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An Assessment on the Pedagogical Approaches in the Preparation of Daily Lesson Log in Mathematics by the Public Elementary Teachers in Tuy District

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ABSTRACT

This study aimed to assess the pedagogical approaches and its effectivity in the preparation of daily lesson log in Mathematics of public elementary teachers in Tuy district. One hundred eight (108) public elementary teachers were selected in this descriptive-correlational study. Questionnaire was used as the main data gathering instrument. The data were analysed using weighted mean, ranking and t-test. The study yielded the results: Most of the respondents were on middle-ages, female, married, Bachelor's degree holders, five years below in service and on teacher III positions. The respondents when preparing daily lesson log always use teachers' guide aligned with the curriculum, meet competencies using collaborative activities, drill and practice strategy, use variety of instructional materials, monitor learner's participation in discussion and allot time carefully. Further, in whatever profile variables, the respondents prepared daily lesson log in Mathematics using pedagogical approaches in terms of curriculum content, learning competencies, teaching strategies, instructional materials, learning process and time allotment therefore there was no significant difference in their assessments. Additionally, a significant relationship with high positive correlation between the pedagogical approaches and its effectivity in the preparation of daily lesson log in Mathematics implied that using those approaches is an effective way to cater the needs, interests, individual differences and various learning styles among pupils. Lastly, a pedagogical approaches model was designed to guide the teachers to prepare an effective daily lesson log in Mathematics and improve teaching and learning process.

INTRODUCTION

Effective teachers cautiously design and implement suitable pedagogy. Learning is based on the pedagogical approaches which teachers use in the classroom. A range of pedagogical approaches are common in schools, but some strategies are more effective and appropriate than others. The effectiveness of pedagogy often depends upon the particular subject matter to be taught, on grasp of the various desires of diverse learners, and on adapting to the on-the-ground demands in the classroom and the surrounding context. In general, teachers believe in the ability of their pupils to learn, and carefully utilize a variety of pedagogical approaches to make certain this learning occurs. (UNESCO International Bureau of Education (IBE), Effective and appropriate pedagogy, 2017).

In the Philippines, there are teachers who share their file of daily lesson log and add to social media such as facebook team of DepEd Tambayan Blogspot and DepEd Teachers Club. While it is real that it eases teachers, of course there are also disadvantages.

Some classes are too lengthy for slower classes and some need re-teaching. Sometimes, the classes most especially in Mathematics are advanced while others are late. It takes time to edit and it is costly to load constantly simply to avail the file. In this case, the teachers need to observe unique pedagogical approaches to make the instructions be realized effectively. (Anongos, 2017).

In line with the implementation of Republic Act (RA) No. 10533 or the Enhanced Basic Education Act of 2013, the Department of Education (DepEd) issues the enclosed Policy Guidelines (DepEd Order No. 42, series of 2016) on Daily Lesson Preparation for the K to 12 Basic Education Program. Planning lessons is vital to make sure that there is a transport of teaching and learning in schools. These pointers aim to assist teachers in organizing and managing their classes and lessons effectively and correctly and ensure the fulfillment of learning outcomes. Furthermore, these guidelines confirm the function of the K to 12 teacher as a facilitator of learning. Preparing for instructions through the Daily Lesson Log (DLL) or Detailed Lesson Plan (DLP) and offers teachers with an opportunity for reflection on what learners need to learn, how learners learn, and how great to facilitate the learning process. These guidelines also have the intention to empower teachers to carry out exceptional instruction that recognizes the diversity of learners inside the classroom. It is dedicated to learners' success, approves the use of various instructional and formative assessment strategies which includes the use of information and communications technologies (ICTs). It permits the teacher to guide, mentor, and assist learners in developing and assessing their learning throughout the curriculum.

In Tuy District, teachers are using variety of pedagogical approaches in the preparation of daily lesson log in Mathematics to produce excellent mathematician in the future. In this manner, it serves as a foundation of good high-quality education or better teaching and learning procedure most particularly in facilitating learning and catering the specific interests, learning styles and individual differences of learners.

Based on the interviews performed by the researcher to teachers within the district, they said that there are various pedagogical approaches in Mathematics to be assessed and evaluated to prepare an effective daily lesson log.

MATERIALS AND METHODS

Research Method

This study utilized the descriptive-correlational method of research. Descriptive, since it examined the profile of the teachers and the effectiveness of the pedagogical approaches in the preparation of daily lesson log in Mathematics; correlational since it looked into possible relationship and differences between the responses of the respondents when they are grouped according to their profile variables. According to Calmorin and Calmorin (2018), descriptive correlational method is appropriate to use if relationship between variables are to be measured. To substantiate, the study also used interview method.

Locale of the Study

The researcher conducted the study in Tuy District which is composed of eighteen (18) public elementary schools which served as the total number of the locale of the study.

Respondents of the Study

The researcher utilized one hundred eight (108) public elementary school teachers from the eighteen (18) public elementary schools in Tuy District, Tuy, Batangas for the school year 2019-2020. Public Elementary Teachers in Tuy District have the sample population of 209. To get the sample size, the researcher adopted the purposive sampling technique of Crocrach (2019) who author the 50% respondents in a population. After getting the number of respondents per school, the researcher used a pure random sampling technique through fishbowl method to bring out the names of the teachers to be included in the sample. As defined by Calderon and Gonzales as stated by Bautista (2016), pure random sampling is also called the lottery or raffle type of sampling.

Research Instrument

The researcher used survey questionnaire as the main instrument in the study to assess the different pedagogical approaches in the preparation of daily lesson log in Mathematics by the public elementary teachers in Tuy District.

Research Questionnaire

The questionnaire was divided in two parts. Part I was the respondent's demographic profile such as age, gender, civil status, educational attainment and length of service. Part II contained the assessment and effectivity of the pedagogical approaches in the preparation of daily lesson log in Mathematics by the public elementary teachers in Tuy District in terms of curriculum content, learning competencies, teaching strategies, instructional materials, learning process, and time allotment.

Construction, Validation and Test of Reliability of the Questionnaires

The researcher took extensive reading of different studies and other questionnaires to provide substance to her own questionnaire.

Through the help of her adviser, the researcher prepared the first draft of the questionnaire. After making it substantive in context, it was given to several knowledgeable persons who were requested to pass judgements on every item.

The questionnaire then was set for validation. The researcher consulted three experts to validate the questionnaire. To test the reliability of the questionnaire, the researcher used Cronbach Alpha. To obtain an estimate of the internal consistency of the questionnaire the researcher used the test of reliability of the questionnaire. The computed r value of 0.827 showed that the prepared questionnaire of the researcher was valid and 92 % reliable.

Data Gathering Procedures

A written letter asking permission to conduct this study was sent to the district supervisor of Tuy District. The letter explained the purpose of the study and requested permission to conduct it. Upon approval, the questionnaires for the respondents were distributed personally through the consent and assistance of the School Heads/Principals. A cover letter was included in the questionnaire, so that the respondents became aware on the purpose of the study. The questionnaires were retrieved by the researcher to elicit the responses of the respondents. Data were statistically analyzed and interpreted.

Statistical Treatment of Data

For valid and reliable results of the study, the researcher used the following statistical tools.

Problem 1: The Profile of the Respondents

1.1 Frequency and Percentage. These were used in determining the profile of the respondents.

Problem 2: The Pedagogical Approaches in the Preparation of Daily Lesson Log in Mathematics in terms of: Curriculum Content, Learning Competencies, Teaching Strategies, Instructional Materials, Learning Process and Time Allotment

2.1 Weighted Mean, Standard Deviation and Rank. These were used to assess the different pedagogical approaches in the preparation of daily lesson log in Mathematics.

Problem 3: Level of Effectiveness of the Pedagogical Approaches in the Preparation of Daily Lesson Log in Mathematics

3.1 Weighted Mean, Standard Deviation and Rank. These were used to determine the effectiveness of the pedagogical approaches in the preparation of the daily lesson log in Mathematics.

Problem 4: Significant Difference between the Responses of the Respondents

4.1 t-test. This was used to determine the significant difference of the responses of the respondents on the different pedagogical approaches in the preparation of daily lesson log in Mathematics when they are grouped according to their profile.

Problem 5: Significant Relationship between the Pedagogical Approaches and Its Effectivity.

5.1 Pearson r. This was used to determine the significant relationship of the pedagogical approaches and its effectivity in the preparation of the daily lesson log in Mathematics.

Problem 6. A Pedagogical Approaches Model to prepare an Effective Daily Lesson Log in Mathematics

6.1 A pedagogical approaches model was designed to guide the teachers to further prepare an effective daily lesson log in Mathematics.

RESULTS AND DISCUSSIONS

1. Profile of the Respondents

1.1. Age

There were 26 respondents or 24.10% from ages 21-30, 40 respondents or 37.00% with ages 31-40, 30 respondents or 27.80% in ages 41-50, 11 respondents or 10.20% with ages 51-60 and only 1 respondent from ages 61-above. The data showed that there were more respondents from the age bracket of 31-40 in Tuy district for the school year 2019-2020.

1.2. Gender

There were 15 male respondents or 13.90%, while there were 93 female respondents or 86.10%. The findings revealed that there were more female than male public elementary teachers in Tuy district.

1.3. Civil Status

There were 26 single respondents or 24.10%, 76 married respondents or 70.40% and 6 widow respondents or 5.60%. The result showed that most teachers in the public elementary school in Tuy district are married.

1.4. Educational Attainment

In Tuy district, there were 73 Bachelor degree graduates or 67.60%. Respondents with MA/MS units are 26 or 24.20%. Those who graduated with a Master's degree are 7 or 6.50% while respondents with doctoral units was only 1 or 0.90% as well as the respondent with a doctorate degree. The data clearly showed that majority of the teachers have the educational attainment of Bachelor's degree.

1.5. Length of Service

There were 36 respondents or 33.30% with 5 years below in service. From 6-10 years, there were 32 respondents or 26.60%. While those teachers with 11-15 teaching experiences are 26 or 24.10%. In 16-20 years in service, there were 8 respondents or 7.40% and only 6 respondents or 5.60% have 21 years and above experience. The results revealed that most respondents were 5 years below in service.

1.6. Position

In Tuy district, there were 25 Teacher I respondents or 23.10%; Teacher II are 38 or 35.20% while Teacher III are 39 or 36.10%. Whereas, there were 5 Master Teacher I or 4.60% and only 1 Master Teacher II or 0.90%. Overall, respondents were Teacher III mostly.

2. An Assessment on the Pedagogical Approaches in the Preparation of Daily Lesson Log in Mathematics in Terms of:

2.1 Curriculum Content

In terms of curriculum content, overall results supported by the composite mean of 4.31 and $SD=0.64$ implied that most of the teachers in preparing their daily lesson log based their pedagogical approaches on teacher's guide associated with curriculum materials. It helped teachers to expand their range of pedagogical techniques and used as resources in preparing daily lessons.

2.2 Learning Competencies

In terms of learning competencies, a composite mean of 4.43 and $SD=0.61$ were computed. The result revealed that majority of the teachers in preparing daily lesson log as part of the learning competencies of the pupils, always provide collaboration activities focusing on the needs and being responsive with the pupils and wanting them to be actively involved in learning.

2.3 Teaching Strategies

The assessment of the respondents in terms of teaching strategies with a composite mean of 4.32 and $SD=0.67$ revealed that drill and practice were good approaches in preparing daily lesson log especially in Mathematics. The finding was very essential because it was an instructional strategy that promotes the acquisition of knowledge or skill through systematic training by multiple repetitions, rehearse and practice.

2.4 Instructional Materials

The results in terms of instructional materials established the fact that respondents when preparing daily lesson log generally used varied instructional materials (books, handouts, printed materials, etc.) with appropriate pedagogical approaches for each learners in which classroom teachers employed to facilitate teaching for the achievement of the stated objective. This was supported by the composite mean of 4.33 and $SD=0.66$.

2.5 Learning Process

In terms of learning process, in preparing a daily lesson log, the respondents always monitored that every learners were participating in discussion. It was supported by a composite mean of 4.54 and $SD=0.57$. With this, teachers can prepare a plan with appropriate strategies and employ proper techniques to create a responsive classroom.

2.6 Time Allotment

Overall results indicated that time allotment for respondents is truly important in preparing a daily lesson log with applicable pedagogical approaches which was supported by a composite mean of 4.38 and $SD=0.62$. The teacher must consider the time to complete the lesson and other resources available and should decide whether or not the lesson should take one class period or several.

3. Level of Effectiveness of the Pedagogical Approaches in the Preparation of Daily Lesson Log in Mathematics

3.1 Effectivity

In general, the data proved that the teachers strongly agreed that the level of effectivity of the pedagogical approaches in the preparation of daily lesson log in Mathematics depends on teachers' approaches to teaching and learning with regards to individual differences of the learners. The secret of successful pedagogy lies in the recognition of individual differences and in the teacher's ability to be flexible enough to adapt lessons to each individual and his or her learning needs. This was supported by the composite mean of 4.41 and $SD=0.56$.

3.2 Pedagogical Approaches

Overall results supported by the composite mean of 4.22 and SD= 0.67 showed that there are various pedagogical approaches to ponder in preparing daily lesson log but teachers in Tuy district consider cooperative learning approach as very effective. Teachers can encourage pupils to ask for help to better understanding of the difficult subjects through forming cooperative groups.

4. Significant Difference on the Assessment of the respondents regarding the pedagogical approaches in the preparation of daily lesson log in Mathematics in terms of:

4.1 Curriculum Content when Profile was Considered

There was no significant difference in the assessment on the pedagogical approaches in the preparation of daily lesson log in terms of curriculum content when profile was considered. This was supported with a computed p -values for age ($p=0.145$), gender ($p=0.276$), civil status ($p=0.165$), educational attainment ($p=0.218$), length of service ($p=0.166$), and position ($p=0.168$) were greater than 0.05 level of significance, thus, the null hypothesis was accepted.

4.2 Learning Competencies when Profile was Considered

Additionally, in terms of learning competencies when profile was considered, the null hypothesis was accepted with a computed p -values for age ($p=0.660$), gender ($p=0.758$), civil status ($p=0.213$), educational attainment ($p=0.316$), length of service ($p=0.542$), and position ($p=0.411$) were greater than 0.05 level of significance. There was no significant difference in the assessment on the pedagogical approaches in the preparation of daily lesson log when grouped according to all their profile.

4.3 Teaching Strategies when Profile was Considered

Likewise, with regards to teaching strategies when profile was considered, since the computed p -values for age ($p=0.467$), gender ($p=0.812$), civil status ($p=0.583$), educational attainment ($p=0.426$), length of service ($p=0.522$), and position ($p=0.667$) were greater than 0.05 level of significance, thus, the null hypothesis was accepted. Therefore, while teaching strategies were considered, there was no significant difference in the assessment on the pedagogical approaches in the preparation of daily lesson log when grouped according to all their profile.

4.4 Instructional Materials when Profile was Considered

There was no significant difference in the assessment on the pedagogical approaches in the preparation of daily lesson log with regards to instructional materials when profile was considered. Since the computed p -values for age ($p=0.367$), gender ($p=0.485$), civil status ($p=0.821$), educational attainment ($p=0.678$), length of service ($p=0.552$), and position ($p=0.682$) were greater than 0.05 level of significance, thus, the null hypothesis was accepted.

4.5 Learning Process when Profile was Considered

On the other hand, with regards to learning process when profile was considered, since the computed p -values for age ($p=0.538$), gender ($p=0.276$), civil status ($p=0.652$), educational attainment ($p=0.822$), length of service ($p=0.278$), and position ($p=0.529$) were greater than 0.05 level of significance, thus, the null hypothesis was accepted. Therefore, there was no significant difference in the assessment on the pedagogical approaches in the preparation of daily lesson log when grouped according to all their profile.

4.6 Time Allotment when Profile was Considered

There was no significant difference in the assessment on the pedagogical approaches in the preparation of daily lesson log in terms of time allotment when profile was considered. The computed p -values for age ($p=0.478$), gender ($p=0.321$), civil status ($p=0.566$), educational attainment ($p=0.821$), length of service ($p=0.281$), and position ($p=0.342$) were greater than 0.05 level of significance, thus, the null hypothesis was accepted.

5. Significant Relationship between Pedagogical Approaches and the Effectivity in the Preparation of Daily Lesson Log in Mathematics

The null hypothesis that there was no significant relationship between the pedagogical approaches and the effectivity in the preparation of the daily lesson log in Mathematics was rejected. Data revealed that the computed r value of 0.827 with a qualitative description of high positive correlation was proven to be significant, since the computed P -value 0.000 was less than 0.05 level of significance. This implied that using different pedagogical approaches was an effective way in the preparation of daily lesson log in Mathematics to cater individual differences among pupils.

6. Proposed Pedagogical Approaches Model

The researcher prepared and designed a sample of proposed pedagogical approaches model shown in Figure 2 to test its applicability to guide teacher to further prepare an effective daily lesson log in Mathematics.

CONCLUSIONS

From the findings of the study, the following conclusions are drawn:

1. Profile of the Respondents**a. Age**

There are more public elementary teachers with ages 31-40 in Tuy District compared to other age brackets for the school year 2019-2020.

b. Gender

There are more female public elementary teachers in Tuy District than male teachers.

c. Civil Status

Most of the public elementary teachers in Tuy District are married.

d. Educational Attainment

Majority of the public elementary school teachers in Tuy District attained Bachelor's Degree.

e. Length of Service

Most of the public elementary teachers in Tuy District are five years below in service.

f. Position

Teacher III position is at most for the school year 2019-2020 in Tuy District.

2. An Assessment on the Pedagogical Approaches in the Preparation of Daily Lesson Log in Mathematics in terms of:**2.1 Curriculum Content**

The respondents prepare their daily lesson log and based their pedagogical approaches on teacher's guide associated with curriculum materials.

2.2 Learning Competencies

Majority of the teachers when preparing daily lesson log as part of learning competencies of the pupils, always provide collaboration activities.

2.3 Teaching Strategies

The respondents state that drill and practice are good teaching strategies when preparing daily lesson log in Mathematics.

2.4 Instructional Materials

The respondents when preparing daily lesson log in Mathematics use varied instructional materials, facilities, equipment, books, hand-outs and printed materials with appropriate pedagogical approaches for each learners.

2.5 Learning Process

In preparing a daily lesson log in Mathematics, the teachers always monitor that every learners are participating in discussion.

2.6 Time Allotment

In terms of time allotment, the respondents always try to complete one lesson before going on to the next.

3. Level of Effectiveness of the Pedagogical Approaches in the Preparation of Daily Lesson Log in Mathematics**3.1 Effectivity**

The respondents strongly agree that the level of effectivity of the pedagogical approaches in the preparation of daily lesson log in Mathematics depends on teacher's approaches to teaching and learning with regards to individual differences of the learners.

3.2 Pedagogical Approaches

There are various pedagogical approaches to ponder in preparing daily lesson log and the respondents consider the cooperative learning approach as very effective.

4. Significant Difference on the Assessment of the respondents regarding the pedagogical approaches in the preparation of daily lesson log in Mathematics when they are grouped according to their profile variables.

No significant difference on the assessment of the respondents regarding the pedagogical approaches in the preparation of daily lesson log in Mathematics when they are grouped according to profile variables. This entails that whatever age, gender, civil status, educational attainment, length of service and position, the respondents have the same way in assessing in terms of curriculum content, learning competencies, teaching strategies, instructional materials, learning process and time allotment. Public elementary teachers in Tuy District have commonalities in considering these things to prepare a daily lesson log in Mathematics and make it effective using appropriate pedagogical approaches.

5. Significant Relationship between Pedagogical Approaches and the

Effectivity in the Preparation of Daily Lesson Log in Mathematics A significant relationship between the pedagogical approaches and the effectivity in the preparation of daily lesson log in Mathematics implies that using different pedagogical approaches is an effective way in the preparation of daily lesson log in Mathematics to cater individual differences among pupils.

6. Proposed Pedagogical Approaches Model

A pedagogical approaches model is designed eyeing to a more appropriate pedagogical approaches to guide the teachers to further prepare an effective daily lesson log in Mathematics.

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