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Factors Junior High School Teachers Consider When Assigning Grades to Student's Performance

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Abstract:

The purpose of the study was to discover the academic and non-academic aspects that teachers in the Jomoro District evaluate when grading their students' performance. Descriptive survey design in conjunction with the quantitative method was used. Participants included 160 teachers who were chosen from 40 public Junior High Schools in the Jomoro District using stratified proportionate and simple random selection processes. The study's instrument was a questionnaire with 26 items and a reliability value of .70. Means and standard deviations, frequency distribution, and percentages, as well as One-Way Multivariate Analysis of Variances (MANOVA) were used to analyze the data. The Teachers at the Jomoro District's Junior High Schools take into account students' project, class test, homework, and group work results, according to the findings. Teachers at the Jomoro District's Junior High Schools use the scores of students' project, class test, homework, group work, and the end of term examination as academic factors when grading the students' performance at the end of the term, according to the findings. In addition, when it came to grading processes, there was no statistically significant difference in teacher qualification.

Keywords: Assessment, grading, academic factors, non-academic of factors

1. Introduction

Assessment is an integral part of education. It is the beginning and the ending of teaching and learning. Nitko (2004) sees assessment as a systematic process of obtaining relevant information that is used for making decisions about students, curricula and programs, and educational policies. Thus, collecting relevant information from people or objects depicts that some procedures are used in obtaining that information. To gather information about students, a variety of assessment procedures might be used. Generally, test is the preminently technique that teachers use in assessing their students. After the test has been administered, the teacher has to score and assign grades. Grades are a set of symbols, words, numbers, or letters that are used to signify distinct levels of success or performance. They could be letter grades like A, B, C, D, E, and F from the SSSCE or numbers like 1, 2, 3, 4, 5, 6, 7, 8, 9 from the BECE. For the WASSCE, some grades are also expressed as a combination of alphabets and numbers (alphanumeric), such as A1, B2, B3, C4, C5, C6, C7, E8, F9, or simply as pass/fail, as most professional tests such as the Association of Certified Chartered Accountants are (ACCA).

Grades reflects school and student accountability to policymakers, which influences instruction and curriculum, while grades analyze teaching efficacy to instructors, allowing them to make educated decisions about their students' progress and their own teaching (Liu, 2008). Grades skewed by other factors give pupils the erroneous impression of readiness and mislead those attempting to help them in their future educational pursuits. As a result, a successful grading system must inspire trust and confidence by providing fair, accurate, and valid assessment results from which individuals and institutions may make informed decisions (Ayesu & Kofitse, 2010).

The effectiveness of classroom assessment and grading systems has become a hot topic in education research (Bonesronning, 2004; Brookhart, 1994; McMillan & Lawson, 2001; McMillan, Myran, & Workman, 2002; McMillan & Nash, 2000; Xing Liu, 2008; Link, 2018). There has been numerous researches on the elements that influence teachers' grading techniques (Brookhart, 2016; McMillan & Lawson, 2001; McMillan, Myran, & Workman, 2002; McMunn, Schenck, & McColskey, 2003; Stiggins, Frisbie, & Griswold, 1989). According to McMunn, Schenck, and McColskey (2003), teachers use a variety of elements in their grades that may or may not reflect student accomplishment of standards. Their survey of 241 students found that homework for practice (63 percent of total responses), participation (53 percent), group work (55 percent), attendance (6 percent), tardiness (6 percent), and behavior (9.5 percent) were all factors in determining student grades. 'Grades often indicate a mixture of various criteria that teachers value,' according to a century of grading research, and those elements vary widely (e.g., effort, ability, work habits, participation, attendance, etc.) based on what teachers believe and therefore support as relevant to grading (Brookhart, Guskey, Bowers, McMillah & Jeffrey, 2016).

Some teachers when determining the grades of their students unintentionally consider other factors such homework, class participation, etc because of lack of training (Guskey, 2015). In Ghana, teachers from both the JHS and

SHS present the performance of their students' results in the form of grades to the students' parents. Stakeholders such as parents, institutions and individuals in education rely on grades assigned by teachers to evaluate their students' performance. The introduction of School Based Assessment (SBA) provides the factors to be considered when assigning grade to students work at the end of the term. For instance, in the JHS, the grade is made up of 50% class assessment and 50% of the end of term exams. The class assessment for the term under the SBA consist of two class tests, one group work and a project work (Curriculum Research and Development Division, 2011).

Teachers sometimes lack understanding of the grading practices in the SBA, and are in a hurry to use undefined and unreliable methods when grading the performance of students (Kubiszyn & Borich, 2013; Guskey, 2006; Wormeli, 2006). According to Anhwere (2009), some Ghanaian teachers see evaluation and grading processes as an additional burden to their teaching duties. Awoniyi (2016), confirmed this by indicating that Ghanaian teachers see the practice of the SBA as tedious and a burden. Their perceptions influence their attitude towards the practices of assessment and grading, Abaidoo (2016), contend that attitude is the consistent behavior of one's thinking and beliefs. Adu-Mensah (2018), concluded in his study that teachers have negative attitude towards grading practices. This could create a challenge for teachers to adhere to the recommended grading practices. Hence, one will contemplate on what academic and non-academic factors teachers consider when grading student's performance since they have negative attitude towards the recommended grading practices.

1.1. Factors that Influence Teachers' Grading Practices

1.1.1. Academic Factors

Academic factors refer to a student's achievement or performance in a subject that displays mastery of the subject's material (Wormeli, 2006). These indicators reflect whether or not the student has grasped the course or subject being studied, as well as whether or not the course or subject's objectives have been met. Achievement, according to O'Connor (2007), is defined as performance measured against acknowledged criteria and learning outcomes. As a result, Wormeli (2006) believes that grades are meant to be a reliable measure of achievement characteristics including a student's mastery of learning requirements.

1.1.2. Non-academic Factors

Non-academic factors are assessment processes that do not examine students' achievement in a specific subject area, but rather student behaviors, work habits, attendance, and attitudes (Brookhart, 2009). Nevertheless, since it has been identified that some grades reflect factors other than achievement or performance grades, Cross and Frary (1999) and Winger (2005) propose a form of supplementary communication to report performance and progress in regard to non-academic factors as well, because they also carry messages from the student that effectively communicate about the student's ability to demonstrate mastery of content and follow expected work habits.

1.2. Statement of the Problem

Reliability and validity of assessment results has been the concern of educators as these results are used to make value judgment on the student. Often, these assessment results are presented in grades, hence any mislead factor included in the grade will lead to measurement error in the assessment. The assessment results teachers present to parents in grades on a particular subject must show the true picture of the student in that particular subject. Hence, if other factors outside the students' performance in that subject are included in the grade, then the error in measurement are increased since the students' score in the subject is an observe score which contains some kind of errors and the true score of the students.

This issue of error measurement in assessment has drawn the attention of researchers in the study of teachers' test practices. A number of studies have been made on teachers test practices (Amedahe, 1989; Quagraine, 1992; Anhwere, 2009; Oduro, 2008; Sasu, 2017). These studies concentrated on the construction, administering and scoring of the test items. However, in terms of the academic and non-academic factors teachers consider when assigning grades after the scoring, appears to be missing. Also, the practice of the SBA which could have filled the gap is what teachers are not practicing (SBA) due to inadequate knowledge and training on the SBA (Awoniyi, 2016).

Now, what factors do teachers consider when assigning grades? Do students' behaviour, attendance or effort or class participation or homework influence how teachers assign their grades? Do teachers' grade students' base on their responses in the end of term achievement test? This study, therefore sought to explore the grading practices among Junior High School teachers within the Jomoro District of Ghana.

1.3. Purpose of the Study

The main purpose of the study was to explore JHS teachers' grading practices within the Jomoro District of Ghana. The study specifically sought to:

- Determine academic factors that JHS teachers consider when grading their students' performance.
- Determine non-academic factors JHS teachers consider when grading their students' performance.
- Investigate whether differences exist in the grading practices among JHS teachers in terms of academic qualification.

2. Methodology

The research used a descriptive survey design. According to Alonge (2009), the survey design entails gathering data to aid the researcher in answering the research questions posed regarding the problem. It is thus the best for this study because its goal was to offer precise quantitative information regarding certain designated features of the population under study, such as opinions and perceptions. Teachers of the Junior High Schools in Jomoro District of Ghana were the population for the study.

Multistage sampling procedure was used. First, proportionate stratified sampling was used to select 40 Junior High Schools from the 52 schools within the seven circuit in the District. Secondly, simple random sampling was used to select the individual schools which will participate in the study. All the teachers in the selected school who teach the core subjects (English Language, Mathematics, Science and Social Studies) formed the sample for the study. In all 160 teachers were selected from 364 Junior High School teachers in the Jomoro District of Ghana which represent 43.9% of the population (364). In most quantitative studies, a sample size of 5% to 20% of the population size is sufficient for generalization purposes (Amedahe 2002).

The data gathering instrument was a questionnaire. The decision to use a questionnaire is based on Osuola's (2001) argument that they are especially useful when the sample size is large enough to make it cost-effective in terms of time or money.

The researcher adapted 'Grading Practices scale' (AGP) developed by Adu-Mensah (2018). The questionnaire was restructured and put into four sub-sections (A, B, C, D) with 26 items and named Teachers Grading Practices (TGP) scale.

To improve the study's validity, my supervisors vetted the questionnaire for expert evaluation. Pretesting of the instrument was done at Komenda Edina Eguafu Abrem District of Ghana with some selected JHS teachers. Cronbach's coefficient alpha was used to assess the inner consistency to achieve the instrument's accuracy. The alpha coefficient for Cronbach was .70.

3. Results and Findings

- Research Question One: What academic factors do JHS teachers in the Jomoro District of Ghana consider when grading their students' performance?

Academic Factors (AF)	M	SD
Grade my students based on only terminal examination	1.47	.882
Assign a score of zero for students who do not take part in class exercises	2.67	1.203
Consider students' score on homework when assigning a final grade	3.38	.942
Grade my students by averaging all academic tasks done by the student	3.61	.754
Scores on group work form part of students' final grade	3.74	.754
Terminal examination form part of the students' grade I assign when grading	3.82	.475
The scores of students' project work form part of their final grade	3.81	.497
The class test score of my students form part of their final grade	3.87	.454
Mean of Means	3.30	.718

Table 1: Results on the Academic Factors (AF)

Table 1 presents the results on the academic factors that JHS teachers considered when grading their students' performance. From the results, respondents reported that they considered the class test scores of their students as a factor when grading their students' performance ($M = 3.87$, $SD = .454$, $n = 153$). Terminal examination scores form part of the students' grade ($M = 3.82$, $SD = .475$, $n = 153$). Respondents also indicated that the scores of students' project work formed part of their final grade ($M = 3.81$, $SD = .497$, $n = 153$). Respondents pointed out that they considered scores on group work as part of students' final grade ($M = 3.74$, $SD = .537$, $n = 153$). Again, it was evident that respondents assign a score of zero for students who do not take part in class exercises ($M = 2.67$, $SD = 1.203$, $n = 153$). Scores on students' homework are considered as a factor when assigning a final grade to students' performance ($M = 3.38$, $SD = .942$, $n = 153$). Similarly, the respondents reported that they graded their students by averaging all academic tasks done by the student ($M = 3.61$, $SD = .754$, $n = 153$). However, respondents indicated that the grades of their students were not based on only terminal examination ($M = 1.47$, $SD = .882$, $n = 153$).

- *Research Question Two:* What non-academic factors do JHS teachers in the Jomoro District of Ghana consider when grading their students' performance?

Non-Academic Factors (NAF)	M	SD
Will pass a student who is so close to me even if he/she is not performing academically	1.13	.392
Assign low scores for indiscipline behaviour of students	1.41	.720
Give students extra score when grading	1.58	.832
Award marks for students' attendance in class	2.10	1.13
Assign high scores to students who are active in class	2.59	1.02
Consider the number of times a student asks questions during an instructional period when grading	2.64	1.05
Award marks for neatness of work presented by the student	3.01	.963
Focus on the number of questions (items) attempted by the student	3.24	.974
Concerned about the number of times students submit assignment on time	3.38	.866
Mean of Means	2.34	.883

Table 2: Results on the Non-Academic Factors (AF)

Source: Field Data (2019)

Sample Size (n=153)

Table 2 presents the results on the non-academic factors that JHS teachers in the Jomoro District of Ghana consider when grading their students' performance. The results show that indeed some non-academic factors are taken into consideration when teachers are grading their students. Out of the nine (9) pre-coded factors, five (5) of the factors were agreed to be considered. Some of the factors include the fact that respondents are concerned about the number of times students submit assignment on time ($M = 3.38$, $SD = .866$, $n = 153$). Another non-academic factor was that teachers focus on the number of questions (items) attempted by the student when grading their performance ($M = 3.24$, $SD = .974$, $n = 153$). Respondents reported that they awarded marks for neatness of work presented by the student when grading their performance ($M = 3.01$, $SD = .963$, $n = 153$). Respondents reported that they consider the number of times a student asks questions during an instructional period when grading ($M = 2.64$, $SD = 1.05$, $n = 153$). Respondents also reported that, they assigned high scores to students who were active in class when grading students' performance ($M = 2.59$, $SD = 1.02$, $n = 153$).

However, the following were non-academic factors that respondents do not consider when grading students' performance at the end of the term. The results indicated that respondents did not assign low scores for indiscipline behaviour of students ($M = 1.41$, $SD = .720$, $n = 153$). Also, respondents reported that they did not award marks for students' attendance in class when grading their performance ($M = 2.10$, $SD = 1.13$, $n = 153$). Again, it was reported that teachers did not give students extra score when grading ($M = 1.58$, $SD = .832$, $n = 153$). Respondents reported that passing a student who is so close to them even if the student is not performing academically was not a factor that they considered when grading ($M = 1.13$, $SD = .392$, $n = 153$).

3.1. Hypothesis One

H_0 : There is no significant difference of grading practices among JHS teachers with regard to their qualification.

This hypothesis sought to determine the difference in grading practice of teachers with regard to their qualifications. One-way multivariate analysis of variance (MANOVA) was used to compare the mean scores of teachers on all two grading practices (academic factors and non-academic factors). The independent variable was teachers' qualification, which has four levels: Certificate A, Diploma, Bachelor, and Masters. The dependent variables were the two grading practices: academic factors, and non-academic factors. All assumptions for conducting MANOVA were checked and the One way multivariate analysis of variance (MANOVA) was conducted. Table 3 presents the results of the test.

Source	Dependent Variable	Df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	Non-academic factors	1	14791.642	748.576	.000	.834
	Academic factors	1	21555.172	2756.531	.000	.949
Teachers Qualification	Non-academic factors	3	56.641	2.866	.039	.055
	Academic factors	3	1.065	.136	.938	.003
Error	Non-academic factors	149	19.760			
	Academic factors	149	7.820			

Table 3: Multivariate Test for Differences in Grading Practices based on Teachers' Qualification

The result in Table 3 shows no statistically significant difference in the combined dependent variables (grading practices) among teachers in terms of their qualification, $v = .065$, $F(2, 298) = 1.66$, $p = .132$; partial eta squared = .03. It implies that the qualification of teachers explained 3% of the variance in the combined dependent variables.

Separate univariate ANOVAs were performed on the dependent variables using Bonferroni Adjusted Alpha level of .025. The results of the univariate ANOVAs are presented in Table 4.

The results of the univariate tests revealed no statistical significant difference in the use of non-academic factors considered in grading, $F(3,149) = 2.87$, $p = .039$, partial eta squared = .06; academic factors, $F(3,138) = .136$, $p = .938$, partial eta squared = .003. This implies that irrespective of the qualification of teachers, they consider some non-academic factors which is similar among the teachers and that the difference in the means; Certificate A ($M = 24.33$, $SD = 5.69$), Diploma ($M = 21.38$, $SD = 4.51$), Bachelor ($M = 19.53$, $SD = 4.29$), Masters ($M = 21.14$, $SD = 5.15$) were not significant but by chance. Similarly, the use of academic factors was also not different among teachers with regard to their qualification and that the difference in the means; Certificate A ($M = 25.67$, $SD = .577$), Diploma ($M = 26.38$, $SD = 3.052$), Bachelor ($M = 26.38$, $SD = 2.588$, Masters ($M = 25.86$, $SD = 3.024$) were not significant but by chance.

Practically, the results mean that the mean differences were insignificant (no differences existed among the qualifications). Hence, the null hypothesis which states that, 'There is no significant difference in grading practices among JHS teachers with regard to their qualification' was upheld (not rejected). Since the results was not statistically significant, post-hoc test/follow up test was not applicable.

4. Discussion of Findings

4.1. Academic Factors Teacher's Consider When Grading

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	0.952	1461.59	2	148	0	0.952
Qualification	Pillai's Trace	0.065	1.66	6	298	0.132	0.032

Table 4: Test of Between-Subjects Effects in Terms of Teachers Qualification
Bonferroni Adjusted Alpha level of .025

The findings of the study reported that teachers use the scores of students' project, class test, homework, group work and the end of term examination scores as academic factors when grading the students at the end of term. This study also reported that teachers assign a score of zero for students who do not take part in class exercise, which means that class exercise is also a factor that teachers consider when assigning grade to the performance of the student at the end of the term.

The foregoing factors are academic tasks that are used to measure students' mastery on a particular subject. These imply that every academic task given to the student is taken into account when teachers are assigning final grades at the end of the term. This may, in a way, make students to be serious with any academic task given to them to do, especially when they are aware that the scores of every academic task given will affect their grades at the end of the term. It, thus, also implies that teachers do not grade the performance of their students based on only the end of term examination scores. Hence, students must be prepared and read their notes always since class exercise and homework are given almost every day after every teaching period.

This result corroborates with the study of Yesbeck (2011) that teachers consider students' achievement on class test, class exercise, homework, examinations as academic factors since their feedback show mastery on the subject taken. This finding also supports the claim of Wormeli (2006) that grades should be an indicator of factors that show students' achievement and mastery of learning standards.

4.2. Non-Academic Factors Teacher's Consider when Grading

Non-academic factors are the assessment procedures that do not measure students' achievement on a particular subject area; however, they are factors that relate to student behaviors, work habits, attendance and attitudes (Brookhart, 2009). The findings of the study show that teachers in the Jomoro District of Ghana considered a number of non-academic factors when grading their students' performance at the end of the term. The study further found out that scores were given to students on their participation or activeness in class, and their effort. This, in a way, would serve as motivation for the students to take part in teaching and learning. Teachers considering such variables may derive from the belief that learners who commonly ask questions provide feedback on how well the learner understands the teaching and learning goals.

The results corroborate with the finding of Cross and Frary (1999) and Winger (2005) that teachers use non-academic factors too, since they also carry message of the student that communicate clearly about the student's ability to demonstrate mastery of content and the student's ability to follow expected work habits and responsibility. Similarly, the result share common view with one hundred year of grading studies by Brookhart & et al, (2016) which concluded 'that grades typically represent a mixture of multiple factors that teachers value and that those factors vary widely (e.g., effort, ability, work habits, participation, attendance, etc.) depending on what teachers believe and subsequently endorse as relevant to grading.' The rationale for involving students' effort and participation in grading generally is to motivate the student to attempt harder by recognizing enhanced effort in grading schemes (Munk & Bursuck, 2004).

4.3. Teachers Qualification and Grading Practices

The findings of this study reveal that there is no significant difference in grading practices among the Junior High School teachers' in Jomoro District with regard to their Qualification. This means that irrespective of the qualification

either Certificate A, Diploma, Bachelors or Masters of the Junior High School teacher in Jomoro District of Ghana, they do not differ in the practices of grading. This finding is not in support of the claims of Brewer and Demarrias (2015) and Redding and Smith (2016) that teachers' training and qualification make them differ in the practice of assessment and grading.

5. Conclusions

It was evident from the findings of the study that Junior High School teachers in the Jomoro District of Ghana considered both academic factors and non-academic factors when calculating the grades of their students. Specifically, in terms of non-academic factors, students' scores on their participation or activeness in class, participation or activeness in class, effort and neatness of work presentation were included in their grades. Based on this finding, it can be concluded that Junior High School teachers in Jomoro District of Ghana, to some extent, do not follow the recommended grading practices as provided by the Curriculum Research and Development Division in Ghana (2011) when the SBA was introduced.

A result from this study further gives evidence that, teachers faced some challenges in grading practices which made grading a burden. Moreover, with regard to grading practices, this study found that the teachers' grading practices do not differ based on their qualifications, it is therefore concluded that the qualification of teachers do not determine their grading practices.

6. Recommendations

On the basis of the findings resulting from the study, the following recommendations are made for the improvement of grading practices of teachers in the Junior High Schools in Jomoro District and Ghana as a whole:

Since teachers include non-academic factors and it was report that these non-academic factors such as students' effort, activeness in class, attendance and attitude make it difficult for teachers to assign grades to students, I recommend that teacher-training institutions should provide teachers with measures on how to assess these non-academic factors in grading students' performance.

As part of teachers' in-service training, the Ministry of Education, the Colleges of Education and other stakeholders of education are encouraged to intensify their in-service training programmes organized for teachers on the SBA and its practices. Since currently, the factors that form the students' grade is in the practice of the SBA, training teachers on the SBA will help improve the practice of grading. This could be achieved through the collaboration of the Ministry of Education, the Colleges of Education and other stakeholders of education.

There should be an intensive monitoring by both internal and external supervisors on how teachers practice grading. Head teachers are encouraged to monitor their teachers on the various factors they (teachers) consider when grading the performance of the students. External supervisors who visit the schools are encouraged not to focus only on the lesson notes and attendance book of teachers but must also check the process and factors that teachers consider in grading their students' performance.

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