



## RESEARCH ARTICLE

## Development and Validation of a Self-Learning Module on Verbal and Nonverbal Communication in Filipino for Tertiary

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**\*Corresponding Author:****ABSTRACT**

This study aimed to develop and validate a self-learning module for the Verbal and Non-Verbal Communication in Filipino course, which will serve as additional material for teaching and learning various forms of communication, communication dynamics in Filipino culture, and their application in different social contexts. The study utilized a design and development research approach to establish an empirical basis for developing a self-learning module. The participants this study were sixty (60) students in their first year of the Bachelor of Arts in Filipino program in a state university in Cebu and five (5) experts to validate the developed self-learning module. The study found out that the units comprising the module on Verbal and Non-Verbal Communication in Filipino tackle the essential concepts of communication, different contexts of verbal communication, the role of non-verbal communication in human interaction, and creating preliminary studies on key issues and other related topics in verbal and nonverbal communication in Filipino. The study also revealed that there is a significant difference between the performance of participants in the pretest and post-test in four units of the developed self-learning module. Since the mean of the post-test is higher than the mean of the pretest, the exposure to the developed self-learning module resulted in an improvement in the knowledge of student participants in verbal and non-verbal communication in Filipino. Moreover, in validation, it appears that expert validators strongly agree that the module possesses adequacy, coherence, appropriateness, and usefulness. Based on the students' evaluations, it appears that they strongly agree that the format of the self-learning module is well-organized in a logical and sequential manner, making it easy to read and understand the tables and diagrams, highlighting key points, and presenting organized illustrations, images, and captions. Similarly, they strongly agree that the content is easy to understand, conveying clear objectives, instructions, ideas, and concepts, thus facilitating and making learning more engaging and enjoyable.

**INTRODUCTION**

In line with the policies and standards of the Bachelor of Arts in Filipino program pursuant to Commission on Higher Education Memorandum Order no. 22, s. 2017, it is necessary that the study of Filipino should keep pace with the changes happening in the world. Therefore, it is necessary to study it beyond the traditional boundaries set for teaching and relate it to other disciplines so that Filipino can be utilized not only within its usual scope but also in other intellectual disciplines and fields (Commission on Higher Education, 2017). The program also states that the courses included in

it will foster students' proficiency in communication, broad knowledge of language theory and practice, creative thinking, and critical research. This program will prepare students to become researchers, journalists, teachers, critics, writers, translators, editors, managers, entrepreneurs, and more.

In Bachelor of Arts in Filipino program, courses offered include the study of Verbal and Non-Verbal Communication in Filipino. The focus of this course is on the various forms of verbal and non-verbal communication in Filipino. The course will also examine the relationship between these communication forms and Filipino culture, particularly in personal relationships and interactions (Commission on Higher Education, 2017). However, the attainment and implementation of the program's objectives for the Bachelor of Arts in Filipino are hampered due to the fact that there is a lack of sufficient textbooks, readings, and other materials used in teaching Filipino. This shortage may affect the academic performance of the students. As a result, the teaching of Filipino at the tertiary level has become more challenging. Rogayan and Dollete (2019) state that due to the issue of inadequacy of instructional materials, teachers face the challenge of creating appropriate materials that will improve student learning and resolve the problem of lack of reference materials. Various factors hinder teachers in developing online modules, including (1) the lack of sufficient time, (2) insufficient access to advice and technical expertise, and (3) a shortage of knowledge and skills (Alexander 2001; Volery & Lord, 2000).

In response to the goals set forth in CHED Memorandum Order No. 22, s. 2017, the development and validation of the self-learning module on Verbal and Non-Verbal Communication in Filipino aims to solidify the teaching and learning of fundamental knowledge on verbal and non-verbal communication, taking into account their types, forms, theories, relation to Philippine society, and their application in various social contexts. The development of this module is expected to address the needs of the Bachelor of Arts in Filipino program, specifically in terms of creating instructional materials that can help develop the skills of students.

This study aimed to develop a self-learning module for the Verbal and Non-Verbal Communication in Filipino course, which will serve as additional material for teaching and learning various forms of communication, communication dynamics in Filipino culture, and their application in different social contexts. In connection with this, the developed self-learning module underwent validation and evaluation by experts in teaching Filipino and students who would benefit from it. The validation by experts focused on assessing the adequacy, coherence, appropriateness, and usefulness of the developed self-learning module. Meanwhile, the evaluation by students was based on their judgment of the format and content of the developed module for the Verbal and Non-Verbal Communication in Filipino course.

The researcher believes that the development of a self-learning module on verbal and non-verbal communication will not only enhance students' knowledge on communication theories and their types but also provide practical applications in various contexts of Philippine society. It is expected that through the use of self-directed activities in the developed module, students will have the opportunity to improve their communication skills in a way that benefits themselves and contributes positively to their community.

### **OBJECTIVE OF THE STUDY**

This study aimed to develop and validate a self-learning module on Verbal and Non-Verbal Communication in Filipino. It ensured that: (1) design a self-learning module on Verbal and Non-Verbal Communication in Filipino; (2) establish the validity of the content and reliability; and (3) evaluate the developed self-learning module.

## DESIGN ANG METHODOLOGY

This study employed a design and development research approach to establish an empirical basis for developing a self-learning module. To ensure this, the researcher utilized the ADDIE (Analysis, Design, Development, Implementation, Evaluation) Model in developing a self-learning module on Verbal and Non-Verbal Communication in Filipino.

### Participants

The participants in the study were sixty (60) students in their first year of the Bachelor of Arts in Filipino program in a state university in Cebu. Seventeen (17) of the participants were male and forty-three (43) were female. The researcher also consulted five (5) experts to validate the developed self-learning module. The table below shows the profile of the expert validators:

**Table 1: Expert Validators of the Developed Self-Learning Module on Verbal and Non-Verbal Communication in Filipino**

Expert Validators	Educational Qualification	Experience in Teaching
1	Doctorate Degree	26 years
2	Doctorate Degree	29 years
3	Doctorate Degree	6 years
4	Doctorate Degree	12 years
5	Master’s Degree	8 years

### Research Instrument

In collecting data, the researcher utilized the following: (1) pretest and post-test for each unit of the self-learning module; (2) a checklist for expert validators; and (3) a checklist for student evaluation. A pretest was administered to gather baseline information on what students knew before being introduced to the developed self-learning module. Similarly, a post-test was also conducted to measure the performance of students after studying the module's content. In creating the pretest and post-test, the researcher adhered to standard procedures in developing and validating an assessment instrument. The researcher consulted the five experts in the field to ensure the validity of assessment instrument. In the conducted validation, the content validity index (CVI) has a corresponding value of 1.0 based on the validation by five panels of experts with a critical value of 0.99. The CVI is even higher than 0.99 and implies that the test measures what it is intended to measure. Meanwhile, the checklist for expert validators is a standardized evaluation tool for instructional materials focused on adequacy, coherence, appropriateness, and usefulness of the module. The checklist for evaluating student assessment of the developed self-learning module is a 5-point Likert checklist focused on the content and format of the developed self-learning module, with seven items for format and nine for its content.

### Data Gathering Procedure

The development and validation of a self-learning module on Verbal and Non-Verbal Communication in Filipino followed the steps of the ADDIE model. The ADDIE is an acronym that represents the five main stages in the instructional design process. It consists of the processes - Analysis, Design, Development, Implementation, and Evaluation (Peck 2024).

#### Phase 1 - Analysis

The researcher thoroughly examined the policies, standards, and guidelines of the Bachelor of Arts in Filipino, including the scope and expected learning objectives of the Verbal and Non-Verbal Communication course in Filipino set by the Commission on Higher Education. The researcher aimed to create a matrix that outlines the competencies and topics to be studied in this course. The

researcher also considered the needs of the students, learning difficulties, module content, and the materials required to develop a self-learning module.

### Phase 2 - Design

The researcher began designing and developing the self-learning module, including setting learning objectives, content for each unit and lesson, and activity sheets. Each lesson consists of sections - Learning Objectives, Introduction, Preparatory Activity, Preparation, Presentation, Practice, and Performance.

### Phase 3 - Development

In this phase, actual writing on the module began with consideration of the principles of Outcome-Based Education (OBE). It was also ensured that the activities are student-centered and address the competencies that need to be achieved by the students in this course. The module is composed of four units - (1) Mahahalagang Konsepto Komunikasyon (Essential Concepts in Communication), (2) Berbal na Komunikasyon sa Iba't Ibang Konteksto (Verbal Communication in Various Contexts), (3) Di-Berbal na Komunikasyon sa Interaksyong Pantao (Nonverbal Communication in Human Interaction), and (4) Pagbuo ng Panimulang Pag-aaral sa mga Natatanging Isyu/Usapin at mga Kaugnay na Paksa sa Berbal at Di-Berbal na Komunikasyon (Writing a Preliminary Research on Key Issues and Related Topics in Verbal and Non-Verbal Communication).

### Phase 4 - Implementation

Before the actual use of the self-learning module in class, the researcher consulted with five experts in the field of research and Filipino to validate the developed module for adequacy, coherence, appropriateness, and usefulness. After validation, the researcher revised the module based on the suggestions of the validators. The researcher also conducted a pretest for each unit to gather data on the performance of students in the Bachelor of Arts in Filipino before using the self-learning module. In connection with this, the researcher also conducted a post-test for each unit after the students used the module. The pretest and post-test consisted of thirty-five items for each unit of the module.

### Phase 5 - Evaluation

After utilizing the module in class, the researcher conducted an evaluation with the help of students pursuing a Bachelor of Arts in Filipino. Sixty (60) students evaluated the module based on its format and content. Following this, the researcher revised the module to refine and finalize the self-learning module on Verbal and Non-Verbal Communication in Filipino.

## RESULTS AND DISCUSSION

This study focuses on the development and validation of a self-learning module on Verbal and Non-Verbal Communication in Filipino. This section presents an analysis of the collected data and its interpretation.

### Units and lessons of the self-learning module on Verbal and Non-Verbal Communication in Filipino

**Table 2: Units and lessons of the self-learning module on Verbal and Non-Verbal Communication in Filipino**

Units	Title of Units	Lessons
Unit 1	Mahalagang Konsepto ng Komunikasyon	Lesson 1 - Mga Konsepto ng Komunikasyong Pantao Lesson 2 - Ang Wika at Modelo ng Komunikasyon Lesson 3 - Konteksto at Iba Pang Konsiderasyon sa Komunikasyon

Unit 2	Berbal na Komunikasyon sa Iba't Ibang Konteksto	Lesson 1 - Batayang Kaalaman sa Berbal na Komunikasyon Lesson 2 - Berbal na Komunikasyon sa Paraang Pasulat Lesson 3 - Berbal na Komunikasyon sa Paraang Pasalita
Unit 3	Di-Berbal na Komunikasyon sa Interaksyong Pantao	Lesson 1 - Batayang Kaalaman sa Di-Berbal na Komunikasyon Lesson 2 - Di-Berbal na Komunikasyon: Pagpapakahulugan sa Pilipinas at sa Ibang Panig ng Mundo Lesson 3 - Komunikasyong Onlayn sa Modernong Mundo
Unit 4	Pagbuo ng Panimulang Pag-aaral sa mga Natatanging Isyu/Usapin at mga Kaugnay na Paksa sa Berbal at Di-Berbal na Komunikasyon	Lesson 1 - Ang Pananaliksik at Format ng Panimulang Pag-aaral Lesson 2 - Pamagat at Suliranin ng Pananaliksik Lesson 3 - Metodolohiya at Mga Hakbang sa Pagsasagawa ng Pananaliksik

Table 2 presents the four units and lessons that comprise the self-learning module on Verbal and Non-Verbal Communication in Filipino. In Unit 1, essential concepts of communication will be discussed, including various perspectives, languages, and communication models, as well as contexts and other considerations. The Unit 2, on the other hand, covers concepts related to verbal communication in different contexts. This unit focuses on a comprehensive discussion of the foundational knowledge of verbal communication, both written and spoken. The Unit 3 focuses on nonverbal communication in human interaction and online communication. The lessons center on discussing the basic knowledge of nonverbal communication, defining nonverbal communication in the context of the Philippines and other parts of the world, and online communication in the modern world. Meanwhile, Unit 4 discusses the development of introductory studies on special issues/topics and related subjects in verbal and nonverbal communication. The concepts and skills developed in this lesson will serve as a springboard for students to create preliminary studies on key issues and other related topics in verbal and nonverbal communication in Filipino.

According to Torrefranca (2017), instructional design which involves systematic development of instructional materials and activities, ensures that learners achieve specific learning goals or educational outcomes reflected in the education curriculum and provides relevant instructions suitable for a wide range environment. A valuable partner of the teacher in teaching is an effective teaching material that responds to the challenges of changing times. This will serve as a conveyor of knowledge and developer of students' skills (Zamora, 2016).

**Students' performance before and after using the self-learning module in Verbal and Non-Verbal Communication in Filipino**

**Table 3: Pretest scores of students before using the self-learning module**

Pretest	LM	AM	MTM	CAM	Mea n	SD	Interpretation
Unit 1	1(1.7%)	30(50%)	26(43.3%)	3(5%)	66	13.74	Moving Towards Mastery
Unit 2	2(3.3%)	47(78.3%)	11(18.3%)	0	58	10.92	Average Mastery

Unit 3	0	33(55%)	26(43.3%)	1(1.7%)	64	13.19	Average Mastery
Unit 4	7(11.7%)	50(83.3%)	3(5%)	0	48	12.34	Average Mastery
Average					59	12.55	Average Mastery

Legend: 0%-4%=Absolutely No Mastery (ANM), 5%-14%=Very Low Mastery (VLM), 15%-34%=Low Mastery (LM), 35%-65%=Average Mastery (AM), 66%-85%=Moving Towards Mastery (MTM), 86%-95%=Closely Approximating Mastery (CAM), 96%-100%=Mastered (M)

As shown in Table 3, the performance of the students before using the developed self-learning module on Verbal and Non-Verbal Communication in Filipino is evident. The results indicate that out of 35 pretest items, the participants in Unit 1 obtained a mark moving towards mastery in learning the essential concepts of communication (M=66; SD=13.74). Meanwhile, Unit 2 achieved average mastery in verbal communication in various contexts (M=58; SD=10.92). Unit 3 achieved average mastery (M=64; SD=13.19) in non-verbal communication in human interaction, and Unit 4 also achieved a mark average mastery in development of introductory studies on special issues and other related topics in verbal and nonverbal communication (M=47.84; SD=12.34). It appears that the overall performance of the participants before using the self-learning module achieved average mastery in all areas of Verbal and Non-Verbal Communication in Filipino (M=59; SD=12.55).

**Table 4: Post-test scores of students after using the self-learning module**

Post-test	LM	AM	MTM	CAM	M	Mean	SD	Interpretation
Unit 1	0	20(33.3%)	26(43.3%)	13(21.7%)	1(1.7%)	74	14.16	Moving Towards Mastery
Unit 2	0	18(30%)	37(61.7%)	5(8.3%)	0	72	11.63	Moving Towards Mastery
Unit 3	0	12(20%)	26(43.3%)	15(25%)	7(11.7%)	80	15.37	Moving Towards Mastery
Unit 4	6(10%)	33(55%)	20(33.3%)	1.7%)	0	60	16.09	Average Mastery
Average						71	14.31	Moving Towards Mastery

Legend: 0%-4%=Absolutely No Mastery (ANM), 5%-14%=Very Low Mastery (VLM), 15%-34%=Low Mastery (LM), 35%-65%=Average Mastery (AM), 66%-85%=Moving Towards Mastery (MTM), 86%-95%=Closely Approximating Mastery (CAM), 96%-100%=Mastered (M)

Table 4 shows the performance of the students after using the self-learning module on Verbal and Non-Verbal Communication in Filipino. The results reveal that in the 35-item post-test, the participants in Unit I achieved a score indicating moving towards mastery (M=74; SD=14.16). Meanwhile, Unit 2 achieved a score indicating moving towards mastery (M=72; SD=11.63). Unit 3 also achieved a score equivalent to moving towards mastery (M=80; SD=15.37), while Unit 4 achieved a score indicating average mastery (M=60; SD=16.09). After using the self-learning module, the overall performance of the participants reveals a mean score of 71 and a standard deviation of 14.31, indicating a positive trend of moving towards mastery. The data suggests an increase in the

performance of the participants from average mastery in pretest to moving towards mastery in post-test after using the self-learning module on Verbal and Non-verbal Communication in Filipino.

**Table 5: Differences in student performance between pretest and post-test**

Students' Performance	t	df	p	Interpretation
Unit 1 - Pre-test at Post-test	-4.93	59.0	<.001	Significant
Unit 2 - Pre-test at Post-test	-9.40	59.0	<.001	Significant
Unit 3 - Pre-test at Post-test	-8.81	59.0	<.001	Significant
Unit 4 - Pre-test at Post-test	-6.33	59.0	<.001	Significant

The table 5 shows that the paired sample t-test reveals a significant difference between the performance of participants in the pretest and post-test in four units of the developed self-learning module ( $p < 0.05$ ). Since the mean post-test score is higher than the mean pretest score, this indicates that there is sufficient evidence that exposure to the developed self-learning module resulted in an improvement in the knowledge of student participants in verbal and non-verbal communication in Filipino.

Self-directed learning appears beneficial for the students as they can work and study simultaneously. It is a method which can measure students' learning desires, safeguard their appropriate learning, lead them towards deliberate actions and measure their subsequent knowledge (Khalid, Bashir, & Amin, 2020). Instructional materials are essential tools in learning every subject in the school curriculum. They allow students to interact with words, symbols and ideas in ways that develop their abilities in reading, listening, solving, viewing, thinking, speaking, writing, using media and technology (Bukoye, 2018).

According to Leonen (2016), the use of instructional materials in teaching improves the performance of students and enables teachers to clarify their lessons (Dollete & Rogayan, 2019). A well-developed course learning module effectively deliver instruction regardless of learning modalities (Sanchez, 2022). Modular approach helps to maximize the chances of student participation in classroom in respect to fulfill the given tasks on the spot. It is more effective in teaching-learning process as compared to ordinary teaching methods because the students learn at their own pace (Sadiq and Zamir, 2014).

**Expert validation of the developed self-learning module**

**Table 6: Expert validation of the developed self-learning module**

Criteria	Mean	SD	Interpretation
Adequacy	4.76	0.40	Strongly Agree
Coherence	4.88	0.27	Strongly Agree
Appropriateness	4.84	0.29	Strongly Agree
Usefulness	4.88	0.27	Strongly Agree
Average	4.84	0.31	Strongly Agree

Legend: 1.00-1.49=Strongly Disagree, 1.50-2.49=Disagree, 2.50-3.49=Undecided, 3.50-4.49=Agree, 4.50-5.00=Strongly Agree

As shown in Table 6, the expert validators strongly agree that the developed self-learning module on Verbal and Non-Verbal Communication in Filipino possesses adequacy ( $M=4.76$ ;  $SD=0.40$ ), coherence ( $M=4.88$ ;  $SD=0.27$ ), appropriateness ( $M=4.84$ ,  $SD=0.29$ ), and usefulness ( $M=4.88$ ;  $SD=0.27$ ). The expert validators provided positive feedback because they believe that the developed self-learning module will help and enhance student learning in verbal and non-verbal communication in Filipino. Currently, teaching focuses on the use of modules to ensure the development of students' various skills. The modules utilized in school need to be evaluated to assess their effectiveness (Zamora, 2016). According to Butcher, Davies, & Highton (2019), ensuring the learning materials are

constructively aligned could aid deep learning. Thus, relating objectives with teaching/learning activities and assessment tasks is an essential module component. Learning content is a crucial issue in enhancing learning experience in the context of higher education, and thus, activities or ideas included in the module must allow opportunities to better academic performance (Cramer, Ross, Plant, & Pschibu 2018).

### Students' evaluation on the developed self-learning module

**Table 7: Students' evaluation on the developed self-learning module**

Criteria	Mean	SD	Interpretation
Format	4.79	0.48	Strongly Agree
Content	4.67	0.47	Strongly Agree
Average	4.72	0.47	Strongly Agree

Legend: 1.00-1.49=Strongly Disagree, 1.50-2.49=Disagree, 2.50-3.49=Undecided, 3.50-4.49=Agree, 4.50-5.00=Strongly Agree

As shown in Table 7, the evaluation of the 60 students who participated in the self-learning module reveals that they strongly agree with the format and content. Regarding the format, it appears that the participating students strongly agree that the self-learning module is organized in a logical and sequential manner, readable, easy to understand, with key points highlighted, and well-organized illustrations, images, and captions. Furthermore, the participants also strongly agree that the content of the self-learning module is easy to understand, with clear objectives, instructions, ideas, and concepts, which made learning the lessons on Verbal and Non-Verbal Communication in Filipino more accessible and enjoyable. One of the important educational innovations in instructional design that can complement the traditional face-to-face instruction is programmed instruction in a module form. Through this method, the teacher sheds the role of a presenter, demonstrator, driller, and questioner and now it takes on the role of facilitator, initiator, monitor, coach, and coordinator. More importantly, it provides students opportunities to direct their own learning while they construct meaningful experiences about the concepts being taught (Torrefranca, 2017). Moniero (2012) claimed that one of the most flexible learning materials to facilitate learning during open distance learning is course module. These materials do not merely enrich or supplement present methods of instruction but also facilitate learning, make learning vivid, increase retention, cater more individual differences and eliminate verbalism (Sanchez, 2022).

For achieving higher self-directed learning skills among university students, they should be allowed to identify their own learning needs; and opinion may be taken into consideration when identifying learning objectives. Various learning strategies should be addressed in classes; and students should be encouraged to monitor and evaluate their own learning processes. Learning experiences which improve individuals self-directed learning skills should be used to help them become lifelong learners (Tekkol & Demirel, 2018).

### CONCLUSIONS

This study aimed to develop and validate a self-learning module on Verbal and Non-Verbal Communication in Filipino. It ensured that: (1) design a self-learning module on Verbal and Non-Verbal Communication in Filipino; (2) establish the validity of the content and reliability; and (3) evaluate the developed self-learning module. The study found out that the self-learning module consists of four units. The units comprising the module on Verbal and Non-Verbal Communication in Filipino tackle the essential concepts of communication, different contexts of verbal communication, the role of non-verbal communication in human interaction, and creating preliminary studies on key issues and other related topics in verbal and nonverbal communication in Filipino. The study also revealed that there is a significant difference between the performance of participants in the pretest and post-test in four units of the developed self-learning module. Since the mean of the post-test is



higher than the mean of the pretest, this indicates that exposure to the developed self-learning module resulted in an improvement in the knowledge of student participants in verbal and non-verbal communication in Filipino. Moreover, in validation, it appears that expert validators strongly agree that the developed self-learning module possesses adequacy, coherence, appropriateness, and usefulness. Based on the students' evaluations, it appears that they strongly agree that the format of the self-learning module is well-organized in a logical and sequential manner, making it easy to read and understand the tables and diagrams, highlighting key points, and presenting organized illustrations, images, and captions. Similarly, they strongly agree that the content is easy to understand, conveying clear objectives, instructions, ideas, and concepts, thus facilitating and making learning more engaging and enjoyable.

## REFERENCES

- Alexander, S. (2001). E-learning Developments and Experiences. *Education & Training*, 43(4/5), 240-248.
- Bukoye, R.O. (2019). Utilization of Instructional Materials as Tools for Effective Academic Performance of Students: Implications for Counselling. *MDPI Proceedings*, 1-7.
- Butcher, C., Davies, C., & Highton, M. (2019). *Designing learning from module outline to effective teaching* (2<sup>nd</sup> Edition). Routledge. <https://doi.org/10.4324/9780429463822>
- Commission on Higher Education. (2017). CHED Memorandum Order No. 22, s. 2017. <https://ched.gov.ph/2017-ched-memorandum-orders/>. Accessed on 20 June 2024
- Cramer, K.M., Ross, C., Plant, L. & Pschibu, R. (2018). Efficacy of learning modules to enhance study skills. *International Journal of Technology and Inclusive Education (IJTIE)*, 7(1), 1251-1259.
- Khalid, M., Bashir, S., & Amin H. (2020). Relationship Between Self-Directed Learning (SDL) and Academic Achievement of University Students: A Case of Online Distance Learning and Traditional Universities. *Bulletin of Education and Research*, 42(2), 131-148.
- Leonen, R.B. (2016). *Development and Validation of Worktext in Chemistry 10*. Unpublished Research: Don Mariano Marcos Memorial State University.
- Moniero, R. (2012). *Development and Validation of Understanding by Design (UBD) - Based Workbook in English*. Unpublished Master's Thesis. Ilocos Sur Polytechnic State College, Sta. Maria, Ilocos Sur.
- Peck D. 2024. What is the ADDIE Model of Instructional Design? 2024 Guide. <https://www.devlinpeck.com/content/addie-instructional-design>. Accessed on 17 September 2024
- Rogayan, D.V. & Dollete, L.F. (2019). Development and Validation of Physical Science Workbook for Senior High School. *Science Education International*, 30(4), 284-290. <https://doi.org/10.33828/sei.v30.i4.5>
- Sanchez, G.G. (2022). Development, Validation, and Effectiveness of Module for the Course "Teaching Social Studies in the Intermediate Grades". *E-DAWA An International Multidisciplinary Research Journal*, 2(1), 86-102.
- Sadiq, S. & Zamir, S. (2014). Effectiveness of Modular Approach in Teaching at University Level. *Journal of Education and Practice*, 5(17), 103-109.
- Tekkol, I.A. & Melek, D. (2018). An Investigation of Self-Directed Learning Skills of Undergraduate Students. *Frontiers in Psychology*, 9(2324), 1-14. <https://doi.org/10.3389/fpsyg.2018.02324>

- Torre Franca, E.C. (2017). Development and Validation of Instructional Modules on Rational Expressions and Variations. *The Normal Lights*, 11(1), 43-73.
- Volery, T. & Lord, D. (2000). Critical Success Factors in Online Education. *The International Journal of Educational Management*, 14(5), 216.
- Zamora, N.C.L. (2016). Pagtataya at Modularisasyon ng K-12 sa Asignaturang Filipino: Tungo sa Pagbuo ng Modelo ng Ebalwasyon para Kagamitang Panturo na Tutugon sa Ika-21 Siglong Kasanayan. *The Normal Lights*, 10(2), 207-236.