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Association of Learners Academic Performance with the Preparedness and Competence in the Implementation of Modular Learning Among Secondary School Teachers at Lanao del Norte

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ABSTRACT

Purpose of the study: Part of the challenge in the paradigm shift of the Philippine education system during the pandemic is the adoption and implementation of modular learning in pursuit of the continuity of learning and the promotion of learners' academic performance. This study inquired about the secondary school teachers' preparedness and competence in implementing modular learning and its relationship to learners' academic performance.

Methodology: Descriptive correlational approach with triangulation. A stratified sample of secondary school teachers (n = 77) and students (n = 322) was calculated through Raosoft, representing the two national high schools at Lanao del Norte that participated in the researcher-made validated and reliable tool (α = 0.81). Quantitative data were analyzed and processed in SPSS version 22 and yielded results with mean, frequency, percentage distribution, and Pearson. Qualitative data were then manually coded, transcribed, and translated.

Main Findings: The secondary school teachers are well-prepared to implement modular learning in printing, segregating, delivering, retrieving, facilitating learning, and feedbacking (WM = 3.72). They are generally competent teachers based on their specialization in monitoring, assessing, and evaluating their students (WM = 3.86), with average academic performance (MS =83.03). The secondary school teachers' preparedness (r = -0.19; p = 0.00) and competence (r = -0.30; p = 0.00) significantly correlate with learners' academic performance.

Novelty/Originality of this Study: This study conveys the situation of teachers' preparedness and competence in implementing modular learning to promote academic performance despite the challenging situations in the COVID-19 pandemic. It contributes to a better understanding of promoting quality education amid a crisis.

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1. INTRODUCTION

As the COVID-19 pandemic affected the lives of individuals, the government and its education system have geared a paradigm shift to blend in the situation to promote continuity of learning for the future of learners [1]. A modular approach to learning has been instituted as a strategy to address the gap in the learning process due to protocols that aim to contain the spread of COVID-19 [2], [3]. This approach utilizes self-learning modules (SLM) as a form of distance learning, has been reported as very convenient for most typical Filipino students, and is highly preferred by parents or guardians [4]. It has been required by the Department of

Education [DepEd] through Memorandum Order No. 007, series of 2020; all teachers shall shift to a modular learning approach [5].

However, part of being a teacher as a social interaction-based professional is to adapt to the challenging new set-up in the distance learning along with their situation in coping with the pandemic [6]. During these trying times, it has been reported that teachers are overcoming the challenges, figuring out how to modify their virtual classrooms to meet our new reality within the shifting teaching objectives [7]. Their struggles in implementing the modular approach are related to internet connections, insufficient resources, difficulty printing materials, time constraints, minimal parental support, vague instructions, organizational support, and inadequate training of teachers [8-10]. Moreso, with the teachers' limited time to shift into the new strategy of delivering classes, their competence and developing experience in the situation are crucial in ensuring the learners' academic performance and in promoting quality of learning [2], [10].

Moreover, despite the challenges and the mandate, there needs to be more research on how the teacher's preparedness and competence in implementing a modular learning approach impact learners' academic performance. Thus, this study aims to explore the relationship between the learner's academic performance and the teacher's preparedness and competence in implementing a modular learning approach in a national high school in the province of Lanao del Norte.

The research is highly relevant and significant, as it will shed light on the impact of teacher preparedness and competence on the effectiveness of the modular approach in promoting academic performance. Moreover, it will identify gaps in the implementation process and highlight the areas where teachers need more support and training to ensure learners can achieve their educational goals. This study's findings will provide valuable insights for education policymakers and institutions to improve their strategies and ensure the continuity of learning during the pandemic and beyond.

2. RESEARCH METHOD

This study used a descriptive correlational design with triangulation to describe and explore relationships between the learner's academic performance, teachers' preparedness, and competence in implementing the modular learning approach. It is appropriate since descriptive means describing a situation or phenomenon, answering research inquiries about what, when, where, and how rather than why [11], and finding the relationship between them through correlation [12]. A probability-stratified sampling technique has been applied in which the computed sample respondents are secondary school teachers (n = 77) and junior high school students as learners (n = 322). The teachers as respondents were remunerated, and the junior high school students as learners' sample sizes were derived from the total population through the Raosoft online sample size calculator [13]. The junior high school students as respondents were randomly stratified from Pantar National High School (PNHS) and Balo-I National High School (BNHS) in the province of Lanao del Norte.

The research instrument is adopted and modified in three parts. The first part (I) is about the extent of preparedness in the implementation of modular classes; it has three dimensions, namely: preparing modules (printing, segregating, distributing, and retrieving), facilitating learning, and feedbacking or evaluating, which is assessed through a 5-point Likert scale from 1 as not prepared to 5 as very well prepared. The second part (II) is about the teachers' competence in modular classes in the context of training in specialization, monitoring, and assessing or evaluating, which is also measured through a 5-point Likert scale, from 1 as being more competent to 5 as being very competent. Lastly, the third part (III) is about the learners' academic performance, which is categorized based on their scores ranging from 75 or below, which needs improvement, to 100 as outstanding. This three-part questionnaire has been validated by five experts in the field of teaching and has been reliability tested (Cronbach $\alpha = 0.81$).

Ethical permission has been obtained, and the school heads of office permitted the gathering of the data through face-to-face delivery of printed questionnaires from January to March 2021 with strict observation of Department of Health (DOH) standard health protocols on COVID-19, such as social distancing, wearing a face mask, and hand sanitation [14]. A triangulation through personal interviews with selected parents of learners was done to validate the teacher's preparedness and competence in implementing the modular learning approach and the changes it contributed to the learners' academic performance. Quantitative data were analyzed and processed in SPSS version 22, yielding results with mean, frequency, percentage distribution, and Pearson r. Qualitative data were then manually coded, transcribed, and translated.

3. RESULTS AND DISCUSSION

Results

Table 1 shows the three dimensions of teachers' preparation for implementing modular learning. The result shows that teachers are well-prepared when preparing modules in terms of printing (mean = 3.81), segregating (mean = 3.65), distributing (mean = 4.05), and retrieving (mean = 4.18). They are well-prepared

facilitators of learning (mean = 3.74) and of providing feedback or evaluating (mean = 3.77) the learning content of the modules. Briefly, teachers have been well-prepared for implementing modular learning amid the threat of COVID-19 (weighted mean = 3.65). These were validated with the parents of learners as informants, who narrated that:

> *"Teachers are prepared and also concerned about the status of their students. Sometimes they visited us in the house wearing face masks, face shields, and social distancing when they handed the module to our children. They also collect modules completed by learners…." [Informant 1]"I think the teachers are prepared as they are able to give modules to our child every week. But sometimes, we cannot be able to get the module when lockdown becomes stricter as we cannot go out from home. Sometimes they are texting whenever our child fails to claim his/her own module…." [Informant 2]*
> *"The teachers are prepared in their role as teachers as they provide materials to be used by students. Our child is making activities with classmates as neighbors." [Informant 3]*

Table 1. Description of the Teachers Preparedness in the Implementation of Modular Learning

Variables	Mean	Interpretation
Preparing of Modules		
Printing	3.81	Well Prepared
Segregating	3.65	Well Prepared
Distributing	4.05	Well Prepared
Retrieving	4.18	Well Prepared
Facilitating Learning	3.74	Well Prepared
Feedbacking/ Evaluating	3.77	Well Prepared
Weighted Mean:	3.81	Well Prepared

Table 2 shows that, in general, the teachers are very competent in implementing the modular type of learning (weighted mean = 3.91), particularly in the context of training or webinars in the field of specialization (mean = 3.99), in monitoring (mean = 3.58), and in assessing or evaluating the content of modules (mean = 4.16). Teachers' competence is then triangulated with parents who share that:

> *"In my perspective, teachers here are competitive as they have been doing a lot like giving and checking the exam in the module even during quarantine in the pandemic. There are records shown to us about the performance of our child…." [Informant 4]*
> *"I believe teachers can responsibly perform their duties to make the students learn because they are licensed and degree holders. Let us support each other. The principal or administrators shall continue providing support for the welfare of everybody…." [Informant 5]*

Table 2. Description of the Teachers Level of Building Competence in Modular Learning

Variables	Mean	Interpretation
Training/Webinar in the Field of Specialization	3.99	Very Competent
Monitoring	3.58	Very Competent
Assessing/ Evaluating	4.16	Very Competent
Weighted Mean:	3.91	Very Competent

Table 3 reflects the junior high school student's academic performance in a modular learning approach amid the COVID-19 pandemic. The majority of them have grades between 80 and 84, which reflect satisfactory performance (233 or 72%); some are within 85 to 89 as very satisfactory (59 or 18%), and a few within 75 or 79 as reasonably satisfactory (30 or 9%). The mean grading scale generally indicated that learners have satisfactory academic performance (mean = 83.03). The learners' academic performance amid the pandemic with the modular type of learning shows that:

> *"Somehow, the modular classes for my child are effective but not the same as going to actual classes since the teachers can monitor and guide students on the content that they cannot clearly understand. Not all parents have enough knowledge or degree to guide their child…." [Informant 1]*
> *"It is effective if we can teach the students well since we are just staying at home, and it is easy to understand the content of the module needed to be studied and answered. Enough time, patience, and sufficient knowledge are needed by parents to make their child perform better…." [Informant 2]*

Table 3. Academic Performance of Learners in Modular Learning

Grading Scale *(n=322)*	Frequency	Percentage
Outstanding (90-100)	0	0.00
Very Satisfactory (85-89)	59	18.32
Satisfactory (80-84)	233	72.36
Fairly Satisfactory (75-79)	30	9.32
Needs Improvement (below 75)	0	0.00
	Mean = 83.03	

Table 4 illustrates the correlation of variables. Through Pearson r, the result shows that learners' academic performance has an almost negligible correlation (r = 0.19) or significant relationship with the secondary teachers' preparedness for the implementation of the modular type of learning (p = 0.00). Then, learners' academic performance shows a low correlation (r = 0.30) or significant relationship with the secondary teachers' competence in a modular type of learning (p = 0.00). It infers that well-prepared and competent teachers implementing modular learning would, to some extent, influence learners' academic performance.

Table 4. Correlates of Learners Academic Performance in Modular Learning

Correlated Variables	r value	p-value	Interpretation
Preparedness in Modular Learning	0.19	0.00	Significant
Building Competence in Modular Learning	0.30	0.00	Significant

Discussion

This This study focused on investigating the preparedness and competence of secondary school teachers in implementing modular learning during the COVID-19 pandemic and its impact on students' academic performance. Despite the numerous challenges faced by teachers on both personal and professional fronts [2], [9], this study discovered that teachers were able to adapt to the shift in the education system towards modular learning. Teachers demonstrated the ability to create, print, distribute, and collect modules while adhering to pandemic safety protocols. They were provided with printing equipment by the Department of Education [5], and they had developed strategies for module management and distribution as part of their professional routine. Testimonies from parents indicated that teachers regularly provided modules on a weekly basis. However, it is important to note that teachers in remote areas faced difficulties related to limited resources, lack of electricity, and challenges in module production and retrieval. These difficulties were further compounded by a lack of parental support, academic dishonesty, distance, and time constraints [2], [6]. Nevertheless, according to the Basic Education Learning Continuity Plan [5], schools are responsible for ensuring the availability of printing materials, including supplies such as printers, bond papers, notebooks, and pens for both teachers and students.

Teachers have shown a high level of preparedness in developing modules and facilitating learning through these materials. They have exhibited the courage to empower and motivate students by designing activities that encourage practice, application, and analysis of information within the modules [4], [10]. This indicates that teachers have gradually adjusted to the pandemic situation over time. They have also implemented feedback measures and evaluations to gather insights into students' learning experiences with the modules. Such feedback serves as a basis for continuous improvement of the teaching practice and enhances academic performance. Furthermore, teachers have taken on the taxing responsibility of establishing effective communication channels with parents to obtain their feedback. In the context of distance learning, modular students require significant support and ongoing feedback on their learning progress to ensure effective and high-quality education [2], [3]. The facilitation of learning during these challenging times has become a formidable task for educators, as all stakeholders responsible for ensuring quality education are grappling with their own struggles [2]. Consequently, teachers are taking risks in their lives to provide a smooth and productive learning experience for their students, even in the face of the pandemic. This dedication aligns with a study highlighting the commitment of educators in uncertain times for the sake of learning and ensuring a better future [15].

Furthermore, this study establishes the critical role of prepared and competent teachers in students' academic performance. Teachers have been equipped with the necessary knowledge, skills, and attitudes through the support of stakeholders, particularly administrators who have facilitated their attendance and participation in training and webinars related to modular learning. While parents play a crucial role in optimizing students' performance, this study indicates that the competence of teachers in implementing modular learning supersedes the parents' capacity to guide their children's academic journey [16], [17]. Interestingly, parents expressed a strong sense of accountability and a desire to establish partnerships to enhance their children's academic performance. This suggests that parents can be actively involved in an innovative plan for the effective implementation of modular learning. Undoubtedly, committed and supportive parents contribute significantly to their children's success as students [18], [19]

This study contributes to the existing knowledge by highlighting the importance of preparedness and competence in promoting quality education during challenging times such as the COVID-19 pandemic. It emphasizes the need to carefully consider preparedness when introducing new practices or pedagogies that are tailored to the specific situation. The findings underscore the crucial role of teachers' competence in translating into improved academic performance among students. This connection should always be taken into account when striving for educational excellence. While this study sheds light on important aspects of teachers' preparation and competence in implementing modular learning, there are certain limitations that should be acknowledged. Firstly, the study focused solely on secondary school teachers, and the findings may not be generalizable to teachers at other educational levels. Future research could consider including teachers from different grade levels to provide a more comprehensive understanding of the topic.

In addition, the study primarily relied on self-report data from teachers and feedback from parents. Although these perspectives provide valuable insights, they are subjective in nature and may be influenced by biases or perceptions. Incorporating objective measures, such as direct observations of teaching practices or assessments of student performance, could enhance the validity and reliability of the findings. Also, the study did not extensively explore the specific strategies or training programs that contributed to teachers' preparedness and competence in implementing modular learning. Further investigation into the types of training and professional development opportunities that effectively support teachers in adapting to new teaching modalities would be beneficia [20]. Furthermore, the study did not address the potential variations in students' academic performance across different socioeconomic backgrounds, learning abilities, or access to resources. Understanding how these factors interact with teachers' preparedness and competence could provide a more nuanced understanding of the relationship between modular learning and academic performance.

The findings of this study have several implications for educational stakeholders, policymakers, and practitioners. Primarily, it highlights the importance of providing adequate support and resources to teachers during times of crisis or transition, such as the COVID-19 pandemic. Ensuring that teachers have access to training, materials, and technology can enhance their preparedness and competence in implementing new teaching approaches. Moreso, the study underscores the need for effective communication and collaboration between teachers and parents. Establishing strong partnerships can foster a supportive learning environment for students and promote their academic success. Policymakers and school administrators should consider implementing mechanisms to facilitate regular and meaningful engagement between teachers and parents, such as regular parent-teacher conferences or communication platforms. This study emphasizes the resilience and adaptability of teachers in navigating challenging circumstances. Their dedication to providing quality education even amidst uncertainties and risks deserves recognition and support. Policymakers should prioritize the well-being and professional development of teachers to ensure their continued effectiveness in facilitating student learning.

Generally, this study contributes to our understanding of the preparedness and competence of secondary school teachers in implementing modular learning during the COVID-19 pandemic. Despite limitations, the findings highlight the crucial role of teachers in promoting quality education and the need for adequate support from stakeholders. By acknowledging the challenges and leveraging the strengths of teachers, educational systems can better adapt and respond to crises, ensuring continued access to high-quality education for all students.

4. CONCLUSION

Implementing modular learning as a practical approach amid the COVID-19 pandemic requires teachers' preparedness and committed competence in significantly addressing learners' academic performance. This study powerfully conveys that a prepared and competent teacher implementing new pedagogy yields successful students despite challenging situations. It also emphasizes the importance of seamless support of administrators to teachers and the crucial role of parents as stakeholders in quality education. The study recommends conducting future research on effective strategies for promoting teacher preparedness and competence in implementing modular learning, exploring the role of stakeholder support in promoting teacher effectiveness, and examining the impact of the modular learning approach on learners' academic performance in different contexts. Qualitative studies, impact assessments, and evaluations can help identify effective strategies for supporting teachers, promoting quality education, and achieving successful learners amidst the pandemic.

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