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ASSESSING STUDENTS' ACADEMIC PERFORMANCE THROUGH ANALYZING TEST RESULT

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ABSTRACT

The study focused on the significance of constructing and analyzing test to students' test result. It employed quasi-experimental research design in which purposive sampling was applied. The significance of students' tests result was treated through Pearson Moment Correlation. The drafted test question in quarter one (1) of K to 12 curriculum in Filipino 10 was piloted as the first shot test. The second shot test was a reconstructed test of first instrument in which item analysis was applied as basis for reconstruction. Thus, tests were moderately significant that implies a positive progress of students' academic performance.

KEY WORDS: *Test result, item analysis, test construction*

1.0 INTRODUCTION

Constructing test is the basic procedure in measuring the learners' achievement. Measuring and assessing individuals' test outcome plays an important role (Tomak and Bek, 2016). Test needs attention so that changes will be modified. This study attempts to explore the result of analyzing and revising test to the students' test performance.

Analyzing test item had been identified by the different studies that focused different findings; Zaman, Niwaz, et. al. (2012), Gajjar, Sharma, et. al. (2014), and Kinyua and Okunya (2014). Item difficulty and discrimination were part of the item analysis performed within the context of the classical test theory (Zaman, Niwaz, et. al., 2012); selection of quality Multiple choice questions (MCQs) assessed the knowledge of students' abilities in correct manner (Gajjar, Sharma, et. al., 2014); and lack of commitment and training of teachers in

constructing test greatly affect the validity and reliability of teacher-made test (Kinyua and Okunya, 2014). These findings present a comprehensive implication of analyzing test item yet need to explore.

The cited studies were evident that test analysis need to eternalize in measuring and assessing students' test achievement. Particularly, the result of 19 Grade 10 students of Pakwan Integrated School, School Year 2016-2017, in Filipino subject First Quarter Examination showed that 100% of them did not meet the passing score of 26 out of 34-item multiple choice test. Thus, this study attempts to determine the result of intervening students' test performance through item analysis.

The method of intervening students' low test result is desirable from the point of view of teachers' capacity and desire to arise students' test achievement. The study purports to analyzing and

constructing test that can be used in intervening students' low test result.

2.0 REVIEW OF RELATED LITERATURE

The quality of education focuses to the accountability of learners' academic performance. The assessment of student learning serves as evidence in evaluating and determining students' competence.

Assessing students can be done through item analyzes, it is one of teachers' responsibilities (Arifin, 2012), to determine learners' level of achievement of what particular item of the test or competency should the learners to improve or to review. The significant of it had been reported in the different literatures; the good quality question is obtained as an overview of students' learning (Sudjono, 2011), the best application of instrument-based approach to validity in testing the school (Hathcoat, 2013), and the use of table of specification such as Bloom's taxonomy in test planning improves the quality of test construction (Fives and DiDonato-Barnes, 2013).

Students' assessment depends on the use of standardized test and educational decisions which been cited for more than a decade; Notar, et. al. (2004), and Izard (2005). The use of standardized tests such as National Achievement Test (NAT) is measured to the extent that students' performance can predict teachers' potential performance (Notar, et. al.,2004). Educational decisions refer to students' levels of skill and knowledge from the information of the success of learning programs (Izard, 2005).

The ideas presented in different literatures reinforce the vein of targets in this study as a response to the gaps seen on intervening student's low test result through analyzing and developing test construction that has a great impact in improving students' test result.

Finally, the unique of this study is very significant in recent educational system and to any research to be conducted with relation to the perception of constructing and analyzing test that focused on the learners' outcomes which were the highlights and basis of analysis, interpretations, and logics of this study.

2.1 Research Questions

The purpose of this study was to increase students' test achievement through analyzing and developing test construction that sought to answer the following problems:

1. What is the level of students' test result in First Quarter Examination?
2. What is the level of the test-item in Filipino 10 in First Quarter Examination?
3. To what extent is the level of students' in the reconstructed test question in Filipino 10?
4. To what extent is the relation of two students' test result?

2.2 Scope and Limitation

The study was conducted to 19 Grade 10 students of Pakwan Integrated School of Lanuza District, School Year 2016-2017. The limitation of it was 15 among 19 students were responded to the second instrument due to some cases that 3 students were decline to answer and 1 student was transferred to another school.

3.0 CONCEPTUAL/THEORETICAL FRAMEWORK

The study manifests on how to give intervention to students' academic performance through examining test result. Examining test result is done by analyzing item of test questions prior to test result. Test questions are reconstructed according to the level of students.

The study anchored in the claim "analysis of model fit" of Item Response Theory (IRT). The theory supports that confusing destructor items in a multiple-choice test, then it may be removed from that test form and revise it in future test forms. Confusing destructor items are claim as misfit to the essence of test; the objectives of the teacher, and level of students in analyzing and understanding the test statements. If misfit items occur with no apparent reason to the construct validity, test needs to reconsider and the test specifications may need to rewrite. Thus, misfit items provide invaluable diagnostic tools to test achievements (WIKIPEDIA, The Free Encyclopedia).

4.0 RESEARCH METHODOLOGY

4.1 Research Design

The study employed descriptive-evaluative type of research design. It was used to determine and to evaluate the level of constructed test and the level of students' test result through frequency and percentage distribution, mean, standard deviation and Pearson Correlation.

4.2 Sampling

Respondents of this study were the nineteen (19) Grade 10 students of Pakwan Integrated School, District of Lanuza, Surigao del Sur. Thus, purposive sampling was applied.

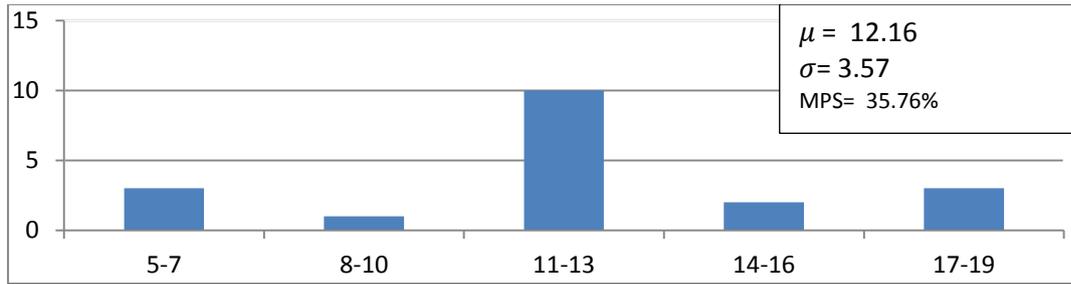
4.3 Data Collection

The data collected through piloting the instruments as a casual manner of conducting quarter examination. The first shot of instrument was the use of presented test in the Filipino 10 curriculum guide, hence, to determine the level of test item analysis was done through an adopted item analysis calculator of Ang, Juan Carlo N. .The second shot instrument was an analyzed and reconstructed test question of first instrument to determine the significant.

4.4 Data Analysis

The research utilized quantitative approach to address the objectives of the study that involves collecting and analyzing data through evaluating test results of the respondents.

5.0 RESULTS AND DISCUSSIONS



Source of MPS Legend is DepEd Order No. 08, s. 2015

Figure 1
Frequency Distribution of Students' Score in Filipino 10

The figure represents the frequency distribution of students' score in Filipino 10 First Quarter Examination. With the 34-item test, it reveals that 10 among 19 students scored within 11-13 and 1 student scored within 8-10. Hence, with the MPS of 35.76%, it implies that students' level test result in

Filipino First Quarter Examination is "Did Not Meet Expectations" and they are "Failed" to pass.

Finally, the mean of 12.16 and standard deviation of 3.57 indicates that the distribution of students' score is in normal. It implies that the level of test construction affects students' level of understanding.

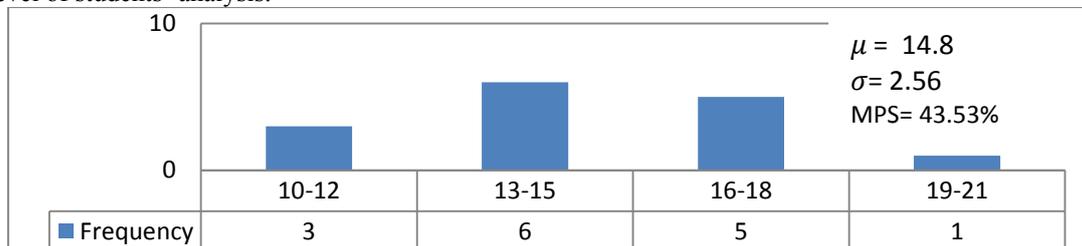
Table 1
Frequency Distribution of the Test Item Analysis

Item Discrimination	Frequency	Rank
Accept	5 (14.71%)	2
Discard	3 (8.82%)	3.5
Needs Revision	3 (8.82%)	3.5
May Need Revision	23 (67.65%)	1
Total	34 (100%)	

The Table shows test item analysis of students in Filipino 10 subject. It reveals that 67.65% or 23 items of the students test are "May Need Revision". Significantly, the levels of these items are in average level. It also shows that 2 items discrimination is in same result with the frequency of 3 or 8.82% of the test are need to "Discard" and "Needs Revision". Thus, it implies that these highest and last two ranks item discrimination need attention to develop the construction of test item according to the level of students' analysis.

Giving attention to the question of items that need to reconstruct is the claim of Item Response Theory. Thus, it is support in the claim of "analysis of model fit" that those items are confusing that destruct the ability of learners to comprehend the analysis of item-question.

Problem 3. To what extent is the level of students in the reconstructed test questions in Filipino 10?



Source of MPS Legend is DepEd Order no. 08, s. 2015

Figure 2
Frequency Distribution of Students' Score in Reconstructed Test

Figure 2 shows the bar graph of students' score frequency in reconstructed test questions. It reveals that 6 (40%) among 15 students scored within 13-15 and 1 (6.6%) student within 19-21. With the MPS of 43.53%, the level of students is still "Did Not Meet Expectations", but, as shown in the distribution

of the bar graph, with the mean of 14.8 and standard deviation of 2.56, it posits that there is a positive increase of students' test result.

Problem 4. To what extent is the relation of two students' test result?

Table 3
Pearson Correlation

Source of Variance	Computed (r)	P-value	Conclusion
Two shots test	0.474	0.01	Moderately Significant

Table 3 reveals that the two shots test result of students in Filipino 10 First Grading exam was moderately significant. This implies that the reconstructed test questions correlates to the first constructed test (Cole, Haimson, et. al, 2011). Thus, there is a positive progress of students' academic performance when test is given attention in constructing and analyzing test questions.

6.0 CONCLUSIONS

The level of students' test result was failed to pass the expectation but the distribution is normal. The students' tests result was moderately significant. Thus, there was a positive progress of students' performance when test was developed through item analysis. Thus, it is necessary to have item analysis in assessing students to track a positive academic performance. The claim of "analysis of model fit" of Item Response Theory (IRT) stressed that determining misfit item questions has a high impact to students' performance in academic.

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