



DEVELOPING AN INSTRUCTIONAL LEARNING MODULE ON DIVISION OF FRACTIONS FOR GRADE 6 PUPILS

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ABSTRACT

As a response to the call for learning continuity during this time of pandemic, the researcher developed an instructional module on division of fractions that presented the detailed step by step procedures of dividing different kinds of fractions that are easy to follow to promote independent learning among pupils. To ensure the accuracy and correctness of the content of the module, it undergone five phases which are the planning phase, development phase, validation phase, reproduction phase and distribution phase. The planning and development phase was done by the researcher. Under the validation phase, the module was validated and checked by Ms. Mary Ann T. Carreon, a master teacher, and Mr. Alberto J. Tiangco, Education Program Supervisor in Mathematics. The division office was in charge of the reproduction of the modules and it was distributed by the teacher in-charge. This study made use of the descriptive development design to discuss the process of module development. The one group pretest-posttest design was used to determine the effectiveness of the learning material. This study was participated by 31 pupils of grade VI section Einstein. The results of the pretest and posttest was analyzed using paired sample t-test. The computed value of -13.937 is less than the critical value of -1.6973 which suggests that there is a significant difference between the means of the two test therefore the researcher concludes that the use of the instructional module is effective.

Key Concepts: Instructional module, division of fractions

INTRODUCTION

The existence of the COVID-19 pandemic has brought extreme changes to the lives of all the people around the world, but despite that, the department of education didn't stop to find ways on delivering quality education to its learners. This led to the proposition of different distance learning modalities that were utilized to reach out to learners even in the four corners of their homes. Here in Navotas City, the chosen modality was the modified modular approach. This required the teachers to develop instructional learning modules in different subject area. A module is a learning material that promotes independent learning since it focus on a specific topic or skill that is comprehensively discussed in a step by step write-up. As stated in the study conducted by Sadiq (2017) on " Effectiveness of Modular Approach in Teaching at University Level ", the use of modular approach is more effective than the traditional way of teaching so it is highly recommended to implement it in all levels. It affirms that the learning modality to be implemented will cater positive outcomes.

For some learners, Mathematics is a very challenging subject area. They find it tough even with the help of their teachers. This becomes a dilemma for some, specially during this time of pandemic, since face to face instruction is not allowed. But the researcher believes that an appropriate learning material will help the pupils learn even without the presence of a teacher. Thus, the researcher sought to design an instructional module that incorporates step by step procedures that will help the pupils understand the lesson easily.

b. Development Phase

The researcher crafted the module following the prescribed format of the division. The developed module incorporated the detailed step-by-step procedure on division of fractions that are easy to follow to promote independent learning among pupils.

c. Validation Phase

The developed module undergone quality assurance process. It was checked by Ms. Mary Ann T. Carreon, a master teacher in Mathematics and Mr. Alberto J. Tiangco, Education Program Supervisor in Mathematics using the different tools for content evaluation.

d. Reproduction Phase

The validated module was then reproduced by a third party provider in partnership with the division office.

e. Distribution Phase

The printed modules were distributed to the pupils last September 14, 2020 prior to the start of classes.

Mean Difference	-7.48	
Computed T-value	-13.937	
Critical value	Upper	Lower
95% confidence interval of difference	-8.38	-6.59
Sig.(2-tailed)	0.001	
decision	Ho: Rejected	

The table presents the results of the t-test that indicates that there is a significant difference between the mean scores of the pretest and posttest since the computed t-value of -13.937 is significantly lower than the critical t-value of -1.6973. Therefore it is concluded that the use of instructional module is effective.

RESEARCH PURPOSE

1. To develop an instructional module on division of fractions for grade 6 pupils with the following phases:

- a. Planning Phase
- b. Development Phase
- c. Validation Phase
- d. Reproduction Phase
- e. Distribution Phase

2. To determine its effectiveness using the one group paired sample t-test for pretest and posttest.

CONCLUSION

The instructional module was developed for grade 6 pupils to promote independent learning. Detailed step by step procedures helps the pupils understand the lesson easily.

RECOMMENDATIONS

- The researcher recommends the full utilization of the developed learning material to help pupils learn their lessons independently especially in this time where face to face classes are not allowed.
- The department should provide training for teachers in developing learning modules that will help pupils learn their lesson independently at their own phase.

REFLECTION

The researcher realized that the use of instructional module that discusses a step by step procedure especially for a skill-based topic like division of fractions help pupils gain confidence in learning on their

REFERENCE:
 Sadiq S., (2014). Effectiveness of Modular Approach in Teaching at University Level. Journal of Education and Practice. Vol. 5, Number 17. Retrieved from:
<https://files.eric.ed.gov/fulltext/EJ1145220.pdf><https://core.ac.uk/download/pdf/234635879.pdf>

METHODOLOGY

The descriptive development design was used to describe the process of module development and the phases it undergone. Thirty-one pupils of grade 6 section Einstein are the participants in this study. The pupils were given a pretest prior to the use of the module. A posttest was then given to the same class after accomplishing the instructional module. The means of the tests were compared using one group paired samples t-test to determine the effectiveness of the instructional module.

RESULTS AND DISCUSSIONS

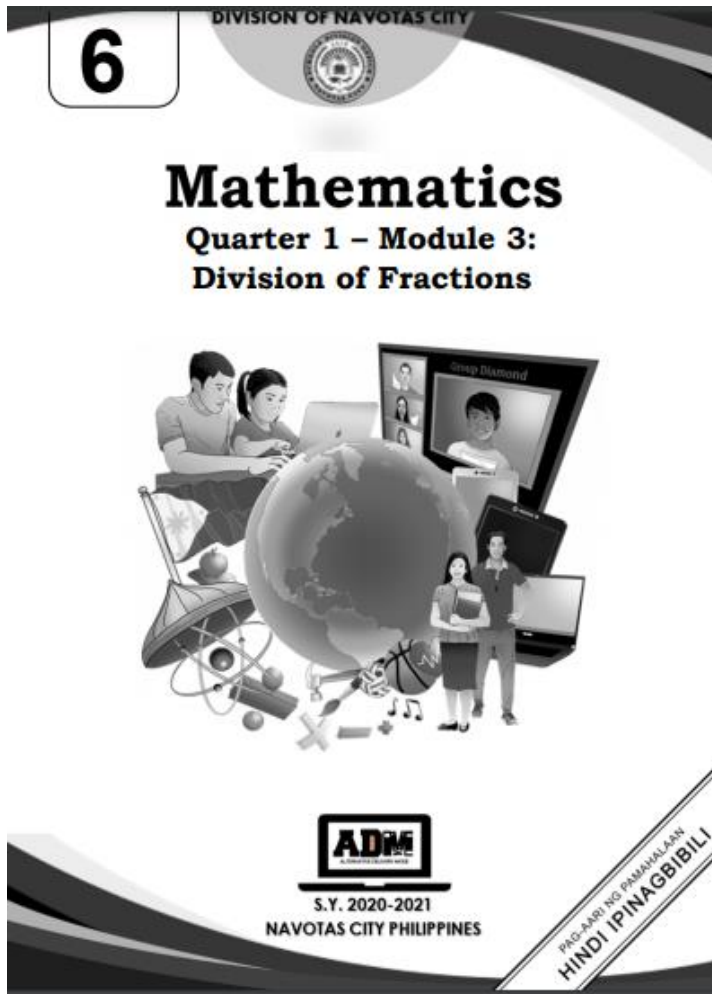
a. Planning Phase

The researcher gathered facts regarding division of fractions as stated in the MELC.





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