Attitude of Basic School Teachers toward Grading Practices: Developing a standardised Instrument

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Abstract: One core responsibility of a class teacher is to assess student academic achievement and provide feedback to stakeholders in the form of grades. Grades have now become the academic currency used in determining proficiency or mastering on an educational concept of interest. Teachers are therefore expected to be proficient and reliable in their assessment practices. This study seeks to develop and validate a standardised instrument in measuring teachers' attitude towards grading practices. The study further explores the attitude of teachers toward grading practices. The instrument development was done through a thorough review of the literature on teachers grading practices. Also, items constructed were carefully based on literature and observations made by the researcher. The developed instrument was administered to 443 teachers at the basic school level. Through an exploratory factor analysis, six dimensions were obtained which include: student's efforts considered, student's conduct considered, grading habit, perceived self-efficacy, approach to grading and difficulties encountered when grading. A confirmatory analysis was further conducted to explore the factor loadings of each item. After the analysis, 28-items were retained, the validated scale was administered to 278 teachers to assess their attitude toward grading practices. Further analysis revealed an overall negative attitude of Basic School teachers towards grading practices. It is recommended that in-service training on grading and reporting should be organized for teachers on regular basis. Also, teachers should be monitored by their head teachers or circuit supervisors to ensure that they adhere to recommended grading practices.

Keywords: Grading Habit, Non-Academic Factors, Grading Practices

1. Introduction

Grades have now become an accepted and expected aspect of our educational system (Kubiszyn & Borich, 2013). Students in the educational setting come to realize very early in their educational careers that they will be graded based on their performance in school, educated parents have also, come to believe that the grades their wards receive probably influence their educational, occupational, and financial status by either helping to open or close various doors of opportunities. In the classrooms, students learn varieties of content, and teachers are required to assess students' knowledge on these contents and summarize them in the form of alphabetical or numerical code (Allen, 2005). To teachers and policymakers, grades provide the basis for important decisions about educational plans and career options (Ebel & Frisbie, 1991).

Assessing students' academic tasks and awarding grades is one of the primary responsibilities of the classroom teacher. Teachers are expected to be proficient in their assessment practices. Conversely, past research has shown that there are many problems associated with teachers' grading practices (Kubiszyn & Borich, 2013; Guskey, 2006; Wormeli, 2006; Dueck, 2014). For instance, Kubiszyn and Borich (2013) suggest that teachers are in haste when assessing students' learning. Also, teachers include non-academic factors such as effort, responsibility, and attitude when grading students' academic tasks (Wormeli, 2006; Guskey, 2006). Dueck (2014) asserted that:

> Students who show up to class on time, arrive with the necessary materials, attempt to complete their homework, and treat others nicely will likely benefit academically -just as students who make poor decisions will suffer academically (p. 10).

In the view of Dueck, grades are at times used as an instrument to compel students to put up desirable behaviour. According to Brookhart (2004), grades have strong and lasting effects on students' attitudes, persistence in school, and motivation to learn. Therefore, it is essential that each student's educational progress be watched carefully and reported as objectively as possible (Ebel & Frisbie, 1991). In view of this, teachers are expected to be efficient in their grading practices especially when the consequences of their decision could seriously affect the future of the learner either positively or negatively.

Although established grading policies offer guidelines to teachers for assigning grades, significant variation remains in the grading practices of individual teachers (Brookhart, 1994; McMillan, 2001). One reason for this variation is that few teachers receive formal training on grading and reporting (Guskey, 2009). Most teachers have scant knowledge of the various grading methods, the advantages and shortcomings of each, or the effects of different grading policies on students (Brookhart & Nitko, 2008; Stiggins, 1993; 2008). Such scant knowledge because they rely on traditional grading procedures, often replicating some poor grading practices they experienced as students (Frary, Cross, & Weber, 1993; Guskey & Bailey, 2001). According to Campbell and Evans (2000), most teachers fail to employ and adhere to the measurement guidelines they learned in measurement courses.

In Ghana, the School-Based Assessment (SBA) provides all the necessary information on how teachers are to go about their classroom assessment. Also, teachers are taken through a full course in educational assessment (Quansah & Amoako, 2018). Such prior preparation allows teachers to have knowledge on assessment issues. One feature of the SBA is that it standardised assessment practices across schools within the country by way of supplying schools with sample items/questions, project topics, marking and grading system. The variability in grading practices among teachers will only minimised when teachers adhere to the guidelines of the SBA. Though teachers are trained in school assessment, most of them do not adhere to the rules governing grading practices (Campbell & Evans, 2000). This study seeks to empirically examine the attitude of basic school teachers through the development and validation of a standardised scale in order to provide a standard measure of attitude towards grading practices.

2.1 AGP Scale Construction

The instrument development was done through a thorough review of the literature on teachers grading practices. Items were carefully constructed based on literature and observations made by the researchers. A total of 35 items were constructed but upon further review, 28 items were maintained. The items were

measured on a four-point Likert scale, ranging from strongly disagree to strongly agreed (SD- strongly disagreed, D- disagreed, A- agreed, SA- strongly agree). The constructed items were then pre-tested using 120 teachers from some selected schools. The purpose of the pre-testing of the instrument was to help address issues of ambiguity, biases, clarity, and problems associated with the questionnaire. The instrument was then administered to 443 teachers in some selected basic schools in the Obuasi Municipality.

2.2 Ensuring Validity

The development of the attitudinal scale was carefully done to ensure that it suits its intended purpose. The content validity of the scale was established by ensuring that it fairly and comprehensively covers the domain that it purports to cover. The crafted items were reviewed by experts in the field of assessment to confirm, modify or discard items. This action supports Anim's (2005) assertion that content and construct validity is determined by expert judgment.

The 28 items of the Attitude towards Grading Practices scale (AGP) were subjected to principal components analysis (PCA) using SPSS Version 22. Prior to performing PCA, the suitability of data for factor analysis was assessed. Inspection of the Kaiser-Meyer-Oklin value was .74, (See Table 1) exceeding the recommended value of .6 and the Barlett's Test of Sphericity reached statistical significance based on Crocker and Algina's (2008) criteria, supporting the use of a factor analysis.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.743
Approx. Chi-Square	3073.945
Bartlett's Test of Sphericity: df	378
sig.	.000

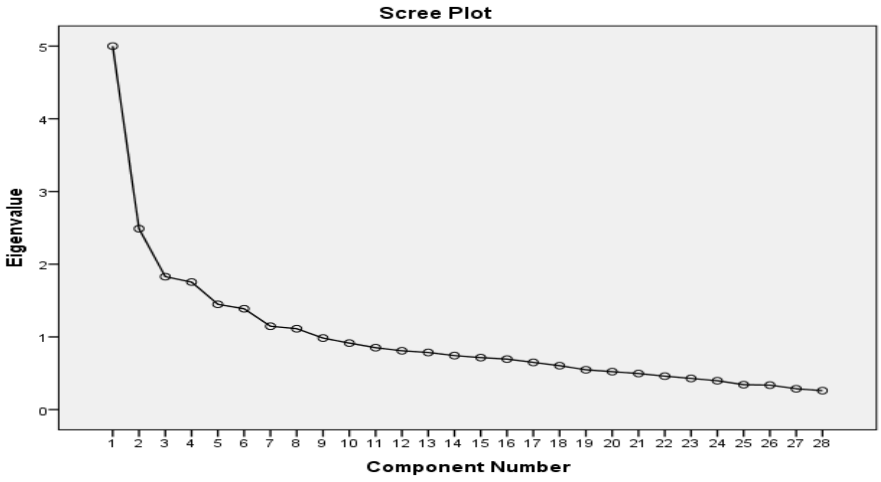

Figure 1: Result on Scree Plot

To determine the number of components to retain, the parallel analysis and scree plot was used. Table 2 shows a comparison of eigenvalues from the PCA and criterion value obtained from the parallel analysis.

Table 2: Comparison of eigenvalues from principal components analysis (PCA) and the corresponding criterion values obtained from parallel analysis

Component number	Actual eigenvalue from PCA	Criterion value from parallel analysis	Decision
1	5.000	1.501	Accepted
2	2.488	1.428	Accepted
3	1.828	1.371	Accepted
4	1.754	1.326	Accepted
5	1.448	1.284	Accepted
6	1.387	1.245	Accepted
7	1.147	1.211	Rejected
8	1.113	1.175	Rejected

An inspection of the scree plot revealed a clear break after the six components. Using the scree plot, it was decided to retain six components for further investigation. This was further supported by the results of Parallel Analysis, which showed six components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same size (28 variables × 443 respondents).

A confirmatory analysis using the Varimax Rotation Method was further conducted to explore the factor loadings of each item. The factor loading for items that fall below .3 was rejected (See Table 3). After the analysis, 28-items were retained. Based on the results, the six factors were labelled as: Student's efforts considered, student's conduct considered, grading habit, perceived self-efficacy, approach to grading and difficulties encountered when grading.

Table 3: Factor Rotation

Items	1	2	3	4	5	6
I am much concerned about how often students submit assignments on time when grading.	.675					
I focus on the number of questions (items) attempted when grading.	.665					
I consider how often a student asks questions during an instructional period when grading.	.643					
I prefer assigning a high score for students who are active in class.	.602					
I prefer awarding marks for students' attendance in class.	.543					
I consider students' level of interest in a subject taught when assigning a final grade.	.538					
I always award marks for neatness of work presented	.474					
I consider students' completion of homework when assigning a final grade.	.465					
I will allow a student to take a test again when he/she did	.413					

not perform well on the said test.						
I always assign low scores for indiscipline student		.741				
It is a right thing to use grades to punish truant students		.661				
I will never fail a student who is so close to me even if he/she is not performing academically.		.601				
I don't have the time to score work turned in late.		.519				
I assign a score of zero for students who do not take part in the class assessment		.395				
I give report cards out to students on time.			.712			
Sticking to a way of grading is not compulsory.			.594			
Final grades should be based on averaging all academic tasks.			.544			
I allow students to do additional tasks to earn more satisfactory grades.			.409			
Grading is the easiest part of my role as a teacher.				.748		
It is easy to identify a student's strong effort on a task.				.701		
It is not a difficult task to use a single grade to describe a student achievement.				.606		
I feel comfortable when ranking students in terms of their academic achievement.				.456		
I have my own grading procedure aside the SBA guide.					.757	
I often consider previous academic performance before grading.					.626	
I drop all low test scores when calculating the final grade of students.					.581	
It is a burden for me to measure student effort on a task.						.728
It is difficult to use written test alone to grade students.						.639
Other non-academic factors make it difficult for me to assign grades.						.541

1-Student's effort; 2-Student's conduct; 3-Grading habit; 4-Perceived self-efficacy; 5-Approach to grading; 6-Difficulties encountered when grading.

2.3 Estimating Reliability

When developing a standardised instrument, it is important to find scales that are reliable. The reliability of the instrument was estimated using the Cronbach's Alpha Method. This method was used to help the researcher estimate the internal consistency of the scale. The Cronbach's Alpha coefficient was estimated for each subscale and the entire instrument as well (See Table 4). The overall reliability estimate was 0.82. The obtained coefficient was considered to be adequate enough to ensure reliable responses as suggested by Pallant (2010) that a reliability coefficient of 0.70 or above is considered appropriate for an instrument.

Table 4: Reliability Estimate for Sub-scales

Sub-scale	Number of Items	Coefficient
Student's effort	9	.77
Student's conduct	5	.63
Grading habit	4	.49
Perceived self-efficacy	4	.58
Approach to grading	3	.57
Difficulties in grading	3	.52

2.4 The Use of the Instrument and its Administration

The instrument after its development and validation was named "Attitude towards Grading Practices scale" (AGP). The AGP scale is designed to elicit information to stakeholders in education on teachers' attitude towards grading practices. Specifically, the AGP has been developed for parents, head teachers, school administrators, educationists, and experts in the field of educational assessment to be used in examining teachers' attitude toward grading practices. Also, the instrument can be used to assess pre-service teachers' attitude toward grading practices. It can also, be used as a research instrument by researchers who are interested in conducting a study on grading practices.

The AGP scale can be administered to individual or group of teachers. The respondent should be able to read and understand. Also, the respondent(s) should be briefed on the purpose of the instrument and the directions provided on each sub-scale. The investigator must ensure that the test is administered in a serene environment free of distractors such as noise. The consent of the respondent should be sought first. Also, issues relating to ethical consideration should be adhered to. It is estimated that it will take a time range of 20-25 minutes for a respondent(s) to respond to the instrument.

2.5 Scoring and Interpretation

The AGP scale is made of positive and negative items measured on a 4-point Likert scale. In scoring items on the scale, negative items are scored as strongly agree-1, agree-2, disagree-3 and strongly disagree-4. For positive items, strongly agree-4, agree-3, disagree-2, strongly disagree-1. With the exception of item 15, 16, 19, 20, 21, 22 and 28, the remaining items are negative items. For the overall attitude, an average of the responses from all the items is used thus the number assigned to responses provided are added and divided by the number of questions. For sub-scales, the number assigned to responses provided on items that fall under such subscale is summed and divided by the number of items. In computing for the attitude of respondents, the mean of their responses is computed for and interpreted. In interpreting the attitude of respondents to a particular item, the mean score of the responses is compared with 2.5 ([1+2+3+4]/4=2.5). Mean scores less than 2.5 show a negative attitude whereas mean scores above 2.5 show a positive attitude to that particular item. For the interpretation of individual scores, the mean of the obtained scores is also compared with 2.5.

3. Teachers Attitude towards Grading Practices

Grading practices have long been a controversial issue among educators and academics (Brookhart, 1994). Though grades are accepted as a standard and inherent part of our education system, there is some disagreement as to what exactly is the function of grades. There has been much debate over teachers'

attitude toward grading practices (Cizek, Fitzgerald, & Rachor, 1996; McMillan, Myran, & Workman, 2002). According to Cizek et al. most grading practices are designed to communicate student performance in a number of areas, including both academic achievement and behavioural factors such as student effort, conduct, and attitude. Such factors when not considered may result in some variability in grading practices among teachers (McMillan et al., 2002).

Also, the practice of giving credit for efforts when grading have been criticized for its tendency to distort grades away from being simple measures of performance and content or concept mastery (Marzano, 2000; Wormeli, 2006; Winger, 2005). Considering effort when assessing a student's performance remains a controversial practice, especially among general educators. Researchers in general education grading systems recommend that effort should be reported separately from the letter grade, or that multiple grades be given to prevent it from inflating or deflating actual test score (Marzano, 2000).

Another perspective holds the view that teachers consider student effort when grading especially students with disabilities. Also, Munk and Bursuck (2004) explain that teachers do perceive efforts as an appropriate area for grading. Yet, grading adaptations involving effort may be perceived more positively when used systematically, and not merely as a "safety net" when a student performs poorly on an assignment. More importantly, the debate regarding student effort and grading stem from the perception that effort is difficult to define or measure, and is not always correlated with the overall quality of a student's performance (Close, 2009). Despite the caveats and criticisms, consideration of effort when grading remains a widespread practice that accounts for variation in grading practices among teachers. O'Connor (2007) recommend that educators should ensure that grades assigned to students are consistent and accurate as a clear measure of the students' understanding, and content standards matching desire learning outcomes. Therefore, the inclusion of effort may either inflate or deflate test score by way of skewing grades from being a measure of performance and content or concept mastery.

According to Munk and Bursuck (2004), the rationale for involving effort in grading is usually to motivate the student to try harder by acknowledging increased effort in the grading systems. In contrast, Close (2009) argues that using grades instrumentally is generally unethical. This includes using grades to motivate, punish, or reward students. Therefore, it is unethical for teachers to use grades as an incentive to motivate students to learn. Some students may not have the ability to complete certain assignments (Dueck, 2014). Their inability to complete a certain assignment may be as a result of learning disabilities, gaps in learning due to school transfer, health issues, inadequate mentoring, truancy or lack of background knowledge.

Some educators now recommend that grades should be based on student's mastery of the material in a given subject (Brookhart & Nitko, 2008; Stiggins, 2008; Yesbeck, 2011). If grades are intended to measure student achievement, then they should not take into account students' behavioural issues. Therefore, using grades instrumentally to punish or reward students for their conduct or behaviour is considered unethical (Close, 2009). Specifically, teachers award points for basic classroom behaviours such as participating in class, punctuality in class, and student neatness. As a result, students who behave well can find their grades inflated, even if they do not have much mastery over the material, and students who put on negative behaviour can sometimes receive grades that belie their proficiency and

understanding. Both of these situations reflect how factoring in behavioural factors can distort grades. When teachers incorporate behavioural factors into students' grades, they eliminate the possibility of providing useful feedback on academic performance. In order to provide more specific feedback, it is necessary to avoid incorporating too many behavioural factors into students' grades (Yesbeck, 2011). Indeed, a variety of commentators have suggested doing away entirely with assessing students on behavioural factors (Brookhart & Nitko, 2008; Stiggins, 2008; Yesbeck, 2011).

One alternative to completely eliminating behavioural-based grades is to assign grades for behaviour, but keep them separate from measures of student performance. Guskey (2004) explains that including behavioural factor should involve students receiving one grade for academic achievement and the second grade for behavioural issues which is separate from each other. This practice still allows teachers to comment on their students' behaviour but does not conflate this with students' academic performance. Instead of teachers reporting student conducts and attitudes separately with a grade, they rather include them when grading students on academic tasks which make the assigned grade to deviate from what the student knows and can do. Also, some teachers consider the grading period as a period to favour some students and also to punish other students.

4. Methodology

4.1 Research Design

This study adopted a descriptive survey research design. The choice of this design was informed by the fact that the researchers wanted to quantitatively describe teachers' attitude toward grading practices.

4.2 Population of the Study

The study comprises all the 66 basic schools in Obuasi Municipality, Ghana. This was the targeted population which possesses the traits and experiences relevant to the study.

4.3 Sample and Sampling of the Study

The sample of the study comprised 278 teachers from basic schools. A multiple probability sampling techniques were used to select 50 schools. The first phase of the sampling used a simple random sampling in selecting four circuits out of the six educational circuits that exist. The second phase employed a stratified sampling technique to enable the researcher group teachers according to teaching level. The third phase of sampling employed a simple random sampling technique in selecting a sample of 50 schools. A disproportionate stratified sampling technique was used to select a total of 139 respondents for each stratum.

4.4 Research Instrument

The AGP scale after it has been validated was used for data collection. The scale was used to measure teachers' attitude toward grading practices.

4.5 Data Collection Procedure

Considering the relatively large size of the sample, the AGP scale was administered to teachers by the researcher in conjunction with two trained and learned research assistants. Teachers were visited in their respective schools and two weeks were used to gather the data.

4.6 Data Analysis

Data gathered from the respondents were collated and analysed with means and standard deviations.

5. Research Findings

Teachers' attitude toward grading practices was examined after the instrument has been validated.

Table 5: Teachers' Attitude towards Grading Practices

Sub-scale	Number of items	Mean	Standard deviation
Student's effort	9	2.47	.49
Student's conduct	5	1.96	.52
Grading habit	4	3.00	.47
Perceived self-efficacy	4	2.69	.51
Approach to grading	3	2.16	.58
Difficulties in grading	3	2.44	.54
Overall	28	2.45	.52

As indicated in Table 5, most teachers agreed to have a negative approach toward grading practices (*M= 2.16, SD= .58*). Also, most teachers agreed to encounter some difficulties when going about their grading activities (*M= 2.44, SD= .54*). Generally, teachers in basic schools in the Obuasi Municipality were found to have an overall negative attitude towards grading practices (*M= 2.4, SD=.52*).

6. Discussion

It is relevant to highlight that reporting students' academic achievement in the form of grades provide essential feedbacks both to stakeholders and teachers. In other words, stakeholders such as parents need to know their children's academic achievement in relation to their peers or the norm. Therefore, if their children are to improve, they need to know when improvement is needed. Over the years grading practices of teachers have faced a lot of criticism. Most of these criticisms are centred on the non-academic factors that teachers include when assessing students on cognitive tasks. Which also include nepotism and using grades as a tool to punish indiscipline students? Some authors have attributed such negative grading practices to teachers' not adhering to recommended grading practices (Kubiszyn & Borich, 2013; Guskey, 2006; Wormeli, 2006; Dueck, 2014). This present study revealed another factor that contributes to the poor grading practices among teachers. Teachers were found to have a negative attitude toward grading practices. It is likely that teachers develop such negative attitude towards grading because they have scant knowledge on assessment issues which could make them encounter difficulties when going about their assessment activities. It could also be that their approach to grading practices is often based on replicating some poor grading practices they experienced as students (Frary, Cross, &

Weber, 1993; Guskey & Bailey, 2001) which could create a challenge for them to adhere to recommended grading practices. It could also be that teachers were faced with a large class size which makes grading practices a tedious task to undertake hence, do not adhere to all the recommended practices. It could also be that supervision on grading practices is low, hence most teachers have developed such a negative attitude toward grading practices. It maybe that most teachers perceive assessment practices as an extra load to their teaching activities hence such a negative attitude toward grading practices.

7. Conclusion and Recommendation

The process of awarding a grade to students' academic task is a form of assessment practices that help provide relevant feedback to stakeholders. To the policy maker, grades form the basis for relevant decisions about educational policies and plans. To the teacher, grades help in making promotional decisions. Nothing is more damaging to parent-school rapport than to have parents erroneously believe that their child has no academic problems. Therefore, grades should accurately reflect a student's academic achievement. Grades reflecting student's actual academic achievement cannot be realised when it is believed attitude influences practice (Ebinye, 2001). This was the key reason for the development of the AGP (Attitude towards Grading Practices) scale. The instrument provides a standardized measure of teachers' attitude towards grading practices. It is recommended that in-service training on grading and reporting should be organized for teachers on regular basis. Also, teachers should be monitored by the head teachers or circuit supervisors to ensure that they adhere to recommended grading practices.

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