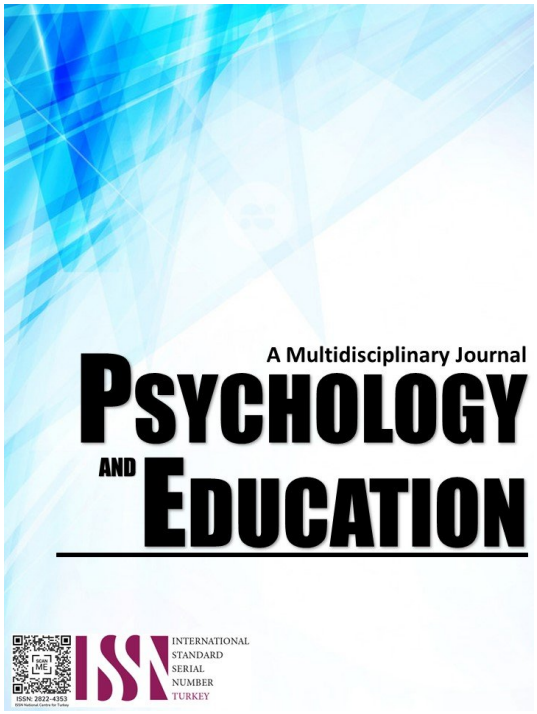
# MEDIATING EFFECTS OF TEACHER&RSQUO;S ASSESSMENT COMPETENCIES ON THE RELATIONSHIP BETWEEN THE USE OF THE ZIPGRADE APPLICATION AND STUDENT&RSQUO;S ACHIEVEMENT

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Research Article

# Mediating Effects of Teacher's Assessment Competencies on the Relationship Between the Use of the Zipgrade Application and Student's Achievement

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**Abstract**

The study was conducted to determine the interactions between and among teacher's assessment competence, zipgrade application and junior high school student's achievement in ICT.The researcher selected the one hundred twenty five (125) Grade 9 students from different sections in the Junior High School namely: Grade 9 Wisdom, Grade 9 Integrity and Grade 9 Perseverance of Luis Palad Integrated High School. The researcher used random sampling technique to fill up the required number of samples.The researcher used descriptive research design and utilized a survey questionnaire as the main tool in gathering the pertinent data needed to solve the problems of the study.The significant findings of this study revealed that the features of zipgrade application were perceived by the respondents very efficient, highly functional, very accurate, very easy to use and used by them to a very great extent.On the account of teachers' assessment competencies the respondents rate themselves very competent in all measures of assessment competencies included in the study. On the other hand student's achievement both in unit and summative test fell under advanced level.On the relationship between zipgrade application and teacher's assessment competencies, findings show significant relationship. Moreover, there is no significant relationship between teacher's assessment competencies and student's achievement, while zipgrade application features do not significantly relates with students' achievement except ease of use which relates significantly with the students' summative test. Since, the findings revealed significant and non – significant relationship among variables, it is concluded that for those variables with significant relationship, the null hypothesis stated in the study is not sustained while those without significant relationship the hypothesis posited is sustained.

**Keywords:** Mediating Effects, Teacher's Assessment Competencies, Zipgrade Application, Extent Of Use, Student's Achievement, Unit Test, Summative Test

## Introduction

Because it involves analyzing the student's learning on every subject matter, assessment is one of the most crucial jobs in every area of the classroom. Discovering, evaluating, and computing a student's grades are all parts of the assessment process. Additionally, an assessment tool is a tool used to track and assess pupils' performance in a given subject. Additionally, assessment is described as the process of gathering data that is used to inform educational decisions about students, to provide feedback to students about their progress, strengths, and weaknesses, to evaluate the effectiveness of instruction and the sufficiency of the curriculum, and to inform policy. The various assessment techniques include, but are not limited to, formal and informal observation, qualitative analysis of student performance.

Assessment is the process of discovering, assessing, and computing student's grades. Assessment is a crucial feature for both teacher and students for it allows teachers to determine how to grade pupils based on the assessment results. The Department of Education released a policy guideline on classroom assessment based on the Deped Order No. 8 series of 2015 which underscores an integral part of assessment in the curriculum implementation. It allows the teachers to track and measure learner's progress and to adjust instruction accordingly. Classroom assessment informs the learners, as well as their parents and guardians, of their progress. Classroom assessment techniques reflect pedagogy, measure the application of both new knowledge and course objectives, as well as identify learning outcomes. Results within summative and formative assessment have been measured in online learning environment as educators seek to meet objectives with respect to student's success in the non-traditional setting (Di Carlo & Copper, 2019).

The ability for instructors to master these needs quantitatively in a variety of related scenarios in a somewhat steady and consistent manner is known as teacher assessment competence. This ability is achieved through dealing with assessment demands in relevant educational situations.Additionally, teachers who are proficient in assessment are the ones who can assess students. Because this is the student's foundation for maintaining their skills and knowledge, they base assessments on knowledge, skills, and attitudes.According to Caena (2011), teacher competences, which suggest a broader understanding of teacher professionalism, can be said to consider the multifaceted roles played by teachers on various

levels, including those of the individual, the school, the local community, and professional networks. Despite the fact that attitudes appear to be important for both, teacher skills appear to be particularly impacted by attitudes toward ongoing professional growth, creativity, and teamwork.

There are numerous ways to assess kids in elementary and high school in a variety of subjects. One such tool is the zipgrade application, which allows teachers and students to assess fast and effectively. A grading tool called Zipgrade captures, stores, and reports relevant data on assessment while also makinggrading simple. Additionally, the zipgrade software is a smartphone that converts your iPhone, iPad, or Android device into a scanner for grading multiple-choice tests on paper.One of the objectives after assessing the pupils is to determine whether they have learned the material that has been taught by the teacher. Learning outcomes are quantifiable claims that specify at the outset what students ought to understand, be able to accomplish, or value as a result of enrolling in a course or finishing a program. ZipGrade considerably aids the teacher in correcting students' responses. Students believe that using ZipGrade-based android response sheets have made accomplishing the learning tasks easier. The teacher stated that analyzing and evaluating learners' output simplified the work. ZipGrade has simplified the process of correcting learners' replies.Horta et, al. (2012) underscores that learning outcomes provide guidelines for teacher and guardians, to help them find the necessary means for helping students develop the indispensable skills and knowledge, which will in turn allow them to pursue further studies and respond to modern society's needs. It means that learning serves as a guide for teachers and students to ensure that students' knowledge and skills are up to par, and that it will benefit students by allowing them to grow their talents. According to Ofori, et al. (2018), early prediction of student performance is important for improving learning outcomes. The ability to predict a student's academic performance is crucial because it increases graduation rates by providing students with the right guidance, directing changes to university academic policies, informing instructional practices, examining the effectiveness and efficiency of learning, giving teachers and students useful feedback, and altering learning environments.

Enhancing one's professional development and advancement is one of the traits shared by all teachers worldwide. Because they tend to focus on their comfort zones, teachers do not always prioritize professional growth and development, but they still need to broaden their teaching careers. One of the responsibilities of the teacher is to assess each student individually to see if they have learned anything from the topic under discussion. The teacher will keep track of their students' progress based on the assessment results. The researcher plans to undertake research on the assessment tool to understand how zipgrade works and to ascertain what advantages it will have for the teaching and learning process. By creating an exam and a connection to the zipgrade program, the researcher also hopes to learn more about the teacher evaluation competency. The researcher will also determine the pupils' ICT learning outcomes. Because there will be assessment tools to use in the teaching and learning process and teacher assessment competency to improve their skills in creating exams and also to know how important it is to know which learning result, this research study is relevant to the researcher's line of work.

**Research Questions**

The study will be focusing on the mediating effect of teacher assessment in the use of zipgrade application and student's achievement. Specifically, the researcher desires to answer the following questions.

1. What is the perception of the students in the features of zipgrade application variables in terms of:
1.1 Features
  1.1.1 Efficiency;
  1.1.2Functionality;
  1.1 Accuracy; and
  1.1.4 Ease of Use
1.2 Extend of Use
2. How may the teachers assessment competencies be describe by the respondent in terms of:
  2.1 Developing Assessment Method;
  2.2 Administering, Scoring and Interpreting the Results;
  2.3 Planning Teaching;
  2.4 Developing Valid Learner Grading; and
  2.5 Communicating Assessment
3. What is the student's achievement in terms of the following:
  3.1 Unit Test 1;
  3.2 Unit Test 2; and
  3.3 Summative Test
4. Is there a significant relationship between zipgrade application variables and teacher assessment competencies?
5.Is there a significant relationship between teacher assessment competencies and student's achievement?
6. Is there a significant relationship between zipgrade application variables and student's achievement?

7. Is the teacher assessment competencies mediates the relationship between zipgrade application variables and student's achievement?

## Literature Review

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## Methodology

### Research Design

The study used descriptive-correlational research design. Correlational design establishes relationships between two or among more variables and describes a given situations as fully and carefully possible.As stated by McCombes (2019), descriptive research aims to describe a population, situation or phenomenon accurately and systematically. It can answer what, where, when and how questions, but not why questions. In addition, descriptive research design can use a wide variety of research methods to investigate one or more variables.The above intention made the researcher used this design to determine the relationship between zipgrade application, teacher assessment competence, and student's achievement.

### Respondents of the Study

The respondents of the study consisted of one hundred twenty five (125) Grade 9 students of Luis Palad Integrated High School from school year 2022- 2023.

Table 1. *Distribution of Respondents by Sections*

| *Section* | *Population* | *Actual Respondents* | *%* |
|---|---|---|---|
| Grade 9 Wisdom | 45 | 45 | 100% |
| Grade 9 Integrity | 46 | 46 | 100% |
| Grade 9 Perseverance | 34 | 34 | 100% |
| Total | 125 | 125 | 100% |

**Figure 1**. .

### Population and Sampling Technique

The researcher used all the 125 Grade 9 students from different sections in the Junior High School namely: Grade 9 Wisdom, Grade 9 Integrity and Grade 9 Perseverance of Luis Palad Integrated High School.

### Research Instrument

The researcher was used a self-made questionnaire in gathering the data for the purpose of measuring the mediating effects of teachers' assessment competence between zipgrade application as assessment tool and student ICT learning outcome. The questionnaires were divided into four parts, namely:

Part I, Profile of the Respondents, covers the name, age, sex, grade and section, parent's occupation and monthly family income.

Part II, Zipgrade Application Variables in terms of features as to Efficiency, Functionality, Accuracy and Ease of use and Extend of Use.

Part III, Teacher Assessment Competencies which covers the competency in terms of Developing Assessment Method, Administering, Scoring and Interpreting the Results, Planning Teaching, Developing Valid Learner Grading and Communicating Assessment.

Part IV, Student's achievement which cover the competency for the 2nd quarter and consist of Unit Test and Summative Test.

A likert scale was used to determine the zipgrade application as assessment tool and teacher assessment competencies indicating the degree of agreement to: (5) strongly agree, (4) agree, (3) uncertain, (2) disagree and (1) strongly disagree.

The researcher established the validity of the questionnaire by presenting to the dean, adviser, subject specialist, technical editor, and his statistician during the proposal defense.

In addition, the researcher also presented his questionnaire to the Assistant Principal of Learner Support, Assistant Principal of Junior High School, School Research Coordinator, Head Teacher of TLE and Master Teacher of TLE, School ICT Coordinator and Subject specialist teacher of Luis Palad Integrated High School. All the suggestions and comments were incorporated to the questionnaire for the refinement of the survey questionnaire before giving to the respondents.

### Research Procedure

The researcher presented the research validated instruments by the experts from the Luis Palad Integrated High School to the Panel Member and to the Dean of Graduate Studies and Applied Research for the approval. After checking the validated research instrument, the Dean signed the letter that the

researcher started to conduct the study in the said school.

Before the conduct of the study, the researcher first secured the permission from the Principal of Luis Palad Integrated High School to conduct the study.

The administration of the questionnaire was given during the students' time in their TLE-ICT 9 class schedule. The answered questionnaires were retrieved immediately during the day of the administration. The primary data would be coming from the target respondents which will be gathered through a survey questionnaire. They were answer it and return it to the research for analysis. The data gathered through the questionnaire was be tallied. Through graphs and tables, it was analyzed and the corresponding interpretations was made.

**Statistical Treatment of Data**

The data collected through a questionnaire were analyzed, summarized and interpreted. The following were applied as the statistical tools for the study: mean and standard deviation were used to perceive the zipgrade application and teacher assessment competence. Pearson Product – Moment Correlation Coefficient (Pearson r) was used to find out the significant relationship between the variables included in this study.

## Result

**Features of Zipgrade Application**

Features of Zipgrade Application in terms of Efficiency, Functionality, Accuracy and Ease of Use and Zipgrade Application as to Extent of Use.

Table 2. *Perception of the respondents on the Features of Zipgrade Application as to Efficiency.*
*In using Zipgrade Application, my teacher was able to…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. guide us in answering different objective types confidently. | 4.81 | .470 | Strongly Agree |
| 2. immediately generate and disseminate test results | 4.84 | .389 | Strongly Agree |
| 3. accurately analyze the test results and communicate it immediately to us. | 4.86 | .388 | Strongly Agree |
| 4. Present interpretation and explain the result at once. | 4.79 | .463 | Strongly Agree |
| 5. discuss how to store results in the database to ensure confidentiality of files | 4.87 | .380 | Strongly Agree |
| Overall | 4.84 | .315 | Strongly Agree/ Very Efficient |

**Figure 2**. .

Table 2 displays the zipgrade application's features in terms of efficiency. The statement 5 in the table indicates that the zipgrade program stores results in a database, which the teacher can access any time. Its mean is the highest in the table at 4.87. Also, the zipgrade application is a tool that allows to access the results on a laptop or smartphone. The mean ranges between 4.79 and 4.87 indicates that the student found very efficient to use in assessment procedure for them.

The total mean under the zipgrade application is 4.84 which is translated as "highly agree/very efficient. The implies that the zipgrade application is very efficient assessment tool for both teachers and students. This implies that the teacher can assess the findings right away and other aspects of assessment to efficiently using zipgrade application.

The importance of efficient assessment was likewise in definition of efficiency (John et al, 2017), as in education the production of outcomes, such as test scores or value contributed, with the minimum amount of resources possible be that financial or, for example, the innate ability of students.

Table 3. *Perception of the respondents on the Features of Zipgrade Application as to Functionality.*
*In using Zipgrade Application, my teacher was able to…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. Enlighten us on how to properly access the application online and offline. | 4.77 | .477 | Strongly Agree |
| 2. Convinced us to use the application anytime with full confident as to the reliability of the results. | 4.85 | .403 | Strongly Agree |
| 3. Motivate and taught us to use the application in accordance to its purpose. | 4.90 | .377 | Strongly Agree |
| 4. Helps us utilize the application practically. | 4.86 | .375 | Strongly Agree |
| 5. Demonstrates checking the test immediately. | 4.91 | .312 | Strongly Agree |
| Overall | 4.86 | .273 | Strongly Agree/ highly functional |

**Figure 3**. .

Table 3 lists the functional elements of the zipgrade application. The teacher was able to immediately examine the test using the zipgrade application, according to the statement 5 in the table. Because it is a tool you may access anytime, anywhere, it indicates that the teacher checks instantly. With a mean of 4.91,

it has the highest mean among the indicator. In terms of functionality, the zipgrade application's mean score, which runs from 4.77 to 4.91, indicates that it does quite well in the test.

The zipgrade application overall mean in terms of functionality is 4.86, which is interpreted as "highly agree/highly functional," showing that the application is very useful for teachers because they can promptly check the test.

Students can learn at their own pace and have complete control over their learning path, material, and load of knowledge, as well as evaluate it. They should, however, use effective study tactics to avoid wasting their time and effort. Because students' success is influenced by their study abilities, motivation, time management, exam preparation, and coping with exam stress(Poyraz, 2013).

Table 4. *Perception of the respondents on the Features of Zipgrade Application as to Accuracy*
*In using Zipgrade Application, my teacher was able to…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. provide accurate test results. | 4.69 | .530 | Strongly Agree |
| 2. pointed out how to easily identify the items with correct responses. | 4.79 | .427 | Strongly Agree |
| 3.Explain how to identify the exact number of test takers. | 4.85 | .422 | Strongly Agree |
| 4. Inform us on determining the frequency of response in each item. | 4.86 | .388 | Strongly Agree |
| 5. Communicate with us on how to produce a reliable analysis of the test results. | 4.85 | .382 | Strongly Agree |
| Overall | 4.81 | .305 | Strongly Agree/ very accurate |

**Figure 4**. .

Table 4 lists the zipgrade application's accuracy ratings. The indicator with the mean of 4.86 relates to the teacher's ability to ascertain the frequency of responses to each item using the zipgrade program. Given that the zipgrade program provides quick answers for the frequency of responses to each item, it suggests that the teacher interprets or conducts an item analysis. The teachers provides the test examination with correct accurate results having the lowest mean of 4.69.

The total mean for correctness under the zipgrade application is 4.81, meaning that all statements for accuracy are presented by students to their teachers when using the zipgrade application

The requirements for accuracy aim to ensure that reliable information about a student's learning and performance will be produced by an evaluation of the student. If you have reliable data, you can draw accurate interpretations, arrive at reasonable conclusions, and take the proper next steps. (Gullickson 2013)

Table 5. *Perception of the respondents on the Features of Zipgrade Application as to Ease of Use*
*In using Zipgrade Application, my teacher was able to…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. reduce preparation time of assessment and analysis of results. | 4.85 | .382 | Strongly Agree |
| 2.easily check the test with reliable results | 4.95 | .215 | Strongly Agree |
| 3. Includes all the topics discussed in the test in consideration of all the knowledge and skills that needs to be measured. | 4.89 | .317 | Strongly Agree |
| 4. craft , create and conduct test within the time frame | 4.79 | .445 | Strongly Agree |
| 5. communicate the result in easy way and on time | 4.85 | .382 | Strongly Agree |
| Overall | 4.87 | .242 | Strongly Agree |

**Figure 5**. .

Table 5 lists the zipgrade application's usability ratings. Because the teacher uses the Zipgrade answer form, statement 2 has the highest mean of 4.95, indicating that all claims pertaining to ease of use have a high mean and fall under "strongly agree." The teacher can easily check and record using the zipgrade application. The lowest mean is 4.79 indicating that the teacher was able to craft, create and conduct test within the time frame.

The overall mean for the zipgrade application's ease of use is 4.87, indicating that both teachers and students will find the zipgrade application to be very user-friendly.

The context in which they are employed is one of the most serious difficulties. Because these gadgets are meant to allow users to utilize them while on the move, the influence of their use on the user's mobility is a significant aspect in the application's success or failure(Harrison, 2013).

Table 6. *Perception of the respondents on the Features of Zipgrade Application as to Extent of Use*

| *My teacher…* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. demonstrated proficiency in using zipgrade learning assessment tool. | 4.83 | .435 | Strongly Agree |
| 2. provides timely feedback on students' performance via using zipgrade application, allows us to reflect and do better. | 4.86 | .396 | Strongly Agree |
| 3. select from the different answer sheets depending on the types of the examination. | 4.78 | .468 | Strongly Agree |
| 4. used zipgrade application for easy checking of our outputs. | 4.88 | .372 | Strongly Agree |
| 5. used zipgrade application to evaluate the learner's performance. | 4.85 | .382 | Strongly Agree |
| 6. posts results of quizzes completed online or scanned immediately. | 4.74 | .490 | Strongly Agree |
| 7. reviews the results of the assessment immediately either on mobile phone or online website. | 4.78 | .490 | Strongly Agree |
| 8. demonstrated masters on how to create a question and analyze the assessments using zipgrade application. | 4.76 | .465 | Strongly Agree |
| 9. used zipgrade application as a tool for the examination correction process after they are given time to test them directly on students. | 4.94 | .246 | Strongly Agree |
| 10. created answer sheet for multiple choice, true or false, matching type and gridded-numeric entry. | 4.92 | .301 | Strongly Agree |
| Overall | 4.83 | .264 | Strongly Agree / to a very great extent |

**Figure 6**. .

Table 6 indicates the zipgrade application's as to extent of use. The fact that the teacher used the zipgrade application as a tool for the examination correction process after they were given time to test them directly on students in statement 9—which has the highest mean of 4.94, indicates that the teacher was able to provide the examination process using the zipgrade application. The zipgrade application's mean for use intensity ranges from 4.74 to 4.94, suggesting further possible uses for the zipgrade application.

The total mean under zipgrade application as to extent of use is 4.83, shows that the zipgrade application might be used in different ways.

Suhendar et al., (2020) ZipGrade considerably facilitates the teacher's ability to efficiently correct students' responses. The use of Android answer sheets powered by ZipGrade, according to students, has made filling them out easier. The teachers described how analyzing the ZipGrade student learning outcomes evaluation facilitated their work. ZipGrade has aided him/her by making it simple and efficient to correct pupils' responses. Additionally, ZipGrade offers details on the findings of the validity analysis, the difficulty of the questions, and the unique qualities of each item.

**Teacher Assessment Comptencies**

Teacher Assessment Competencies in terms of Developing Assessment Method; Administering, Scoring and Interpreting the Results; Planning Teaching; Developing Valid Learner Grading and Communicating Assessment.

Table 7. *Perceived Teacher Assessment Competencies as to Developing Assessment Method*
*During the assessment, my teacher…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. used zipgrade application answer sheet with clear and concise instructions. | 4.91 | .284 | Strongly Agree |
| 2. utilized assessment that excites, inspire and encourages us to perform better. | 4.84 | .389 | Strongly Agree |
| 3. used assessment criteria that are understandable, achievable based on the target competencies. | 4.86 | .396 | Strongly Agree |
| 4. explains clearly the do's and don'ts of assessment procedure before administering the test. | 4.90 | .332 | Strongly Agree |
| 5. assured that everyone is competent in using zipgradeapplication in answering the given examination. | 4.89 | .341 | Strongly Agree |
| Overall | 4.88 | .239 | Strongly Agree/ very competent |

**Figure 7**. .

Table 7 displays the findings of the evaluation of teachers' abilities to create assessment methods. The highest mean in the table, 4.91, corresponds to statement 1: During assessment methods, the instructor uses a zipgrade application answer sheet with clear instructions, and the student understands what is on the zipgrade application answer sheet since the teacher has explained it to them. Most of the mean fall "strongly agree/very competent", shows that the teacher assessment competencies under establishing assessment technique, the instructor are well equipped in developing materials in assessment for the students.

The average score for designing assessment methods falls between 4.84 and 4.91, and "strongly agree" indicates that the student and teacher are both completely capable of doing so. The average mean is 4.88, it implies that the students claim that the teacher are very competent in competencies in terms of developing assessment method.

To successfully improve the quality of education, ensuring the well-being of teachers and ensuring that they are competent are vital components. It is therefore vital to design assessment instrument models for both the competency of teachers and the wellbeing of teachers in order to satisfy the requisite criteria. (Maba

et al., 2018)

Table 8. *Perceived Teacher Assessment Competencies as to Administering, Scoring and Interpreting the Results*
*During the assessment, my teacher…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. administered the assessment to students on time. | 4.90 | .306 | Strongly Agree |
| 2. prepared diverse assessment methods. | 4.81 | .434 | Strongly Agree |
| 3. communicate the assessment results to students the soonest time possible. | 4.89 | .317 | Strongly Agree |
| 4. gave clear and concise instruction and explain the scoring scheme to be used in the examination. | 4.94 | .277 | Strongly Agree |
| 5. encouraged us to be confident and be at our own during examination. | 4.92 | .301 | Strongly Agree |
| Overall | 4.89 | .228 | Strongly Agree/very competent |

**Figure 8**. .

Table 8 displays the outcomes of the teacher assessment of their abilities to administer, score, and interpret the results. The highest mean in the table is 4.94, which corresponds to statement 4, which states that students noticed the teacher's clear and concise instructions and explanation of the scoring system used in the exam while administering, scoring, and interpreting the results. This statement implies that the teacher explained how to score using the zipgrade application. Most of the mean scores are "strongly agree/very competent," which shows that when giving the test to the students, the teacher was able to understand the results and provide a succinct examination score.

The teacher gave assessments on time and produced a variety of assessments for the pupils, according to the mean under evolving assessment method, which varies from 4.81-4.94 and is understood as "highly agree". It denotes that the students believe that the teacher are very skilled in competency in terms of administering, scoring and interpreting the results.

Despite the fact that assessments are frequently confused with traditional tests—particularly the standardized tests developed by testing companies and given to large groups of students—educators use a wide variety of assessment tools and methods to measure everything from a four-year-preparedness old's for kindergarten to a twelfth-grade student's mastery of a subject. (School Partnership 2014)

Table 9. *Perceived Teacher Assessment Competencies as to Planning Teaching*
*During the assessment, my teacher…*

| | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. informed us that assessment of our performance may be done in various ways, maybe announced or unannounced. | 4.83 | .375 | Strongly Agree |
| 2. gave in advance the evaluation criteria to be used in our performances. | 4.88 | .393 | Strongly Agree |
| 3. used assessment results as references in administering remedial classes. | 4.76 | .530 | Strongly Agree |
| 4. emphasized the need to reflect on our performances to make needed adjustments. | 4.90 | .332 | Strongly Agree |
| 5. provide tips and key points to effectively use zipgrade application in answering examination. | 4.90 | .322 | Strongly Agree |
| Overall | 4.85 | .299 | Strongly Agree/very competent |

**Figure 9**. .

The findings from the evaluation of teachers' instructional planning competencies are presented in Table 8. Statements 4 and 5 in the table have the highest mean, which is 4.90. In statement 4, the teacher emphasized the necessity for us to evaluate our performances in order to make the necessary adjustments. In statement 5, the teacher provided advice and important points for using the zipgrade program to its fullest potential while responding to examinations. The statements 4 and 5 indicate that when designing lessons, teachers must take into account students' responses in the zipgrade application, and that this will allow students to provide important advice. The majority of the mean ratings are "strongly agree," indicating that the teacher must give pupils with high-quality assessments of their learning when preparing lessons.

"Strongly agree/very competent" indicates that the teacher should take the students' assessments into account when planning lessons because the mean under that heading varies from 4.76-4.90. It suggests that the teacher are very good in planning teaching in giving assessment to the students.

According to MthethwaKunene, Onwu, and de Villiers (2015), there are three different types of competency that a teacher has to have: mastery of the topic that is being taught, understanding of how to interpret the material (pedagogy), and emotional intelligence having a clear knowledge of the challenges that may be faced by students while attempting to master the material. One of the pedagogical competencies that are expected of teachers is the development of acceptable

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lesson plans.teachers to fulfill the learning goals that have been nominated.

Table 10. *Perceived Teacher Assessment Competencies as to Developing Valid Learner Grading*
*During the assessment, my teacher…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. grade students based on the assessment results. | 4.88 | .350 | Strongly Agree |
| 2. uses assessment to obtain valid grades. | 4.86 | .367 | Strongly Agree |
| 3. articulates why grades they assign are rational, justified and fair. | 4.92 | .301 | Strongly Agree |
| 4. avoids erroneous grading procedures. | 4.84 | .389 | Strongly Agree |
| 5. evaluates and modifies their grading to improve validity of the scores. | 4.92 | .301 | Strongly Agree |
| Overall | 4.88 | .252 | Strongly Agree/very competent |

**Figure 10**. .

Results of the evaluation of teachers' abilities to create reliable student grading are shown in Table 9. According to statements 3 and 5 in the table, the highest mean is 4.92. In the third and fifth statements, the teacher examines and makes changes to their grading to increase the validity of the results. In the third statement, the teacher explains why the grades they award are reasonable, justified, and fair. Statements 3 and 5 show that the teacher gives fair grades to all students since they take into account their responses, and statement 5 shows that the assessment's authenticity makes the students' scores legitimate. The majority of the Valid Pupil Grading scores are "strongly agree," which indicates that the grades of the pupils are determined by the outcome of their assessments.

The average mean is 4.88 it implies that the students claims that the teacher are very equipped in developing valid learner grading because teacher are the one who masters in giving grading to the students.

The evaluation of student learning is crucial because it offers instructive feedback to both students and teachers regarding the degree to which students are effectively meeting the learning goals of the course. This makes assessment one of the most significant aspects of education. (Fisher Jr 2021)

Table 11. *Perceived Teacher Assessment Competencies as to Communicating Assessment*
*During the assessment, my teacher…*

| *Indicators* | *Mean* | *SD* | *VI* |
|---|---|---|---|
| 1. reported assessment result to students and parents. | 4.65 | .572 | Strongly Agree |
| 2. interpreted assessment results appropriately. | 4.90 | .306 | Strongly Agree |
| 3. posted progress report in the bulletin board intended for assessment results. | 4.64 | .574 | Strongly Agree |
| 4. communicate to students about the educational progress. | 4.90 | .332 | Strongly Agree |
| 5. explain the learner assessment results. | 4.89 | .364 | Strongly Agree |
| Overall | 4.79 | .305 | Strongly Agree/ very competent |

**Figure 11**. .

The outcomes of the teacher assessment of assessment communication skills are shown in Table 10. Statements 2 and 4 in the table have the highest mean, which is 4.90. While communicating with pupils about their academic achievement in statement 4, the teacher in statement 2 correctly interpreted assessment results. It suggests that telling the students what happened in class is very important, especially when delivering test results. The majority of the mean ratings come under the category of "strongly agree/very competent," which indicates that informing students and parents about the assessment is crucial.

The range of the mean scores for conveying assessment shows that all of the students agree that one of the teacher's responsibilities is communicating assessment. The overall mean is 4.79, which is interpreted as "highly agree." It denotes that the students claims that teacher are very good in communicating assessment because assessment is one of the thing that the teacher can in teaching and learning process.

It is required that teachers routinely submit test results to both the students and the kids' parents or guardians. In addition to this, they are frequently requested to report or discuss the outcomes of assessments with both other educators and a variety of different lay audiences. It is possible that the findings will be misinterpreted or ignored if there is a breakdown in the communication of the findings. Teachers need to be able to clarify the meaning of assessment results, as well as their limitations and implications, in order to communicate effectively with others on matters pertaining to student assessment. (Sanders 2013)

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Research Article

**Student's Achievement**

Student's Achievement in terms of Unit Test 1, Unit Test 2 and Summative Test.

Table 12. *Students level of Achievement as to Unit Test and Summative*

| *Student's Achievement* | *Unit Test* | | *Summative Test* | |
|---|---|---|---|---|
| | *Frequency* | *Percent* | *Frequency* | *Percent* |
| Advanced | 125 | 100 | 125 | 100 |
| Proficient | - | - | - | - |
| Approaching Proficiency | - | - | - | - |
| Developing | - | - | - | - |
| Beginning | - | - | - | - |
| Total | 125 | 100 | 125 | 100 |

**Figure 12**. .

Table 12 displays the respondents' students' performance on the unit exam and summative test. Lessons 1 and 2 are covered in 30 items on Unit Test 1, while Lessons 3 and 4 are covered in 30 items on Unit Test 2. Lessons 1 through 4 are covered in 40 things on the summative test for TLE-ICT, which covers all four lessons. As a result of having taken the unit test, the students will be prepared for the summative exam.

The students' performance on the unit test was at an advanced level, which implies that all of them received good marks on both the unit test 1 and the unit test 2. Since all of the kids received excellent scores on the summative test, the outcome of their performance on it is at an advanced level. One way the teacher evaluates the pupils' understanding of what was discussed in class is by their performance.

Assessment is an integrated process that consists of gathering information about the learning of students and generating value judgments about the progress they have made. Projects, portfolios, performances, observations, and examinations are some of the many different avenues that can be pursued in order to gather data regarding the development of individual students. In the process of gathering information on the academic progress of students, particular numbers or grades are frequently assigned; this requires measurement. (Seifert and Sutton 2019)

Table 13. *Correlation between Zipgrade Application and Teacher's Assessment Competencies*

| *ZipGrade Application Variables* | *Teacher Assessment Competencies* | | | | |
|---|---|---|---|---|---|
| | *DAS* | *ADSAITR* | *PT* | *DVLG* | *CA* |
| A. Features | | | | | |
| Efficiency | .578** | .535** | .490** | .645** | .506** |
| Functionality | .623** | .494** | .449** | .667** | .539** |
| Accuracy | .477** | .495** | .565** | .591** | .465** |
| Ease of Use | .545** | .530** | .423** | .691** | .500** |
| B. Extent of Use | .667** | .611** | .571** | .747** | .584** |

**Figure 13**. .

Table 13 shows the significant relationship between zipgrade application and teacher's assessment competencies in terms of Developing Assessment Method (DAS), Administering, Scoring and Interpreting the Results (ADSAITR),

Planning Teaching (PT), Developing Valid Learner Grading (DVLG), and Communicating Assessment (CA).

As shown in the table, it is observed that features of zipgrade application in terms of efficiency is significantly related to teacher's assessment competencies in terms of developing assessment method, administering, scoring and interpreting the results, planning teaching, developing valid pupil grading and communicating assessment, as reflected with the obtained high r value of (.578), (.535), (.490), (.645), and (.506) respectively at the 0.01 level of significant. It suggests that the teacher will be able to assess the findings right away and produce the test results directly thanks to the efficiency features of the zipgrade application. Zipgrade application is also closely related to teacher assessment competencies.

For zipgrade application in terms of functionality, it is significantly related to teacher's assessment competencies in terms of developing assessment method, administering, scoring and interpreting the results, planning teaching, developing valid pupil grading and communicating assessment, as reflected with obtained high r value of (.623), (.494), (.449), (.667), and (.539) respectively at the 0.01 level of significant. It suggests that the teacher has a working knowledge of the zipgrade application's capabilities, including the ability to access it both online and offline and review the test right away.

For zipgrade application in terms of accuracy, it is

significantly related to teacher's assessment competencies in terms of developing assessment method, administering, scoring and interpreting the results, planning teaching, developing valid pupil grading and communicating assessment, as reflected with obtained high r value of (.477), (.495), (.565), (.591), and (.465) respectively at the 0.01 level of significant. It suggests that the zipgrade application is capable of producing accurate results, identifying the items with the right answers, counting the precise number of test takers, figuring out how frequently each question is answered, and producing a trustworthy analysis of the test results.

For zipgrade application in terms of ease of use, it is significantly related to teacher's assessment competencies in terms of developing assessment method, administering, scoring and interpreting the results, planning teaching, developing valid pupil grading and communicating assessment, as reflected with obtained high r value of (.545), (.530), (.423), (.691), and (.500) respectively at the 0.01 level of significant. It suggests that the teacher assessment is able to reduce preparation time for assessment and analysis of results, verify the test in an easy way, prepare item analysis in an easy way, build and produce test quickly, and convey the result in an easy way with zipgrade's application.

For zipgrade application in the extent of use, it is significantly related to teacher's assessment competencies in terms of developing assessment method, administering, scoring and interpreting the results, planning teaching, developing valid pupil grading and communicating assessment, as reflected with obtained high r value of (.667), (.611), (.571), (.747), and (.584) respectively at the 0.01 level of significant. Zipgrade application is used as a tool for the examination correction process after they are given time to test them directly on students, and the teacher can create answer sheets for multiple choice, true or false, matching type, and gridded-numeric entry. This suggests that the extent to which the teacher is able to provide timely feedback on students' performance through using zipgrade applications allows us to reflect and do better.

Teacher's Assessment Competencies and Zipgrade Application are closely related to one another. This indicates that the teacher's evaluation skills are very strong when it comes to evaluating the students using the zigrade application and the zipgrade application answer sheet.

Due to the fact that assessment for learning is so effective, it has become increasingly common in educational systems all over the world. It is helpful for the teachers to understand where the student is in relation to the learning outcome, and it enables the teachers to provide the students with feedback regarding the areas in which they need to develop in order to attain the desired learning outcome. (Abdula 2019)

Table 14. *Correlation between Teacher's Assessment Competencies and Student's Achievement*

| *Teacher's Assessment Competencies* | *Student's Achievement* | |
|---|---|---|
| | *Unit Test* | *Summative Test* |
| Developing Assessment Method | 0.083 | -0.03 |
| Administering, Scoring, and Interpreting the Results | 0.054 | 0.078 |
| Planning Teaching | 0.074 | -0.002 |
| Developing Valid Learner Grading | 0.119 | 0.005 |
| Communicating Assessment | 0.094 | 0.103 |

**Figure 14**. .

Table 14 shows the correlations between Teacher's Assessment Competencies and Student's Achievement. As shown in the table, it is observed that teacher's assessment competencies in terms of developing assessment method, administering, scoring, and interpreting the results, planning teaching, developing valid learner grading and communicating assessment that there is no significant relationship to student's achievement in terms of unit test and the obtained high r value of (0.083), (0.054), (0.074), (0.119), and (0.094).

It is observed that teacher's assessment competencies in terms of developing assessment method, administering, scoring, and interpreting the results, planning teaching, developing valid learner grading and communicating assessment were not significantly related to student's achievement in terms of summative test and as implicated in the obtained r values (-0.03), (0.078), (-0.002), (0.005) and (0.103). This implies that the students perception on their teacher's assessment competencies is not associated in anyways, when considering their achievement in class specifically of unit test or summative test.

Their further denotes that the student's achievement is not predicted by the teacher's assessment competence because there is no correlation between the two, and the teacher's assessment competencies have no bearing on the student's achievement. Even though the teachers are extremely skilled, it has no bearing on the students'

performance because it is based on their diligence and hard effort.

The process of assigning grades to students is an essential component of the professional practice of teachers. A student's grade serves as an indication of both their level of achievement and the significance that their teacher places on that performance. Valid grades can be obtained through the use of assessments, and the underlying principles necessary to do so are well understood. Teachers should put these principles into practice. Educators who are able to accomplish this criteria will possess the conceptual and application skills that are listed below. They will be able to construct, implement, and explain a system for creating grades that are composed of marks from a variety of assignments, projects, in-class activities, quizzes, tests, and/or other assessments that they may utilize. They will be able to use this procedure. Teachers will realize and be able to describe why the grades they issue are rational, justified, and fair, while also recognizing that such grades represent the preferences and judgments of the individual teachers. Inaccurate grading practices, such as utilizing students' grades as a form of discipline, will be brought to the attention of educators, who will then be able to devise alternatives. They will be able to analyze and adapt their grading systems in order to improve the validity of the interpretations that are formed from them on the attainments of the students. (Sanders 2013)

Table 15. *Correlation between Zipgrade Application and Student's Achievement*

| *Zipgrade Application Variables* | *Student's Achievement* | |
|---|---|---|
| | *Unit Test* | *Summative Test* |
| Efficiency | 0.05 | 0.119 |
| Functionality | -0.014 | -0.02 |
| Accuracy | -0.06 | 0.027 |
| Ease of Use | 0.127 | .206* |
| Extent of Use | 0.085 | 0.079 |

**Figure 15**. .

Table 15 shows the correlations between Zipgrade Application and Student's Achievement. As shown in the table, it is observed that the features of zipgrade application in terms of efficiency, functionality, accuracy, ease of use and extent of use that there is no significant relationship to student's achievement in unit test and obtained high r value of (0.05), (-0.014), (-0.06), (0.127) and (0.085).

It is observed that that features of zipgrade application in terms of efficiency, functionality, accuracy, ease of use and extent of use that there is no significant relationship to student's achievement in summative test and obtained high r value of (0.119), (-0.02), (0.027), (.206), and (0.079). It also denotes that the student's achievement is not based on the zipgrade application but on their own study of the lesson.

Only the feature of usability matters to a student's performance on a summative test in the Zipgrade application because this test covers lessons one through four, whereas units one and two cover lessons one and two, and three and four, respectively, in the summative test. Multiple choice, yes or false, and matching types of assessments are included in summative tests. It indicates that the students found the zipgrade program to be simple to use during the final assessment of their progress.

Digitization and automation have improved the efficiency and efficacy of systems and processes across many industries, and the higher education sector is no exception. The terms "online learning," "e-learning," "electronic teaching tools," and "digital evaluations" are not new. (Henderson & Crawford ,2020).

## Discussion

Based on the findings of the study, the following conclusions are drawn: (1) It has been observed that zipgrade application features as to efficiency, functionality, accuracy, ease of use and extent of use are significantly related to all measures of teachers, assessment competencies. In this regard, the null hypothesis is not supported by the evidence, hence it is not sustained. (2) Teacher's Assessment Competencies as to developing assessment method, administering, scoring and interpreting the result, planning teaching, developing valid learner grading and communicating assessment do not have association with the students' achievement as to unit and summative test, therefore the null hypothesis in this regard is accepted. (3) The correlation between zipgrade application and student's achievement shows no significant relationship, except for ease of use which is significantly related to summative test, therefore the null hypothesis in this respect is partially sustained. (4) Considering the absence of significant relationship between the mediator and dependent variable, the data then is not consistent with the meditational analysis, hence failed to establish final analysis on the effects of Teacher's Assessment Competencies as mediator between

zipgrade application and student's achievement.

Based on the findings and results of the study, the following are hereby recommended: (1) Since it was found out that the test of correlation shows significant relationship between zipgrade application: efficiency, functionality, accuracy, ease of use and extent of use to teacher's assessment competencies: developing assessment method, administering, scoring and interpreting the results, planning teaching, developing valid learner grading and communicating assessment, it may be recommended that the teacher use zipgrade application in giving assessment to the learner because zipgrade application have a features of efficiency, functionality, accuracy and ease of use. (2) Based on the result of the test correlation, there is no significant relationship between teacher's assessment competencies: developing assessment method, administering, scoring and interpreting the result, planning teaching, developing valid learner grading and communicating assessment to student's achievement: unit test and summative test. However, there is no significant relationship between teacher's assessment competencies and student's achievement. It may be recommended that teachers learn more competencies for their teaching career and students' achievement is not only based on the teacher's aspect but on their ability in the learning process. (3) Based on the result of the test of relationship between variables, that there is no significant relationship between zipgrade application: efficiency, functionality, accuracy, ease of use and extent of use to student's achievement: unit test and summative test. However, there is no significant relationship between zigrade application and student's achievement. It is recommended that student's achievement is not based on zipgrade application but based on their capability of learning of students in every subject. It is also recommended to use alternative applications to learn from students. (4) Based on the result of test regarding teacher's assessment competencies as mediator between the relationship of zipgrade application and student's achievement. It is recommended for teachers to use the zipgrade application during the assessment method because it can be efficient and have accurate results of the assessment. The teacher's assessment competencies do not mediate the relationship on student's achievement. It is recommended to have a seminar more of teachers regarding competencies and student's achievement have so many factors why students achieve their learning progress. (5) For future researcher evaluate the zipgrade application by using more teachers who are using zipgrade application.

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