Learners’ Home-Based Learning Activities and Academic Achievement in Modular Learning

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Abstract

The new normal education requires learners to be independent in the learning process without face-to-face instruction. This study determined the home-based learning activities in relation to the academic achievement of Grade 6 learners in Plaridel North District, Municipality of Plaridel, Misamis Occidental. The descriptive-correlational design was used in the study. There were 135 students who served as respondents, selected through purposive and convenient sampling techniques. The researcher-made Home-Based Learning Activities Questionnaire was used as a research instrument in determining the learners’ learning activities at home. Documentary analysis was made to determine the learners’ academic achievement. Mean, Standard Deviation, Pearson Product-Moment Correlation Coefficient, and Regression Analysis were used as statistical tools in analyzing the data gathered. Results revealed that the respondents had a very high engagement in home-based learning activities, and their academic achievement was generally very satisfactory. The level of engagement in home-based learning activities was highly influential to the learners’ academic achievement. The efforts extended for modular distance learning can determine what learners can achieve academically.

Keywords: achievement, activities, distance learning, engagement, learners

1. Introduction

The learning of children in school and at home is essential to what they can achieve later in their lives (Barnett & Jung, 2021). However, crucial changes have taken place in the education of school-aged children (Andrew et al., 2020). The COVID-19 pandemic propelled educational institutions worldwide to use distance education as the most practical and common pedagogical strategy during the global health crisis (Sali, 2020). Teachers and school authorities are required to innovate in their pedagogies, while other stakeholders participate actively in helping schools address the changes in the education system (Kintanar et al., n.d.).

The Philippines has adopted the new normal education (Kintanar et al., n.d.). DepEd order no.12 series of 2020 issued by the department of education (DepEd) through the basic education learning continuity plan (BE-LCP) for the school year 2020-2021 introduced different modalities of learning catering to all levels for the continuity of education (Espineli, 2021). These learning modalities for distance learning include modular (printed), modular (digitized), online, educational tv, radio-based instruction, homeschooling, and blended learning (Anzaldo, 2021). But, for most schools, modular distance learning has been adopted (Pascual, 2021), in which different tasks and learning activities are based on essential learning competencies, and parents and guardians act as the learners’ teachers at home (Anzaldo, 2021). The effects of the modality change can depend on how well schools and families implement the learning that occurs in their respective homes (Andrew et al., 2020).

Modular learning is used in localities where internet connection is poor, or only a few learners can access internet connectivity (Anzaldo, 2021). Schools prepare learning materials for distribution to parents or relatives, specifically the modules. On the other hand, the learners stay at home and perform the learning tasks indicated in the modules (Pascual, 2021), where they can learn at their own pace within the confines of their homes (Amboyan, 2019). However, the modality requires commitment from the learners in doing their home activities by showing due diligence and exerting adequate time (Fernández-Alonso et al., 2017).
Home-based learning (HBL) entails the teaching and learning process that occurs at the home of the learners, promoting independent, self-directed learning (Martin-Chang & Levesque, 2017) with guidance from their teachers and parents (Cook, 2020). The learners answer learning activities as home-based education (Auliya & Fauziah, 2021). School-related literacy activities at home include children's engagement in home reading and writing activities (Alston-Abel & Berninger, 2018). Learners' quality of time in their home learning activities like reading can determine their educational outcomes (Andrew et al., 2020) and shape holistic competence (Cetinkayaözdemir & Akyol, 2021). Also, the level of performance that the children might have had can determine how well students spend on homework, manage their time, and accomplish their homework (Nunez et al., 2017).

The home learning environment plays a crucial role in developing children's early competencies (Niklas et al., 2020). However, home-based and self-directed learning can be difficult for learners (Martin-Chang & Levesque, 2017). Previous research has shown that learning at home is challenging due to the dearth of learning resources like internet connectivity and the level of parents' abilities to support their children's learning (Putra, 2020).

Furthermore, Agrin (2021) found that the students' academic performance is influenced by their general comprehension and independent learning in using modules. Also, students achieve good academic performance with previous exposure and knowledge of modular learning (Jou et al., 2022). However, while student achievement is a collaborative output and responsibility of teachers, students, and other stakeholders (Melesse & Molla, 2018), the learners' academic achievement in modular learning can decrease due to distraction by non-academic matters (Alston-Abel & Berninger, 2018).

Many studies were conducted on modular distance learning for the continuity of children's education. However, limited studies indicated the specific activities that learners engage in in modular distance learning and the effects of the engagement on their achievement. Thus, this study was conducted to address this gap in the literature.

The Division of Misamis Occidental has implemented modular distance learning (MDL) and other learning modalities for education to continue amid the pandemic. The printed modules and the appropriate learning modalities based on the k-12 most essential learning competencies (MELS) were distributed regularly with the weekly home learning plan (WHLP). However, in the public elementary schools of Plaridel North District, teachers observed that several learning activities indicated in the modules were either partially or not accomplished by many learners. There were also instances of delay in the distribution and submission of the modules. In addition, some performance tasks were not complied with satisfactorily, affecting the students' academic achievement. Hence, the study could further support the significance of learners' individual efforts in accomplishing learning tasks and activities in attaining good academic standing in modular learning.

2. Materials and Methods

2.1. Research Design

The descriptive–correlational design was used in the study. The design aims to describe the relationship among variables or how one phenomenon is related to another in situations where the researcher has no control over the independent variables, the variables believed to cause or influence the dependent or outcome variable (Lape, 2000). Therefore, the design was considered appropriate in determining the learners' engagement in home-based learning activities in relation to academic achievement.

2.2. Research Setting

The study was conducted in the four big public elementary schools in the Plaridel North District, Division of Misamis Occidental. Plaridel North District is located in the heart of the Municipality of Plaridel, Province of Misamis Occidental. In the four big schools included in the study and the other elementary schools in the district, only the modular print learning modality was used. The lessons for these modules or self-learning packets made by the teachers in Division were anchored on the essential learning competencies per grade level, learning area, and quarter.

2.3. Respondents of the Study

The respondents of the study were 135 Grade 6 learners from the four big elementary schools of Plaridel North District, Division of Misamis Occidental, during the SY 2021-2022. They were chosen through purposive and convenient sampling techniques. The respondents gave their consent to participate in the study.
2.4. Research Instruments

The following were the instruments used in gathering the data:

a) Home-Based Learning Activities Questionnaire. This is a researcher-made instrument used to determine the level of learners' home-based learning activities. The instrument has twenty statements and has four constructs: answering assignments, reading books/learning materials, researching, and doing projects. The 5-point Likert scale was used in the instrument. The questionnaire underwent the validation process with experts in the field. A pilot test was conducted with learners not included as respondents to determine the instrument's reliability. The test yielded the Cronbach's Alpha of .8839, thus making the instrument reliable for use by the target respondents. In determining the level of the students' engagement in home-based learning activities, the following scale was used:

<table>
<thead>
<tr>
<th>Responses</th>
<th>Continuum</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - Always (A)</td>
<td>4.20 – 5.00</td>
<td>Very High (VH)</td>
</tr>
<tr>
<td>4 - Often (O)</td>
<td>3.40 – 4.19</td>
<td>High (H)</td>
</tr>
<tr>
<td>3 - Sometimes (S)</td>
<td>2.60 – 3.39</td>
<td>Moderate (M)</td>
</tr>
<tr>
<td>2 - Rarely (R)</td>
<td>1.80 – 2.59</td>
<td>Less Engaged (LsE)</td>
</tr>
<tr>
<td>1 - Never (N)</td>
<td>1.00 – 1.79</td>
<td>Least Engaged (LtE)</td>
</tr>
</tbody>
</table>

b) Learners’ Academic Achievement. Documentary analysis was done in determining the academic achievement of the Grade 6 learners. The grades utilized for this study were the learners’ first-quarter ratings that were retrieved from their respective teachers. In determining the level of the learners’ academic achievement, the following grading system utilized by DepEd was used:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 – 100</td>
<td>Outstanding (O)</td>
</tr>
<tr>
<td>85 – 89</td>
<td>Very Satisfactory (VS)</td>
</tr>
<tr>
<td>80 – 84</td>
<td>Satisfactory (S)</td>
</tr>
<tr>
<td>75 -79</td>
<td>Fairly Satisfactory (FS)</td>
</tr>
<tr>
<td>74-below</td>
<td>Did Not Meet the Expectation (DNME)</td>
</tr>
</tbody>
</table>

2.5. Data Collection

Before gathering data, the researcher sought permission from the Dean of the Graduate School of Misamis University for the conduct of the study. Similar approval was sought from the Schools Division Superintendent of the Division of Misamis Occidental so that the research instruments could be administered to the target respondents. After the approval was obtained, the researcher sought the consent of the parents and the learners, explaining to them the nature and the purpose of the study. Finally, the researcher sought the assistance of the class advisers in distributing and retrieving the questionnaires made possible by the parents. The instruments were distributed and retrieved on the same schedule as the distribution and collection of the learning modules. All the answered questionnaires were collected, and the learners’ first quarter grades were obtained. The tallying of data followed for statistical analysis and interpretation.

2.6. Ethical Considerations

The study observed several ethical considerations stipulated by Bryan and Bell (2007). First, the respondents were informed of the nature of the study. They were asked to sign an informed consent form indicating their voluntary study participation. They were also informed that they could withdraw their participation at any time in the study as they desired. The respondents were also assured of their identities' anonymity and their responses' confidentiality. Any misleading information was avoided in the study.

2.7. Data Analysis

Using the Minitab software, the following statistical tools were used in analyzing the data gathered:

*Mean and Standard Deviation were used to determine the level of the learners' home-based learning activities and academic achievement.*

*Pearson Product-Moment Correlation Coefficient was used to determine the significant relationship between the levels of the learners' home-based learning activities and academic achievement.*
3. Results and Discussion

3.1. Level of the Learners’ Engagement in Home-Based Learning Activities

Table 1 shows that the learners had a very high level of engagement in their home learning activities, as indicated by the overall level of engagement (M=4.40; SD=.56). The respondents had a very high engagement in answering activities (M=4.37; SD=.70) and doing projects (M=4.24; SD=.64), while high engagement in reading books/learning materials (M=3.97; SD=.70) and researching (M=3.94; SD=.79). This finding implies that generally the Grade 6 learners attended well to all the activities required for the modular classes. The learners ensured that they performed their responsibilities to achieve learning through modular distance education.

With the pandemic that has affected the educational system, the delivery of teaching and learning is through the modules prepared by teachers. Education is delivered through print materials in the absence of face-to-face instruction. In the modules, the learners are asked to read the learning inputs, do the activities, and do home readings for continuity of learning even without the teachers.

As shown in Table 1, the Grade 6 learners were very highly engaged in answering the activities indicated in their modules. This finding means that the learners exerted the necessary effort and spent time to accomplish what was required in the assessment portions of the learning materials. Doing the activities was a core part of modular learning because it was through that the learners could apply what was taught to them. The answered activities provided the teachers the bases for assessing the learners’ understanding of the lessons. The learners were expected to accomplish all the required assessment activities and performance tasks.

The modules’ activities must be accomplished at home (Rosario et al., 2018). Hence, teachers give parents a weekly or a detailed weekly plan on academic activities like assignments and online activities (Auliya & Fauziah, 2021). However, for many children, doing home activities is difficult, if not impossible, without the help of an adult (Berrezuela-Guzman et al., 2020), especially with unequal learning resources (Thomas & Rogers, 2020).

The research findings also show that the learners had a very high engagement in doing projects. Projects refer to concrete works that the learners need to produce as an outcome of the lessons. For example, in the Science subject, the teacher reflected in the modules on the projects that needed to be accomplished by the learners, like mixing some materials or ingredients to produce certain products, or they could be tasked to take pictures of the objects around them according to the lessons at hand. However, specific materials could be required that some students might not have the means to produce or their parents could not provide.

Having gadgets like tablets and computers for school-related activities can be helpful for children in doing school-related activities in which good access to the internet is necessary (Andrew et al., 2020). In addition, children from financially stable families allocate more time to educational activities than their peers from financially challenged families (Andrew et al., 2020).

However, children from homes with fewer resources and fewer parental support opportunities can fall behind compared to learners who are well provided and well supported by their parents (Thomas & Rogers, 2020).

Furthermore, the study also disclosed that the Grade 6 learners were highly engaged in reading books/learning materials and researching. This finding means that the learners regularly read the books provided to understand the learning inputs in the modules better. In addition, the home activities might have required the learners to scan pages in the books for the lessons reflected in the modules.

For the last School Year 2020 - 2021, as the first implementation of modular learning, there were books for English, Science, Mathematics, EdukasyonsaPagpapakatao, and Filipino subjects distributed. However, the books served mainly as references because of the modules’ main learning materials. For the subjects Music, Arts, Physical Education, and Health (MAPEH), AralingPanlipunan (AP), and EdukasyonsaPantahanan at Pangkabuhayan (EPP) subjects, no books were available for instructional use. Hence, the teachers just had to research the internet and reflect on activities that also needed online research by the learners.

The new instructional set-up for learning activities requires learners’ interest and determination to attain education despite the absence of their teachers and being away from school. The learners have to be responsible for their learning, with the guidance of their parents and teachers. Learners need to adapt well to the changes by doing the academic activities intended for the continuity of education.
Table 1. Level of the Learners’ Engagement in Home-Based Learning Activities (n=135)

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Mean</th>
<th>SD</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answering Assignments</td>
<td>4.37</td>
<td>.58</td>
<td>Very High</td>
</tr>
<tr>
<td>Reading Books</td>
<td>3.97</td>
<td>.70</td>
<td>High</td>
</tr>
<tr>
<td>Researching</td>
<td>3.94</td>
<td>.79</td>
<td>High</td>
</tr>
<tr>
<td>Doing Projects</td>
<td>4.24</td>
<td>.64</td>
<td>Very High</td>
</tr>
<tr>
<td>Overall Engagement</td>
<td>4.40</td>
<td>.56</td>
<td>Very High</td>
</tr>
</tbody>
</table>

Note: Engagement Scale: 4.20-5.0 (Very High); 3.20-4.19 (High); 2.60-3.19 (Moderate); 1.80-2.59 (Less); 1.0-1.79 (Least)

3.2. Level of the Learners’ Academic Achievement

Table 2 shows the very satisfactory overall academic achievement of the Grade 6 learners (87.65) based on the first quarter general ratings. As shown further in the table, forty learners obtained outstanding performance (90-94), ninety-five learners with very satisfactory performance (85-89), and twenty-four learners with satisfactory performance (80-84). These findings imply that the learners were generally able to meet the tasks and requirements for modular learning. In addition, the Grade 6 learners exerted the necessary efforts to attain commendable performance despite the absence of face-to-face instruction.

The finding shows that the learners could comply well with every module activity or task. Despite their classroom teachers’ absence, they could still perform at a commendable level. Maybe, aside from the learners’ mental skills or abilities, they were given their needs for home learning. However, there were also learners whose performance needed significant improvement. Any missed activities or partially accomplished could already affect the learners’ ratings.

Self-learning modules (SLMs) supplement the learning process in new normal education (Bacomo et al., 2022). A module contains various elements for learning, such as the topics, the activities, and assessment tasks designed for learners’ holistic development (Ibyatova, Oparina, & Rakova, 2018). A study on the effect of modular distance learning on the learners in the new normal revealed a decrease in 2.25% of the general weighted average of the learners’ performance (Dargo & Dimas, 2021). Hence, students must be provided with regular feedback on their performance to ensure that they learn as intended (Dejene, 2019).

Based on the nature of modular learning, the modules indicated the activities to be answered according to the lessons discussed in the learning materials. Though answer keys were provided in certain exercises, the assessment activities under the “TRY ME” portion of the module required the learners to answer based on their understanding of the lessons. The scores in the written activities or exercises were recorded. At the end of each quarter, all the exercises found in TRY ME were gathered together, from which selected items were used in formulating a quarter examination. Thus, the Grade 6 learners needed to take the modules seriously because the outcomes of accomplishing the written works and performance tasks determined their ratings at the end of a quarter.

Aside from the modules distributed to the learners through their parents, Learning Activity Sheets (LAS) were also given. These contained enrichment activities and exercises for each module. These sheets were separate from the modules in which the exercises to be answered were more on applying the lessons discussed. Some items from the LAS were also used in crafting a quarter examination. Since no more answers were provided, these activity sheets could validate the learners’ learning.

Modular learning has been in place instead of face-to-face instruction. The modality expects learners to become more independent with the modules and books as sources of learning and the personal initiative to do online research to understand some lessons and tasks better. Also, the parents are expected to provide physical and material assistance and psychological motivation to the young learners to become more determined to achieve good academic standing. Especially with the many possible difficulties that the learners may have experienced in the new learning modality, the teachers, parents, and learners alike need to work together to make modular learning effective.

The study’s findings might serve as feedback to the teachers and school authorities that several learners lagged in the new learning modality. This reality requires educators to consider why several learners cannot achieve better academic achievement. Teachers need to monitor the less-performing learners and do an intervention to help improve their academic achievements in modular distance education.
Table 2. Level of the Learners’ Academic Achievement (n=135)

<table>
<thead>
<tr>
<th>Performance</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding</td>
<td>40</td>
<td>29.63</td>
<td>91.53</td>
<td>1.59</td>
<td>90</td>
<td>94</td>
</tr>
<tr>
<td>Very Satisfactory</td>
<td>95</td>
<td>52.29</td>
<td>87.09</td>
<td>1.56</td>
<td>86</td>
<td>89</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>24</td>
<td>17.78</td>
<td>82.88</td>
<td>1.08</td>
<td>80</td>
<td>84</td>
</tr>
<tr>
<td>Overall</td>
<td>135</td>
<td>100.00</td>
<td>87.65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Achievement Scale: 90-100 (Outstanding); 85-89 (Very Satisfactory); 80-84 (Satisfactory); 75-79 (Fairly Satisfactory); below 75 (Did not Meet Expectations)

3.3. Relationship between the Levels of the Learners’ Home-Based Learning Activities and Academic Achievement

Table 3 shows the highly significant relationship between the learners' home-based learning activities and academic achievement. The finding is true for all the constructs of home-based learning activities, namely: answering assignments and academic achievement (r-value = 0.61; p-value = 0.00); reading books and academic achievement (r-value = 0.62; p-value = 0.00); researching and academic achievement (r-value = 0.49; p-value = 0.00); making projects and academic achievement (r-value = 0.58; p-value = 0.00). The findings mean that the level of the learners' response to the tasks and activities indicated in the modules was influential to the learners' academic achievement at the end of a quarter. The more engaged the learners were in their home-based activities, the higher their academic achievement.

Answered activities through the written works and the accomplished performance tasks served as the bases of the learners' grades. Hence, if all the activities in the modules were accomplished accordingly, the teachers could have good records of the students' learning and performance tasks and quarterly examinations. Hence, the Grade 6 learners needed to spend adequate time scanning the pages and reading for the topics reflected in the modules. Before the pandemic, textbooks for the different subjects served as the sources for the lessons discussed by the teachers. As shown in the table, the learners' efforts in reading and researching determined their academic achievements.

Learning through online materials makes home activities more achievable and effective (Trilestari & Almunawaroh, 2020). However, some learners feel compelled to shift to home learning though they do not have the necessary home facilities like laptops, computers, mobile phones, and internet access essential for smooth home learning activities (Putri et al., 2021). Therefore, online learning sources must be accessed to facilitate the children's learning activities, wherein downloading and uploading materials are part of the learning process, aside from the other virtual activities (Susanto, 2018).

Performance tasks through accomplishing the projects indicated in the modules greatly influence the learners' academic achievement. Hence, the learners need to ensure they submit for all those assigned. Failure to submit one or two projects can negatively affect the grades they get at the end of an academic quarter. Thus, parents need to ensure that they provide the materials needed by their children and extend physical and material assistance as necessary so that the learners can accomplish their projects accordingly and punctually.

Table 3. Relationship between the Levels of the Learners’ Home-Based Learning Activities and Academic Achievement

<table>
<thead>
<tr>
<th>Variables</th>
<th>r-value</th>
<th>Relationship Strength</th>
<th>p-value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answering Assignments and Academic Achievement</td>
<td>0.61**</td>
<td>Strong</td>
<td>0.00</td>
<td>Highly Significant</td>
</tr>
<tr>
<td>Reading Books/Learning Materials and Academic Achievement</td>
<td>0.62**</td>
<td>Strong</td>
<td>0.00</td>
<td>Highly Significant</td>
</tr>
<tr>
<td>Researching and Academic Achievement</td>
<td>0.49</td>
<td>Strong</td>
<td>0.00</td>
<td>Highly Significant</td>
</tr>
<tr>
<td>Doing Projects and Academic Achievement</td>
<td>0.58**</td>
<td>Average</td>
<td>0.00</td>
<td>Highly Significant</td>
</tr>
</tbody>
</table>

Note: Relationship Strength Scale: 1.00 (Perfect); 0.80-0.99 (Very Strong); 0.60-0.79 (Strong); 0.40-0.59 (Average); 0.20-0.39 (Weak); 0.01-0.19 (Very Weak); 0.00 (No Relationship)

Probability Value Scale: **p<0.01 (Highly Significant); *p<0.05 (Significant); p>0.05 (Not significant)
4. Conclusion

The learners have responded proactively to modular distance learning for quality learning to occur despite the absence of face-to-face instruction. They generally have been able to meet the tasks and requirements for modular distance learning, making them attain a commendable academic performance level. Their response to the activities and tasks indicated in the modules were determinants of these learners' academic achievement.

Based on the findings and conclusion of the study, it is recommended that the learners remain well engaged in their home-based learning activities and maintain their outstanding or very satisfactory academic achievement. In contrast, learners with lower academic standing exert more effort in doing their learning activities or tasks to achieve better academic achievement. Also, school administrators and teachers conduct an intervention to the learners with satisfactory performance to improve the latter's academic achievement. Future researchers look into the factors contributing to the low academic performance of several learners in modular distance education.

Acknowledgements

The authors wish to acknowledge the respondents of the study for their voluntary participation to make this research possible. Also, due recognition is given to the teachers of the Grade 6 learners for facilitating the distribution and retrieval of the research instruments.

References


