alamin Natin (Let's Discover). The students are guided to recall stories, both fiction and non-fiction, that teach moral lessons focusing on instilling values that promote good character. Literature is essentially used as a primary tool for this character development curriculum presenting examples of ethical principles, the difference between right and wrong, and the consequences of persons' action. In essence, this approach depends on teaching values using literature as a main way to shape students' character.

Subukin Natin (Let's Try It). A preliminary assessment test students' knowledge and skills on upcoming competencies using questions structured by the blooms taxonomy levels from remembering to creating. This preliminary assessment effectively checks what students already know which helps guide teaching and improve learning.

Tuklasin Natin (Let's Discover). Using a discovery approach, the teacher presented the poem "Pagiging Magalang: Bigyang Halaga." By exploring themes of respect and kindness through this text, learners engage in foundational activities that moved them toward full mastery of the required learning competencies. This reading activity not only helped them to appreciate the beauty of language and poetry but also set the stage for subsequent learning activities. This reading task does more than just show students the beauty of poetry, it also prepares them for the lessons that follow. After analysing the poem, students engaged in targeted activities, including group discussion, role-playing, and creative exercise to deepen their understanding of kindness and respect.

Suriin Natin (Let's Explore). This section leverages 21<sup>st</sup>-century skills by challenging students to apply critical thinking to their work. The questions were formulated through Higher Order Thinking Skills (HOTS). Appropriate pictures were included to guide the pupils in answering the learning activities. This approach encourages deeper understanding and engagement. Additionally, it fosters collaboration among students as they discuss their thoughts and ideas.

Pagyamanin Natin (Let's Enhance It). In this part, additional enrichment activities for the learners were provided. A poem was used to enrich their understanding of the learning competencies they need to master. The poem was used as a springboard for achieving mastery in the level of learning competencies. The poem entitled, 'Ang mga Namumuno sa Paaralan' was originally authored by the researcher. The importance of showing respect to school leaders and within the community was emphasized.

Isapuso Natin (Let's Apply it). In this part, the importance of application was emphasized. Lessons without application are never truly learned. The importance of fostering change was instilled in the hearts of the pupils. The learner learning activity was more on a change in the heart would result in a change in action. Change in action leads to improvement and mastery.

Isagawa Natin (Let's Do It). In this part, the importance of learning to-do was highlighted. The learners did some performance tasks about the lessons and learning activities in her module. Collaboration is evident in this part. Lesson learned from this module would be put into action, enhancing the learning competencies and building the character of the pupils as expected outcomes.

Tayahin Natin (Let's Evaluate). In this part, the researcher emphasized the importance of assessment. This helped the pupils assess their learning from the lesson. This part was crucial for levelling up the mastery of the learning competencies. The feedback provided allowed learners to identify their strengths and areas for improvement. Consequently, it fostered a deeper understanding of the subject matter.

In the instructional reading materials made by Morelos (2021), it leveraged the Schema Theory and constructivists learning principles. She found out that after its validation; it significantly helped teachers in improving students' reading comprehension skills. However, the design used in the present study was aligned to Merrill's Instructional Design Theory (Schimmizi et al., 2023). It could be gleaned from the design of the learning module that it used existing knowledge. This activated new knowledge. Such new knowledge was demonstrated, applied by the learner and integrated into his world.

### **Curricular Validity of the Developed Learning Module**

The curricular validation of the learning module (LM) was along three (3) elements: face validity, content validity, and construct va-

lidity. Tables 2a, 2b, 2c, and 2d illustrate the results. The inclusion of these tables provided a clearer picture of the strengths of the module, as well as the areas where improvements may still be introduced. Through this process, the learning module (LM) was systematically evaluated to confirm that it meets curricular standards and can effectively support the teaching and learning process.

Face. This is the extent to which a learning module appears effective and relevant for its intended purpose, based on subjective judgment. When developing educational materials, assessing face validity involves evaluating whether the content, activities, and assessments seem appropriate and useful to learners and educators alike. The learning module (LM) in Edukasyon sa Pagpapakatao (EsP) 2 clearly demonstrates its quality and ability to suit the needs of its users. When a module has strong face validity, it means both teachers and students can trust it as a dependable tool for daily learning. Table 2a breaks down these results, focusing on five key areas: how the language encourages cultural sensitivity, the clarity of the lessons to avoid confusion, how familiar the terms are to students, the quality of the illustrations, and whether the font and design are easy on the eyes. Importantly, this metric show how easy to use and pertinent the learning module (LM) is for educators and learners of Edukasyon sa Pagpapakatao (EsP) 2.

The outcome shows the weighted means ranging from 3.56 to 3.67, with a total weighted mean of 3.58. The interpretation scale shows that this falls under *Very High Validity (VHV)*, which indicates the module as generally well-structured and learner friendly. Looking closer at the data reveals that the highest-rated indicator, having a weighted mean of 3.67, was the ability of the module to promote cultural sensitivity and good values. It suggests that the learners and evaluators discover the content aligned with subject's objective of formation of character. Moreover, a weighted mean of 3.56 is the lowest-rated indicators on the use of familiar terminologies and the illustrations' appropriateness. Even though such areas were still rates as "*Very High Validity*," their slightly lower scores point to opportunities where

small teaks could really boost student engagement and understanding. On the contrary, the font style and size, earned a 3.57, showing that the learning module (LM) is quite a user-friendly and easy for students to read.

These findings show how well the learning module (LM) correlates to the cultural backgrounds and values of the students. However, the relatively lower scores for terminology and

graphics suggest that those sections need to be improved so that all students, regardless of background, can easily follow along. Essentially, even if the module is based on a strong foundation of clarity and cultural relevance, it is crucial to continuously update and improve it to remain inclusive as the demands of Edukasyon sa Pagpapakatao 2 (EsP) learners continue to evolve.

Table 2a. Face Validity of the Learning Module in Edukasyon sa Pagpapakatao (EsP) 2

Indicators	WM	Interpretation
The language promotes cultural sensitivity and good values	3.67	VHV
The use of words is arranged to prevent misinterpretation	3.67	VHV
Font Size, style, spaces, and printing of S-LML is appropriate to the intended user	3.57	VHV
The jargons and terminology used are familiar to the learner	3.56	VHV
The pictures, drawings, and illustration used matches the topics in the worksheets	3.56	VHV
Average Weighted Mean	3.58	Very Highly Valid

Note: Very Low Validity (VLV) = 1.00-1.75; Moderately Low Validity (MLV) = 1.76-2.50; Moderately High Validity (MVH) = 2.51-3.25; Very High Validity (VHV) = 3.26-4.00.

The results show that the language used in the learning module is effective in promoting cultural sensitivity and positive values among users. The emphasis on the importance of effective language used in the module shows that the developers understand the importance of inclusivity and use of positive language in educational materials. This also creates an opportunity for future modules to use effective language and positive values and embrace changes in designs that will result in improved user engagement.

As for assertions about the teaching-learning process, the module’s high face validity underscores its role as an effective tool for independent learning. Given that the learning module was validated as clear, culturally sensitive, and suitably structured, teachers may consider it as a trustworthy tool for assisting in the teaching of values education, even in the absence of supervision. However, the aspects pinpointed for improvement reiterate the value of improvement of collaboration among module writers, teachers, and learners. This keeps the

learning module flexible and adaptable teaching tool that supports both academic and values education.

Garin (2017) also validated the supplementary worktext in terms of Objective, Content and Activity. She stated that the learners appreciated the quality of worktext as supplemental learning material in terms of goal, content and activities. This shows that the worktext was properly aligned with educational objectives and served the academic requirements of the students. The positive response also indicated that the activities were interesting and useful for learning. The said study also emphasizes how crucial it is to include useful supplemental materials in the curriculum to improve students’ performance.

Additionally, this study is complemented by Cortas (2019) who emphasized the co-dependent roles of acceptability and validity in relation to the construction of learning worktexts. For the developers, curriculum planners, teachers, and learners, these factors are central to their roles in the educational scenario. When all

stakeholders grasp and cohere to these dimensions, they can synergize effort to realize the curricular aims and objectives, thereby improving the educational process and outcomes for learners.

This is backed by Merrill’s Instructional Design Theory, which is all about making sure that learning and testing feel relevant to the real world and focused on the student’s needs. (Schimizzi et al., 2023) This creates what’s called “face validity,” which is a fancy way of saying the assessment tools look and feel like they’re doing what they’re supposed to do. When instructional materials match up with a learner’s own life experiences and expectations, they seem much more useful and applicable. Because the students see these evaluations as meaningful rather than just “busy work,” they are much more likely to buy into the process and stay engaged.

Content. This depicts that learning module validly represents the purposed learning objectives. Content validity confirms that instructional materials are germane and exhaustive enough to address the necessary skills. It also guarantees that the material is aligned with the goals of the curriculum and follows the prescribed educational standards. By establishing content validity, educators can be assured that the module provides learners with meaningful and appropriate learning experiences. Table 2b presents the validity of the learning module in *Edukasyon sa Pagpapakatao (EsP) 2* in terms of its content, showing how well the module supports the mastery of the subject’s objectives.

Content Validity of the learning module (LM) in *Edukasyon sa Pagpapakatao (EsP) 2* evaluated five indicators to determine its effectiveness in addressing learners’ needs. The weighted mean values of the indicators ranged from 3.33 to 3.67, with an average weighted mean of 3.56, interpreted as *Very High Validity (VHV)*. The top-rated indicators were the adequacy of learning activities for understanding topics and the learning module’s (LM) ability to address the current educational system (WM=3.67). The lowest-rated indicator was on the learning module’s (LM) contribution to developing high-level English reading comprehension and thinking skills (WM=3.33).

The data indicates that the learning module (LM) is highly effective in providing adequate activities that support learners’ understanding of topics and align with the current educational situation. These strengths demonstrate that the learning module (LM) is responsive and relevant to learners’ needs and the context of the present curriculum. While the activities, discussions, and assessments still landed in the “*Very High Validity*” range with a 3.56, that score suggests there’s room to make them a bit more engaging and deep for the students. The lower score of 3.33 for building higher-level English comprehension shows a specific gap; even though the *learning module (LM)* is great at teaching core values, it probably needs more tasks that challenge students’ literacy and critical thinking to round things out for *Edukasyon sa Pagpapakatao (EsP) 2*.

Table 2b. Learning Module’s Content Validity in *Edukasyon sa Pagpapakatao (EsP) 2*

Indicators	Wm	Interpretation
The LM gives an adequate learning activity to a better understanding of the topic.	3.67	VHV
It addresses the current educational system of the present situation.	3.67	VHV
Activities, discussions, and assessments are suitable for the intended learners	3.56	VHV
It offers a variety of learning activities that will enrich pupils' level of competency	3.56	VHV
The LM facilitates developing high-level English reading comprehension and thinking skills of the pupils	3.33	VHV
Average Weighted Mean	3.56	Very Highly Valid

Note: Very Low Validity (VLV) = 1.00-1.75; Moderately Low Validity (MLV) = 1.76-2.50; Moderately High Validity (MVH) = 2.51-3.25; Very High Validity (VHV) = 3.26-4.00.

It can be inferred from the results that the learning module (LM) is effective in achieving its intended purpose of values education ensuring that it aligns with the current educational main concerns. These results clearly shows that the learning module (LM) is doing its job by teaching values that matter in today's schools. Both students and evaluators feel the content is right on target with the curriculum and helps build the necessary competencies for Edukasyon sa Pagpapakatao (EsP) 2. The data does point out a bit of a trade-off, though; because the learning module (LM) is so focused on character building, it isn't quite as strong at pushing advanced English comprehension or deep analytical thinking. It suggests that moving forward, we need to find a better balance—keeping the values-heavy content but mixing in more activities that challenge students to sharpen their literacy and critical thinking at the same time.

Furthermore, these findings show that we can't just leave the learning module (LM) as it is; it needs constant tweaking to make sure it hits the Edukasyon sa Pagpapakatao (EsP) 2 standards while helping students grow in every aspect, not just one. In the classroom, teachers can lean on the module's strength in character building, but they'll likely need to bring in extra materials to strengthen the reading and critical thinking parts. Even though the high content validity proves the learning module (LM) is a solid tool, the feedback suggests it needs to catch up a bit with 21st-century learning goals. Improving these specific factors will likely help students learn a good balance of moral values and the actual academic skills they deserve.

The results here really echo Patino's (2018) point that when lessons match up with the curriculum, students stay more tuned in and get better results. Since this learning module (LM) for Edukasyon sa Pagpapakatao (EsP) 2 is built directly around those required goals, it makes the whole learning experience a lot more effective. It follows Patino's idea that when the material is properly aligned, students don't just memorize things—they understand the lessons and know how to use them.

Smith (2015) argued convincingly that a curriculum shouldn't just be a passive list of topics—it needs to get students participating

and thinking for themselves. Elias et al. (2023) shared that view, showing that when lessons are interactive, kids stop just going through the motions and start really connecting with the material. This learning module (LM) for Edukasyon sa Pagpapakatao (EsP) 2 was clearly built with that same focus. The design of this learning module (LM) shows it's doing more than just following the standard rules. It tries to hook the students' interest and keep them tuned in, which is important if the goal is to get them to think about Edukasyon sa Pagpapakatao (EsP) 2 instead of just flipping through the pages. The module gives learners a real opportunity to help fully comprehend and maintain such information progressively by ensuring the courses are interactive.

The results here align with what Schimizzi et al. (2023) said about Merrill's theory on Instructional Design—mainly that lessons work best when they focus on real-life tasks. The feedback on the module shows it does a good job of using everyday situations and examples that mean something to the students. This keeps the material from feeling like just another set of school rules to follow; instead, it encourages kids to get involved and walk away with a much clearer grasp of what they're being taught.

**Construct.** This is the degree to which a test or assessment accurately measures the theoretical construct it is intended to evaluate. In the context of a developed learning module, construct validity assesses whether the educational outcomes and competencies that the module aims to promote truly align with the intended learning objectives. Table 2c shows the curricular validity of the crafted learning module (LM) in Edukasyon sa Pagpapakatao (EsP) 2 in terms of construct.

The construct validity of the learning module (LM) in *Edukasyon sa Pagpapakatao* (EsP) 2 was evaluated using five indicators that measured its effectiveness in developing knowledge, skills, and thinking abilities. The weighted mean values ranged from 3.44 to 3.67, with an average weighted mean of 3.58 interpreted as *Very High Validity (VHV)*. The highest-rated indicators (WM=3.67), were on the LM's ability to increase pupils' knowledge, understanding, and skills, as well as its capacity to improve

competency levels. On the other hand, the lowest-rated indicator, with a weighted mean of 3.44, was on the learning module's (LM) ability to stimulate analytical thinking skills.

Table 2c. Construct Validity of the Learning Module in Edukasyon sa Pagpapakatao (EsP) 2

Indicators	Wm	Interpretation
The LM has contents that increase the pupils' knowledge, understanding, and proficiency/skills	3.67	VHV
The LM seeks to improved pupils' level of competency	3.67	VHV
The LM is appropriate to the intended level of learners	3.56	VHV
The LM prepares the pupils to think logically and critically	3.56	VHV
The LM stimulates the pupils' analytical thinking skills	3.44	VHV
Average Weighted Mean	3.58	Very High Validity

Note: 1.00-1.75=Very Low Validity (VLV); 1.76-2.50=Moderately Low Validity (MLV); 2.51-3.25=Moderately High Validity (MVH); 3.26-4.00= Very High Validity (VHV)

The data reveals that the learning module (LM) is highly effective in strengthening the core competencies of learners, particularly in enhancing their knowledge and skills. The equal high ranking of two indicators suggests that the learning module (LM) successfully addresses both content mastery and competency development, which are essential goals of the subject. The ratings of 3.56 for appropriateness to learners' level and for preparing them to think logically and critically confirm that the module is well-matched to the developmental stage of Grade 2 learners. However, the relatively lower score of 3.44 in stimulating analytical thinking indicates a slight gap in the learning module's (LM) ability to fully engage learners in higher-order reasoning tasks.

It can be inferred from the results that the learning module (LM) provides a strong foundation for cognitive and competency-based learning in values education. Learners can gain knowledge and practice skills that are suitable for their grade level, growth in values formation. However, the lower rating in analytical thinking suggests that while the module develops basic comprehension and logical reasoning, it may require improvement in promoting deeper reflection and problem-solving. This implies that the learning module (LM) is more effective in building foundational competencies than in fostering higher-order critical and analytical skills.

Looking at the points above, it's clear the learning module (LM) needs more focus on building kids' critical and analytical thinking. In the big picture, the module is a solid tool for

teaching values, but it shouldn't just stay as it is—it needs constant work to make sure it is balancing basic lessons with tougher, higher-level skills. Teachers can add real-life case studies, deeper questions to think about, or problem-solving tasks to fill in the gaps where the module is currently a bit light. By doing these, it won't just keep the Edukasyon sa Pagpapakatao (EsP) 2 content at the "Very High Validity" level, but it also ensures learners are prepared to think logically, make good choices, and act as responsible citizens.

Applying such framework, the validity of a developed learning module (LM) shows a significant correlation with the principles established in the study of Tety (2016 and Columbano (2019). The said findings also indicated that the learning module (LM) met the curriculum standards while integrating learners' feedback and application in real-world situation. This check-up basically proves that when a module is built on solid research about curriculum design, it works the way it's supposed to for Edukasyon sa Pagpapakatao (EsP) 2.

This ties back to Merrill's Instructional Design Theory—which Schimizzi et al. (2023) talked about—basically saying that lessons stick better when they involve real-life tasks and active learning. This statement connects to the construct validity of the learning module in *Edukasyon sa Pagpapakatao (EsP) 2* because the module aims to ensure that learners can understand and apply values in real-life situations. Aligning the learning activities with real-world examples, the module not only enhances learners' engagement but also confirms that it

effectively measures what it is meant to teach - helping learners develop their character and make responsible choices.

A holistic presentation of the curricular validity of the learning module (LM) in Edukasyon sa Pagpapakatao (EsP) 2 is shown in Table 2d. It shows altogether the results of its face, construct, and content validity. The weighted means of these components ranged

from 3.56 to 3.58, all interpreted as *Very High Validity (VHV)*. Both face validity and construct validity obtained the highest weighted mean of 3.58 while content validity resulted to a weighted mean value of 3.56. The overall result demonstrate that the learning module (LM) is very highly valid in terms of alignment with the curriculum, presentation, and intended learning outcomes.

Table 2d. Curricular Validity of the Learning Module (LM)

Validity	AM	Int.
Face Validity	3.58	VHV
Construct Validity	3.58	VHV
Content Validity	3.56	VHV
Overall Weighted Mean	3.57	Very Highly Valid

Note: 1.00-1.75=Very Low Validity (VLV); 1.76-2.50=Moderately Low Validity (MLV); 2.51-3.25=Moderately High Validity (MVH); 3.26-4.00= Very High Validity (VHV)

The results indicate that the learning module (LM) is consistently effective across the three areas of evaluation. The highest ratings in face and construct validity suggest that the module is not only well-designed and accessible to learners but also effective in developing knowledge, skills, and competencies. The slightly lower rating in content validity, though still *Very High*, points to areas where improvements may be made in enriching activities and ensuring stronger integration of lessons with higher-order skills. However, close range of weighted means depicts that the learning module (LM) keeps a level of quality which is balanced across different aspects of curricular evaluation.

Based on the gathered data, it shows that the learning module (LM) is an instructional material which is reliable and aligns with the curricular standards and objectives. In this sense, learners and evaluators perceive it to be effective in the scope of clarity, usability, relevance, and appropriateness. The lower rating in content validity suggests that there are room to enhance variety, depth, or enrichment activities to strengthen the development in competence, despite it provides sufficient learning opportunities. Nevertheless, it suggests that the said module is effective in fulfilling curricular objectives but can be refined for greater purpose.

The Learning Module's (LM) Very High Validity, specifically in the face, construct, and content highly demonstrates its suitability and reliability as a useful assessment tool in Edukasyon sa Pagpapakatao (EsP) 2. The alignment of the Learning Module (LM) with the curriculum supports the values formation and development of the learners' skill sets. The results reveal the need for ongoing improvements, especially in the areas of content depth and activity design, to enhance the Learning Module's (LM) effectiveness on the learners. By continuing to build on its strengths and improving identified areas for development, the Learning Module (LM) will leave a significant mark on the overall quality of instruction in this subject area and the holistic development of its learners.

Rogayan et al. (2023) emphasized the importance of ensuring that educational materials align with the curriculum to better engage students and improve their learning. Their findings highlight the need to review whether learning modules match the intended standards, showing that this alignment not only improves the quality of the materials but also helps learners achieve the expected skills and competencies more effectively.

Similarly, Morelos (2021) examined how applying learner-centered constructivist principles in curriculum design helps students understand and remember knowledge better,

which aligns with the findings of this study. The strong curricular validity of the learning module reflects this idea, showing that including constructivist elements creates more meaningful learning experiences for students. Confirming that the module follows these principles shows that incorporating constructivist approaches in teaching can create more engaging and meaningful learning experiences, supporting Morelos' point that aligning educational practices with learner-centered methods helps enrich students' understanding and retention.

The findings are also backed by Merrill's Instructional Design Theory, as cited by Schimizzi et al. (2023), stresses activating prior knowledge, demonstrating new skills, applying what is learned, and integrating it into real-life situations. In curricular validity in relation to the Learning Module in Edukasyon sa Pagpapakatao (EsP) 2, this theory helps ensure that the module meets its goal effectively. Aligning the content with existing knowledge and creating opportunities for concrete experience enhances module design with reference to the learning theories and principles and proves to be effective in enhancing students' understanding and engagement. This connection

highlights that curriculum design not only deals with delivering information but also learning experiences that are helpful in the lives of the students. It is important to assess the effectiveness of instructional materials to ensure that learners acquire the necessary competencies in school. In *Edukasyon sa Pagpapakatao* (EsP) 2, the development of values, attitudes, and skills requires not only teaching strategies but also well-structured learning modules that can guide pupils toward meaningful understanding.

**Level of Learning Competencies of Grade 2 pupils in Edukasyon sa Pagpapakatao (EsP) After Using the Developed Learning Module (LM)**

A post-test was conducted among Grade 2 learners after using the developed learning module. The results provide insights into how the module influenced their learning progress and overall proficiency level. The same set of learners took the post-test. Additionally, the same number of items were given just like during the pretest. The results are shown in Table 3. The scores where the data in the able were based is shown in Appendix F.

Table 3. Post-test Results for Quarter 2 in Edukasyon sa Pagpapakatao (EsP) 2

Test	No. of Test Takers	No. of Items	Highest Score	Lowest Score	Mean	SD	MPS	PL
Pretest	30	40	40	27	35.37	3.48	88.42	88.43

Note: 0.00 to 24.9=Beginning Level (B); 25.0 to 49.9=Developing (D); 50 to 74.9=Approaching Proficiency (AP); 75 to 100=Proficient (P)

The post-test results showed that the highest score obtained by the learners was 40, while the lowest score was 27. The mean of their scores was 35.37 while the standard deviation was 3.48. When the mean percentage score (MPS) was determined it yielded a value of 88.42 % while the Proficiency Level (PL) was 88.43%.

The standard deviation shows that the scores of the learners were still heterogeneous. However, its heterogeneity is lower than the standard deviation of the scores during the pretest. Moreover, the proficiency level (PL) indicates also that the learners were already on the "Proficient" level as far as the learning

competencies in Edukasyon sa Pagpapakatao (EsP) for the second quarter is concerned. This is higher than their status during the pretest.

The results raise important questions about the factors contributing to the improvement observed in the post-test was the increase in performance solely due to the module, or were there external influences such as teacher guidance, peer interaction, or parental support? It is also worth asking how specific features of the module, such as activities, discussions, or value-based exercises, contributed to the learners' learning gains. Since the lowest value in the post-test results was close to the mean, there is a need to find out what can be done to work

with the lowest performing students. These questions may be answered in future enhancements to the learning module and in the teaching of *Edukasyon sa Pagpapakatao (EsP) 2*.

The result of this study reveals a correlation to its goal, since the learning module helped Grade 2 students in *Edukasyon sa Pagpapakatao (EsP) 2* improve their learning skills. The significant difference between pretest and post-test proves that the learning module contributed greatly to their achievement in terms of the development of the values component. Considering the goal of having quality instruction, it becomes apparent that the creation of efficient modules has great potential in terms of developing values, along with the necessary knowledge.

The findings were proven by Lynn et al.'s (2022) study that investigated the effects of structured learning modules on students' engagement and understanding. Their findings show that it is important to tailor educational materials to harness critical thinking skills. This aligns with the Level of Mastery of Grade 2 learners in *Edukasyon sa Pagpapakatao (EsP) 2*, as students demonstrated improved mastery after using the specialized learning module.

Moreover, according to Abouchacra (2021), it is possible to note the efficiency of active learning techniques for the promotion of better understanding of a topic. Thus, the results have shown that students who were involved in the process of interaction with active learning modules obtained better levels of knowledge acquisition. Also, second-grade students who applied the learning module showed improved performance in *Edukasyon sa Pagpapakatao (EsP) 2*.

Relatedly, Tabuena also investigated the role of teacher facilitation in maximizing student learning during modular instruction (2020). One of the findings of the research is that effective teacher guidance is an important implementation factor to ensure that students can make full use of learning modules. Based on the study results, Grade 2 learners were positively affected in terms of their mastery levels, indicating that through teacher facilitation and support, the students can learn to better navigate around the learning module (LM) and reap

its rewards while deepening their understanding of *Edukasyon sa Pagpapakatao (EsP) 2*.

This type of outcome is also associated with the Mastery Learning Theory of Bloom, as mentioned by Hussain (2016), wherein it emphasizes that all learners will be able to reach a certain degree of comprehension when provided with adequate time and sufficient learning materials. Considering the case of Grade 2 students being taught about *Edukasyon sa Pagpapakatao (EsP) 2* using a learning module (LM), the implementation of the theory is expected to aid the learners to fully comprehend the lessons. Through exercises and evaluations according to the theory, the learners can gain instant feedback, enabling them to correct any gaps in their knowledge and attain mastery.

#### **Difference between Level of Learning Competencies Before and After Using the Developed Learning Module (LM)**

A comparison of the pretest and post-test results was done to test the null hypothesis that there is no significant difference between the proficiency levels of the Grade 2 learners in *Edukasyon sa Pagpapakatao (EsP) 2* before and after using the learning module. The computation is shown in Appendix F.

The computation shows that there was an increase in the mean of the scores of the learners from 29.67 in the pretest to 35.37 in the post-test. Relatively, the mean percentage score (MPS) also increased from 74.33 in the pretest to 88.42 in the post-test. Also, the proficiency level (PL) of the learners increased from 74.18% in the pretest to 88.43% in the post-test. From these data, the t-test for dependent samples was used to test the null hypothesis as shown in Table 4.

It can be gleaned from that table that the pretest and post-test data revealed a statistically significant difference, as indicated by a t-statistic of -4.815, with a degree of freedom (df) of 58. The critical value for comparison was established at 2.0003. Given that the t-statistic exceeded the critical value in the negative direction, the decision was made to reject the null hypothesis ( $H_0$ ), suggesting that there is a significant effect or difference between the pretest and post-test results. This outcome con-

firms a noteworthy change because of the intervention or treatment being assessed. The negative element indicates that the proficiency

level of the learners in the post-test was higher compared to the pretest.

*Table 4. The Distinction between Pretest and Post-test*

Statistical Measure	Statistical Value
t-Statistic	-4.815
df	58
Critical value	2.0003
Interpretation	Significant

The findings show how well-developed educational resources contribute to the learning process of the learners. The enhancement of their performance is an indication of the successful incorporation of morality and ethics in the learners, considering that Edukasyon sa Pagpapakatao (EsP) 2 focuses on their moral and ethical upbringing. Therefore, the application of instructional materials is essential in directing learners during their developmental stages.

It can be argued that there exists a remarkable difference in performance before and after the implementation of the interventions, since the calculated t-statistic has been recorded way beyond what is considered as the standard deviation. The degree of freedom in this case demonstrates the presence of enough number of samples, while the resulting value has been found to be significantly greater than what can validate the null hypothesis. As a result, the assumptions made at the beginning of the analysis have been proven to be false, which indicates the effect of the intervention on performance.

Students in Grade 2 level at Edukasyon sa Pagpapakatao (EsP) were able to better understand the lessons and perform well in their activities by referring to the learning module (LM). This improvement provides an indication to teachers and schools that there are many advantages of incorporating quality learning materials into instructional practice which promotes enhanced academic performance. Another aspect that is encouraged through these types of improvements is the use of more engaging and innovative teaching methods to support student engagement and achievement and increase the likelihood of providing an interactive, meaningful learning

experience and deeper interest in the content. Based on the available evidence, we can conclude that these changes were statistically significant and provide a sound basis for continued research into and implementation of the methodology used.

These results relate well to the study conducted by Chen (2019), as the focus on personalized methods of education is consistent with the conclusions reached in the current study. This can be seen in the substantial improvement in performance levels recorded among the subjects due to the use of the learning module (LM).

Martinez (2016) did a study on using interactive teaching methods to increase student engagement and understanding. In the research done with Grade 2 students, it was shown that using the learning module (LM) improved the students' academic performance as well as increased their interest in the subject. These results support Martinez's claim that interactive methods lead to greater learning.

Moreover, according to Lee (2018), there is an analysis on how culturally relevant pedagogy can enhance educational performance among younger children. The notable gap in Grade 2 students' academic scores prior to the implementation of the learning module (LM) and after implies that culturally relevant lessons can be more appealing to students, resulting in easier learning and understanding.

This is further emphasized through the Scaffolding Theory proposed by Vygotsky and referenced by Sarikas (2020), which talks about the necessity of help and guidance in learning in which the teachers offer temporary assistance to students until they become capable of completing the task on their own. With regards to the Grade 2 students enrolled in

Edukasyon sa Pagpapakatao (EsP), it can be observed that there is a remarkable difference between the performance of the students prior and after utilizing the learning module (LM). This means that the learning module (LM) provided the necessary assistance that helped the learners build their understanding and skills gradually.

**Effectiveness of the Developed Learning Module in Edukasyon sa Pagpapakatao (EsP) 2**

The effectiveness of the developed Learning Module in Edukasyon sa Pagpapakatao (EsP)

for Grade 2 learners is reflected in Table 5. This is a crucial area of study that addresses the integration of values education in early childhood learning. This module aims to promote moral development, social responsibility, and emotional intelligence among young learners.

The table shows the effectiveness of the developed learning module demonstrated by a Cohen’s d value of 1.23 indicating a large effect of the learning module used to develop the competencies if the learners in Edukasyon sa Pagpapakatao (EsP).

*Table 5. Effectiveness of the Developed Learning Module*

Statistical Measure		Statistical Value
Pretest:	Mean	29.67
	Standard deviation	5.58
	No. of cases (N)	30
Posttest:	Mean	35.37
	Standard deviation	3.48
	No. of cases (N)	30
Cohen’s d		1.23
Interpretation		Large Effect

It can be gleaned that the developed learning module reveals a remarkably large effect on the proficiency of the learners in the post-test. This indicates an exceptional effectiveness of the learning modules in improving learners' performance outcomes in the subject. The significance of the findings from a statistical perspective is highlighted by the significance of Cohen's d, which shows that the findings cannot be a product of mere luck but confirm the efficacy of the education tool used.

This result also reflects what Letina (2020) highlighted about the value of adjusting learning to fit students’ needs to help them perform better. In a similar way, the study on the Level of Mastery of Grade 2 students in Edukasyon sa Pagpapakatao (EsP) showed that their mastery scores improved after the new learning module was introduced.

Yuningsih et al. (2020) also pointed out that using creative teaching strategies in elementary classes works well, especially in getting students more involved and helping them

understand basic ideas in Edukasyon sa Pagpapakatao (EsP). Moreover, the study of Remorosa et al. (2023) supported it through conducting research on the involvement of students and its implications for the education process to substantiate the influence on academic performance when children engage in the learning module (LM) from the gathered data, it is evident that the interactive elements of the learning module (LM) play an integral role in enhancing learner involvement and competence acquisition.

This pertains to the Scaffolding Theory of Lev Vygotsky according to the article published by Sarikas (2020) about the significance of guidance during the learning process where the teacher helps for the students to learn something above his or her level of capacity. This is relevant in terms of the effectiveness of the constructed Learning Module (LM) in the subject Edukasyon sa Pagpapakatao (EsP) at Grade 2 learners because it must be composed

of tasks and activities which are structured in order for learners to comprehend them better.

## Conclusion

In this section, a summary of the findings that were made about the research goals is stated. Conclusions drawn from the findings were the foundation on which the recommendations were made.

1. The Grade 2 pupils have not yet achieved the required level of proficiency in *Edukasyon sa Pagpapakatao* (EsP) in the pretest.
2. The design of the Learning Module (LM) was meticulously guided by eight essential elements aligned with the Department of Education's standards for Strategic Intervention Materials and Learning Modules which played a crucial role in fostering an engaging and comprehensive educational experience.
3. The crafted Learning Module (LM) had a very high validity in terms of face, construct, and content.
4. The proficiency level of the learners in *Edukasyon sa Pagpapakatao* (EsP) has increased to "Proficient" after using the learning module.
5. There was a significant difference between the proficiency level of the learners in the pretest and post-test in *Edukasyon sa Pagpapakatao* (EsP) 2.
6. The learning module (LM) had a large effect on the proficiency level of the learners in the post-test indicating that the educational tool was effective.
7. **Recommendations**
8. Teachers may start the teaching-learning process by assessing the status of the learners' competencies in the subject they teach to enable them to use strategies to address learning gaps and difficulties.
9. Educators and curriculum developers may consistently adhere to the eight essential elements outlined by the Department of Education to significantly enhance the effectiveness and clarity of their materials and to foster a more engaging and impactful learning experience of learners.
10. Curriculum developers may integrate this developed learning module into their

teaching approaches to enhance educational experience and promote deeper understanding of the subject matter.

11. Teachers in *Edukasyon sa Pagpapakatao* (EsP) 2 may adopt and implement the developed learning module as it has demonstrably improved pupil performance and led to notable educational outcomes.
12. School heads may encourage and support other teachers to develop learning modules not only in *Edukasyon sa Pagpapakatao* (EsP) but in the subjects they teach since using such has clearly enhanced pupil performance and resulted in significant educational outcomes.
13. School heads and curriculum developers may support the researcher to craft learning modules to develop the competencies allotted for Quarter 1, 3 and 4 following the design and procedure adopted to have a holistic and complete material in teaching *Edukasyon sa Pagpapakatao* (EsP) 2.

## References

- Abouchacra, S. (2021). Lessons Learned from the COVID-19 Pandemic." *Applied Drug Research, Clinical Trials and Regulatory Affairs: Formerly Applied Clinical Research, Clinical Trials and Regulatory Affairs* 8, no. 1 (2021): 70-76. DOI: <https://doi.org/10.2174/2213476X07999200918180556>.
- Anderson, D. J. (2016). Circuit modules linking internal states and social behaviour in flies and mice." *Nature Reviews Neuroscience* 17, no. 11 (2016): 692-704.
- Benito, S. M., Bantulo, J. S. & Haudar, F. S. (2022). Effectiveness of self-learning modules (SLM) in teaching mathematics 3." *International Journal of Recent Research in Thesis and Dissertation* 3, no. 1 (2022): 33-45. DOI: <https://doi.org/10.5281/zenodo.6497186>.
- Bhandari, P. (2022). Construct Validity | Definition, Types, & Examples. Retrieved from <https://www.scribbr.com/methodology/construct-validity>
- Calot, E. P., Ierache, J. S., & Waldo H. (2020). Robustness of keystroke dynamics identification algorithms against brain-wave

- variations associated with emotional variations." In *Intelligent Systems and Applications: Proceedings of the 2019 Intelligent Systems Conference (IntelliSys) Volume 1*, pp. 194-211. Springer International Publishing, 2020.
- Canonizado, I. C. (2021). When to use total population sampling in a research study. <https://discover.hubpages.com/education>.
- Chen, Y. L. (2019). Exploring the Effects of Multimedia Learning Modules on Math Skills in Grade 2 Students. DOI: 10.1016/j.compedu.2018.03.003.
- Cortas Jr., J. E. (2021). Competency-Based Supplementary Learning Modules in Grade 4 Mathematics in the New Normal. Unpublished Thesis in Naga College Foundation. P. 21.
- Cobanbana, L. L. O. & Pañaresb, N. C. (2023). Utilization of Self-Learning Modules and Pupils' Academic Performance during the Transition Period." *Utilization of Self-Learning Modules and Pupils' Academic Performance during the Transition Period* 125, no. 1 (2023): 9-9. Retrieved from <https://www.researchgate.net>.
- Colby, R. L. (2017). *Competency-based education: A new architecture for K-12 schooling*. Harvard Education Press, 2017. <https://books.google.com.ph/>.
- Columbano, Claudio (2019). Measuring fiscal guidance transparency." *Public Sector Economics* 46, no. 2 (2022): 261-296.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative and mixed methods approaches* (5<sup>th</sup> ed.) Sage Publications,
- Cubillas, T. (2018). Development and validation of strategic intervention materials (sims) in teaching elementary English 4-content validation." *International Journal of Development Research* 8, no. 06 (2018): 21252-21259. Retrieved from <https://d1wqtxts1xzle7.cloudfront.net/>.
- Dagoc, R. R. & Oco, R. H. (2024). Pupils' study habits and academic performance. *International Journal of Multidisciplinary Research and Analysis*, vol. 07(03). Doi: 10.47191/ijmra/v7-i03.
- DeLorenzo, M., Vasudev G., & Rajendran, J. (2024). Creativeval: Evaluating creativity of llm-based hardware code generation." In *2024 IEEE LLM Aided Design Workshop (LAD)*, pp. 1-5. IEEE, 2024. DOI: [10.1109/LAD62341.2024.10691798](https://doi.org/10.1109/LAD62341.2024.10691798)
- Department of Education. (n.d.). Mission, Vision, Core Values, and Mandate. Retrieved from <https://www.deped.gov.ph/about-deped/vision-mission-core-values-and-mandate/>.
- DepEd Order No. 018 series 2020. Policy Guidelines for the Provision of the Learning Resources in the Implementation of the Basic Education Learning Continuity Plan. Retrieved from <https://www.deped.gov.ph/> in February 8, 2025.
- DepEd Order NO. 39 series 2015. Policy Guidelines on Addressing Learning Gaps and Implementing a Reading and Writing Program in Secondary Schools Effective School Year (SY) 2012-2013. Retrieved from <https://www.deped.gov.ph/>.
- Editorial Team (2023). Content Validity Examples (With Definition and Industries). Retrieved from <https://ca.indeed.com/career-advice/career-development/content-validity-examples>.
- Elias, M., Kamil, T., & Bergese, S. D. (2023). The validity and applications of the analgesia nociception index: a narrative review. *Frontiers in Surgery* 10 (2023).
- Faye, I. & Gueye, M. (2022). Blended Learning in Senegal." *Saudi Journal of Humanities and Social Sciences* 7, no. 1 (2022): 1-5. DOI: 10.36348/sjhss.2022.v07i01.001.
- Gabriel, R. & López, F. (2022). The role of asset-based pedagogy in an interactive view of reading." *Educational Psychologist* 59, no. 4 (2024): 233-249. <https://doi.org/10.1080/00461520.2024.2394031>.
- Gallardo, C. (2021). Development and Validation of Self-Learning Module in Horticulture Production: A Tool for Development and Validation of Self-Learning Module. Retrieved June 6, 2021, from <https://eprajournals.com/IJSR/article/5276>.

- Garin, M. A. S. (2017). Worktext As Supplemental Material in Improving Mathematics. Performance of Grade 9 Learners. *Worktext as Supplemental Material in Improving Mathematics. Performance of Grade 9 Learners*, 105(1), 10-10.
- Glossary of Education Reform (2015). *Student engagement. Last updated:(2018, February 16)*. 2014.
- Gossett-Webb, S. (2023). Face Validity, definition, and significance. Retrieved from <https://study.com/learn/lesson/face-validity-definition-examples.html>.
- Goulet-Pelletier, J.C., & Cousineau, D. (2018). A review of effect sizes and their confidence intervals, Part 1: The Cohen's *d* family. *The Quantitative Methods for Psychology*, 14(4), 242–265. <https://doi.org/10.20982/tqmp.14.4.p242>
- Hain, J. F., Black, W. C. Babin, B. J., & Anderson, R. E. (2019). *Multivariate Analysis* (8<sup>th</sup> ed.). <https://www.scrip.org/reference/referencepapers?referenceid=3504987>.
- Haryono, A. & Adam, C. (2017). The Implementation of Mini-Research Project to Train Undergraduate Students' Scientific Writing and Communication Skills." no. 2 (2021): 159-170. Retrieved from <https://journal.unnes.ac.id/sju/eduman/article/view/35764>.
- Heale, R. & Twycross, A. (2018). Validity and reliability in quantitative studies. *Evidence-based nursing* vol. 18,3 (2015): 66-7. doi:10.1136/eb-2015-102129
- Heick, M. A. (2016). Continuing education impact evaluation." *The Journal of Continuing Education in Nursing* 12, no. 4 (1981): 15-23. <https://doi.org/10.3928/0022-0124-19810701-04>.
- Henri, M., Johnson, M. D. & Bimal Nepal (2017). A review of competency-based learning: Tools, assessments, and recommendations." *Journal of engineering education* 106, no. 4 (2017): 607-638. <https://doi.org/10.1002/jee.20180>.
- Homillano, L. (2023). Development and Validation of an Instructional Module in Science, Technology, and Society (STS) in the Tertiary Education Curriculum. *Technology, and Society (STS) in the Tertiary Education Curriculum (July 7, 2023)*. Homillano (2023): 41-52. <https://ssrn.com/abstract=4507299>.
- Houghton, R. (2023). Investigating the formation and properties of multiple star systems using Monte Carlo models." PhD diss., University of Sheffield, 2023. [oai:etheses.whiterose.ac.uk/33693](https://etheses.whiterose.ac.uk/33693).
- Hussain, I. (2020). Effect of Bloom's mastery learning approach on students' academic achievement in English at secondary level." *Journal of Literature, Languages and Linguistics* 23 (2016): 35-43. ISSN 2422-8435 An International Peer-reviewed Journal Vol.23, 2016.
- Irunifard, E. & Roudsari, R. L. (2022). Comparative research: an old yet unfamiliar method. *Journal of Midwifery and Reproductive Health*, vol. 10(3).
- Istyarini, I., Wahzudik, N., Wardi, W., Nurussaádah, N., & Christian, C. (2021). Validation of reflective model curriculum evaluation instruments. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, Sao Paolo, Brazil, April 5-8, 2021. <http://www.leomsociety.org>.
- Johnson, A. M. (2015). The Impact of Interactive Learning Modules on Grade 2 Students' Reading Comprehension. DOI: 10.1177/019394808601000105.
- Kennedy, T. J. & Sundberg, C. W. (2019). 21st century skills." *Science education in theory and practice: An introductory guide to learning theory* (2020): 479-496. Science Education in Theory and Practice. Springer Texts in Education. Springer, Cham. [https://doi.org/10.1007/978-3-030-43620-9\\_32](https://doi.org/10.1007/978-3-030-43620-9_32).
- Khalil, M. K., Nelson, L. D. & Kibble, J. D. (2021). The use of self-learning modules to facilitate learning of basic science concepts in an integrated medical curriculum." *Anatomical sciences education* 3, no. 5 (2021): 219-226. <https://doi.org/10.1002/ase.177>.

- Lee, C. K. (2018). Impact of Differentiated Learning Modules on Science Understanding in Grade 2. DOI: 10.1080/02667363.2015.1043310.
- Letina, A. (2020). Development of students' learning to learn competence in primary science." *Education sciences* 10, no. 11 (2020): 325. <https://doi.org/10.3390/educsci10110325>.
- Lynn, A., Wilkey, E. D., & Price, G. R. (2022). Predicting children's math skills from task-based and resting-state functional brain connectivity." *Cerebral Cortex* 32, no. 19 (2022): 4204-4214. <https://doi.org/10.1093/cercor/bhab476>.
- Maliga, M.G. (2018). Content validity and effectiveness of supplemental learning materials in mathematics." *A Research Funded by Basic Education Research Fund (BERF), DepEd-Regional Office, Carpenter Hill, Koronadal City, Region XII, Philippines* (2018).
- Martinez, B. R. (2016). Evaluating the Use of Mobile Learning Modules for Language Development in Grade 2. DOI: 10.3389/feduc.2014.00001.
- McCombes, S. (2022). Descriptive research design, definition, methods and examples. Scribbr. <https://www.scribbr.co.uk>.
- Middleton, J. W., Tran, Y., Lo, C., & Craig, A. (2016). Reexamining the validity and dimensionality of the Moorong self-efficacy scale: improving its clinical utility. *Archives of physical medicine and rehabilitation* 97, no. 12 (2016): 2130-2136.
- Moradas, J. D., Socubas, F. B., Bacasmas, V. M. R., Arquilita, S. G.L. & Cortes, S. T. (2024). Development and validation of a concept inventory test in photosynthesis for junior high school students." *JPBI (Jurnal Pendidikan Biologi Indonesia)* 10, no. 3 (2024): 898-908. DOI: <https://doi.org/10.22219/jpbi.v10i3.36634>.
- Morelos, C. G. (2021). Construct validity of a scale to measure the job satisfaction of professors at public universities in central Mexico during COVID-19." *Trilogía Ciencia Tecnología Sociedad* 13, no. 25 (2021).
- Musah, M. B., Tahir, L. M., Al-Hudawi, S. N. V., & Issah, M. (2022). Testing content validity of teacher-made test: profiling teacher perceptions and demographic variables. *International Journal of Evaluation and Research Education (IJERE)*, vol. 11(3). Doi: 10.11591/ijere.v11i2.21992.
- Padmapriya, P.V. (2015). Effectiveness of Self-Learning Modules on Achievement in Biology Among Secondary School Students: A Tool on the Effectivity of Self-Learning Module on Achievement. Retrieved June 2, 2015, from <https://ijepr.org/panel/assets/papers/179ij12.pdf>.
- Pakyo, E. F. (2021). The Effectiveness of Self-Learning Modules on the Retention of Learning Among Grade 7 Students in MAPEH of Mountain Province General Comprehensive High School: A Tool on the Effectiveness of Self-Learning Modules on the Retention of Learning. Retrieved August 8, 2021, from <http://www.ijisrt.com/931>.
- Patino, C. M. & Ferreira, J. C. (2018). Internal and external validity: can you apply research study results to your patients?." *Jornal brasileiro de pneumologia* 44, no. 03 (2018): 183-183. <https://doi.org/10.1097/MPG.0b013e31816c749f>.
- Patino, C. M. (2018). Inclusion and exclusion criteria in research studies: definitions and why they matter. *Journal Brasileiro de Pneumological* 44 (2018): 84-84.
- Patino, C. M. & Ferreira, J.C. (2018). Internal and external validity: can you apply research study results to your patients? *J Bras Pneumol. 2018 May-Jun;44(3):183*. doi: 10.1590/S1806-37562018000000164. PMID: 30043882; PMCID: PMC6188693.
- Perez, J., Eden, B., & Alovera, J. (2020). Validation and Utilization of a Developed Contextualized Learning Module for Science Five. Retrieved from <https://www.researchgate.net/> in February 8, 2025.
- Pingil, N. P. (2022). Development and Validation of Instructional Modules in Enhancing the Study and Thinking Skills of Learners. *Psychology and Education: A Multidisciplinary Journal*, 3(9), 2-20.

- <https://doi.org/10.5281/zenodo.7011370>.
- Quarles, C. (2020). Systemic Inequality, Technological Innovation, and the Limits of Human Understanding." PhD diss., 2020. DOI. <https://dx.doi.org/10.7302/8436>.
- Rahmawati, R., Fitria L., & Umam, R. (2019). Analysis of the effectiveness of learning in the use of learning modules against student learning outcomes." *Desimal: Jurnal Matematika 2*, no. 3 (2019): 233-240. DOI: <http://dx.doi.org/10.24042/djm.v2i3.4557>.
- Remorosa, M. M. R. & Paglinawan, J. L. (2023). Collaborative Expertise and Professional Competence on School-Based Management Implementation of Teachers." *International Journal of Scientific and Management Research 7*, no. 11 (2024): 236-245. DOI <http://doi.org/10.37502/IJSMR.2024.71121>.
- Rogayan Jr., D. V. (2019). Development and Validation of Physical Science Workbook for Senior High School." *Science Education International 30*, no. 4 (2019): 284-290.
- Roque, J. P. (2022). Modular distance learning in the area of education during the new normal: A systematic review." *AIDE Interdisciplinary Research Journal 3* (2022): 253-268. <https://doi.org/10.56648/aide-irj.v3i1.67>.
- Rosli, R., Abdullah, M., Nur C. S., Nurul S. A. H., Sabirin, A., Gan K. B., Lilia, et al. (2020). Student Awareness of Space Science: Rasch Model Analysis for Validity and Reliability." *World Journal of Education 10*, no. 3 (2020): 170-177.
- Sarikas, C. (2020). Vygotsky Scaffolding: What It Is and How to Use It. Retrieved from <https://blog.prepscholar.com/>.
- Schimizzi, A. J. (2023). Enhancement of research library print material through the use of component cataloging: An oclc user's perspective." *Cataloging & classification quarterly 38*, no. 1 (2004): 65-86.
- Serrano, D., David C., Husereau, D., Bellinda King-K., Tito Mendoza, Salmonson, Tomas, Arthur Stone et al. (2024). Administering selected subscales of patient-reported outcome questionnaires to reduce patient burden and increase relevance: a position statement on a modular approach." *Quality of Life Research 33*, no. 4 (2024): 1075-1084.
- Sireci, S. G. & Rodriguez, G. (2022). Validity in Educational Testing." *Validity in Educational Testing* (2022).
- Sirisuthi, C. & Chantarasombat, C. (2021). Development on the Learning Module of School-Based Supervision Course for Master Degree Students, Majoring Educational Administration in Thailand." *International Journal of Higher Education 10*, no. 4 (2021): 21-31. Retrieved from <https://eric.ed.gov/>.
- Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence-based nursing 18*, no. 2 (2015): 34-35.
- Tabuena, A. C., Tabuena, Y. M. H., Lauber, O. & Rochina, A. G. C. (2020). "An Examination of the Effects of a Research-Based Instructional Model on Students' Critical Thinking Abilities in an Introductory Science Course." <http://journal.hmjournals.com/index.php/IJRISE>.
- Tacitten, S., Thomas, K., & Storper, M. (2021). The transformative effects of tacit technological knowledge." (2023). DOI. <http://eprints.lse.ac.uk/id/eprint/120154>.
- Taherdoost, H. (2016). Sampling methods in research methodology: how to choose a sampling technique for research. *International Journal of Academic Research in Management, vol. 5(2)*.
- Talika, A.I., Salapuddin, R., Aksan, J.A., Rahimulla, R.J., Ismael, A., Jimlah, R., Idris, N., Dammang, R.B., Jamar, D.A., Sarahadi, E., & Arjan, R.A. (2024). On paired sample t-test: applications, examples and limitations. *Ignatian International Journal for Multidisciplinary Research*, vol. 2(4). <https://doi.org/10.5281/zenodo.10987546>.
- Tan-Espinar, M. J. F. & Ballado, R. S. (2016). Content validity and acceptability of a developed worktext in Basic Mathematics 2. *Asia Pacific Journal of Multidisciplinary Research, 5(1)*, 72-84.

- Tety, J. L. (2016). Role of Instructional Materials in Academic Performance in Community Secondary Schools in Rombo District". PhD diss., The Open University of Tanzania, 2016.
- Tileston, K., van Niekerk, M., Maryse B., Atanda, A., Goldstein, R., Gantsoudes, G., Carter, C., & Christino, Melissa A. "System-level interventions for addressing burnout and improving professional wellness for orthopaedic surgeons", no. 1 (2023): 620.
- Wakefield, D, Talbert, B.A., & Pense, S.(nd).a descriptive study on the preparation of student teachers to work with diverse populations. <https://files01.cora.ac.uk>.
- Yuningsih, R., Soniati, S., Sari, M. & Nurhasanah N. (2020). The Influence of Traditional Bakiak Game on Gross Motor Skills in Early Childhood." *Journal of Islamic Education Students (JIES)* 3, no. 2 (2023): 157-165.  
DOI: <http://dx.doi.org/10.31958/jies.v3i2.11011>.
- Zalun, J. G. (2023). The teachers' utilization of the most essential learning competencies (MELCS) and its relation to the learning development of grade six pupils in a public school in the Philippines: Basis for a proposed program.". DOI. [10.11594/ijmaber.04.06.15](https://doi.org/10.11594/ijmaber.04.06.15).