A Model for Individualizing Grade Determination in the Classroom

Hazen, Samuel
Tarleton State University
hazen@tarleton.edu

Freed, Rusty
Tarleton State University
freed@tarleton.edu

Dudley, Dan
Tarleton State University
dudley@tarleton.edu

Abstract

This study addresses the determination of course grades. Somewhat traditionally, course grades have been based on a single rubric for an entire class. Under this model, the inherent, unstated assumption is "one size fits all." Some students learn best through visual stimuli, while other students learn best through use of one or more of the other senses. Most learn best through the use of some combination of the various senses. An approach to course grade determination and calculation that allows for the uniqueness of each student to be incorporated could offer a better model for course grade determination.

Keywords: grades, grade weighting, individualized grading, metacognition, grade determination.

Introduction

> "The question of grading or marking of pupils has attracted much attention recently, and under present conditions, it is likely to receive still greater attention and study." (Steele, 1911)

As the above quote from 1911 suggests, the question of how to grade students has been a concern of academia probably for as long as academia has existed. At first glance, grading would seem to be somewhat straight forward. However, a review of the literature suggests that the question of how to grade has raised a number of issues during the somewhat recent past.

With this study, the authors will present a brief overview of several issues that have been identified and presented in the literature during the last few decades. This discussion will serve as a background for the self-directed criteria weighting model presented by the authors.

Should a student have any input into the calculation of their grade for a class? Obviously, their performance should be the basis for their grade. The grade received should be an approximate measure of the outcome of the student's course learning experience. Who should determine the student's grade and how should the grade be determined? Their grade is often determined by some formula based on variables representing various assignments for the course. The professor teaching the course determines how the course will be structured. Professors design their courses to include assignments designed to enhance student learning outcomes. Ideally, the various learning activities and examinations are designed to enhance the learning experience and provide results indicative of a student's level of learning.

The practice of allowing students to choose test items from a larger collection of presented test items is an example of allowing students to have some discretion in their assessment. Another similar example is allowing students to drop or not count the score from selected assessment activities. Such an approach might be considered a "pick and choose" method based on logical criteria designed to reward certain aspects of classroom performance.

Another issue to consider is learning styles. Educational psychologists, according to the literature, theorize that people develop different approaches to learning. Various learning styles have been associated with the different senses. Each of the physical senses represents one method for the human brain to connect with an individual's environment.

An extreme example of an inappropriate grading approach could be requiring a visually impaired student to learn by using sight. The outcome should be obvious; the student's learning outcome will be diminished, as will any attempt to properly assess such an outcome. Most scholars and academicians would consider such a requirement to be totally without merit. This extreme example is indicative of some of the issues identified in the literature review and addressed to some extent by the model allowing for self-directed criteria weighting by students.

Literature Review

One particular continuing influence driving the evolution of grading policies and techniques is the ever growing demand for higher education. (Kelly, 1973) The supply of higher education does not seem to keep up with the continually growing demand. Reasons for this increasing shortage of higher education are many and varied. Such growth in demand, relative to supply that does not keep up, leads to pressure for quantity to increase at the expense of quality. An adequate discussion of this topic is beyond the scope of this study. However, one result created from this growing shortage is relevant to this study. The quality of higher education suffers from the depersonalization brought about by larger class sizes resulting from attempts to address shortages in the supply of higher education resources. (Kelly, 1973) One grading rubric applied uniformly to all members of a class could have a tendency to reinforce the depersonalization of excessively large class sizes.

According to findings of Nesbit and Burton, "poor performers with negative justice perceptions were more likely to have lower subsequent self-efficacy and satisfaction than those who did not have injustice perceptions." (Nesbit, et al, 2006) This finding implies a direct link between a student's self-perception of their own ability to perform and their perception of procedural justice regarding grade determination. More positive feelings regarding procedural justice in grade determination should contribute to an increase in perceptions regarding ability to perform within students. The self-directed criteria weighting model being proposed herein could contribute to students' perceptions of greater procedural justice in the grade determination process and, therefore, indirectly lead to an increase in students' feelings about their ability to perform within a particular course.

Another grading approach that can help contribute to perceived justice for students was developed by Mark Phillips and Laura Phillips. This method employs a method to arrange grades for assignments into units. By combining the resulting unit grades into a final course grade, students should have a better understanding of how their grade was determined. Greater understanding of the grade determination process on the part of students should result in an increase in perceived justice. (Phillips, et al, 2007)

One potential unintended result from using the method proposed in this paper could be greater ease of achieving a passing grade on the part of students. However, any method of combining grades for course grading could have similar consequences. (Isaacs, 1981) Quite probably, the goal for the majority of students in most courses is a passing grade. For this majority of students, if learning does occur, it's an outcome bonus. A good grading system should reflect the level of learning by students that has occurred. If a passing grade does become more achievable as an unintended consequence of a grading system, so long as grades assigned using any particular grading system do indicate the level of learning occurring, then the grading method is still accomplishing its intended purpose.

Metacognition has been defined as, “thinking about one’s own thoughts.” (Mok, et al, 2006) Self assessment can be a valuable source of enhancement for the learning process. The method proposed herein requires students to engage in thinking about how they learn. This process can establish a beginning point for greater metacognition on the part of students. More in-depth metacognition on the part of students should serve to further engage students in classroom learning and thereby enhance the learning process.

Results from a study conducted at a university in England during early 2007, suggested that students’ self assessment ability is correlated with their length of time as a college student. (Cassidy, 2007) Students, who were early in their matriculation, seemed to have not developed a large degree of self assessment ability; but, these students did possess some degree of self assessment ability. Students with more completed course work demonstrated greater self assessment ability. (Cassidy, 2007) This study suggests that all students seem to have self assessment ability to some degree. One might logically imply that upper level students should possess a greater degree of self assessment ability. Grading methods, such as the method presented herein, allowing for student involvement should benefit from student self assessment ability, especially in upper level courses.

“Strong evidence that students assessed by means of their first choice assessment package outperformed those assessed by means other than their first choice is reported.” (Jackson, et al, 2003) To state this finding another way, students that are allowed greater input into the grading process used to assess their performance seem to perform at higher levels. This finding could be a result of students being allowed to identify how some of their own performance goals will be determined. In this setting, students should be able to better plan how they will allocate their effort. Empowered students tend to perform at higher levels than students that are not empowered. (Leach, et al, 2001) Such a response could be a reaction to an increased feeling of trust engendered by an instructor when allowing student’s to have some degree of input into the classroom assessment process.

In another study, “Findings suggest that students had positive attitudes toward self-assessment after extended practice; ...” (Andrade, et al, 2007) In this same study, findings tended to indicate that students “use(d) self-assessment to check their work and guide revision; and believed the benefits of self-assessment include improvements in grades, quality of work, motivation and learning.” (Andrade, et al. 2007) Such outcomes should be desirable, regardless of the approach used for classroom assessment. The authors of this study believe similar benefits derive from use of their self-directed criteria weighting model.

Another consideration brought out in another study relates to how students allocate their study time. According to the research by Taras, “... students’ expectations of their grades were closely related to the amount of time and effort which they had invested in their work.” (Taras, 2003) These findings imply that students that are more empowered, regarding weights given to assessment activities, should be able to more effectively allocate their study time. Another implication, that would logically follow, is

stress felt by students, from completing assessment assignments, should be somewhat reduced.

Self-Directed Criteria Weighting Model

Considerable evidence exists in the literature for the case of involving students in the assessment process. A somewhat small sampling has been presented. The authors did not find any examples in the literature reviewed covering the methodology proposed by the model herein presented. The idea is quite simple in its design and approach. What is proposed by the author's model is to simply allow students to assign their own weights individually to assigned assessment activities within a prescribed range. The following excerpt from one of the author's syllabus presents the explanation of how to do the weighting that is given to each student.

"Grading Criteria:

… The grade received in this class will be determined as follows: The weights to be assigned to each of these components will be assigned by each student on an individual basis. This approach to the assigning of weights for the various learning evaluation components is in recognition that individuals have unique learning styles. Some students learn best through visual stimuli, while other students learn best through use of the other senses. Most learn best through the use of some combination of the various senses. Your preference for the weighting of each of these components will be recorded by use of the Individual Evaluation Component Weighting Form which will be completed and turned in during the first part of the semester; if not turned in at the time called for, the default weights will apply. You should record your percentage weights in the blanks following each item on your syllabus copy before turning in the weighting form. The various assessment activity assignments are then listed below with a space for each student to record their chosen weights.

Team based components:

1) %weight 05 to 15 (_____) default 10%
2) %weight 05 to 15 (_____) default 9%
3) %weight 05 to 15 (_____) default 10%

Individual based components:

4) %weight 05 to 45 (_____) default 29%
5) %weight 05 to 20 (_____) default 13%
6) (example assessment assignment) Short research paper, 5 to 8 pages minimum, typed, double-spaced. The intended audience for your paper will have little knowledge of the area you are researching. For all sources used, appropriate acknowledgment will be expected; meaning: appropriate footnotes or endnotes along with a bibliography! (M.L.A. style guidelines can be used as a suggested approach to style)

Bibliographic Example:

Article, Author of. "Article Title." Journal/Periodical Name, Volume and number, (or Month date, Year), page number(s).

An oral presentation of the results of your research project will also be presented to the class (Last regularly scheduled class period). This assignment will be due at the end of the next to the last week of the semester.

%weight 05 to 45 (_____) default 29%)

7) Attendance/Participation. The percentage of your attendance, along with classroom participation /instructor discretion, will be used in determining this part of your overall score."

Along with the information contained in the syllabus, a form (shown below) is given to each student to be completed and given back to the instructor. Then using computerized, spreadsheet software of one's choice such as Microsoft Excel or Access, the individual weights chosen by each student can be used to compute each student's grade on an individual basis.

One of the authors has used this model extensively and has found that, almost without exception, students have very little negative feedback. Anecdotally, students have indicated the weights so assigned provide an opportunity for them to help determine how to properly prepare for class.

DATE:_____ NAME:_____

ID#:_____

Individual Evaluation
Component Weighting Form

		MIN to MAX %
1.	Assignment description: 10%).....(_____)	05 to 15 (default
2.	Assignment description: 09%).....(_____)	05 to 15 (default
3.	Assignment description: 10%).....(_____)	05 to 15 (default
4.	Assignment description: 29%).....(_____)	05 to 45 (default
5.	Assignment description: 13%).....(_____)	05 to 20 (default
6.	Semester individual research paper: 29%).....(_____)	05 to 45 (default

Total .....(100%)

Conclusion

A unique approach to individualizing the determination of course grades has been introduced in this study. The method introduced, the Self-Directed Criteria Weighting Model, offers a student based perspective for grade determination.

This newly introduced method of grade determination, shaped somewhat by a student perspective, holds the promise of a better model for classroom grading. Based on some of the various sources reviewed as part of this study, a strong case can be made that this approach should offer advantages when compared to more traditional grading models. Empirically based research concerning student grades received, when using this model and student opinions about this approach, should be the next step in extending this study.

To extend this study, a traditional approach to grade determination should be used for one section of a class. For another section of the same class, the self-directed criteria weighting model for grade determination should be utilized. Methods should be employed to control for as many variables as possible. For example, demographics for the two class sections should be as similar as possible. The course material should be the same. The learning activities should be the same. Ideally, the class meeting times should be as close as possible.

Following completion of the two course sections, appropriate statistical analysis of the resulting data will be required. The selected statistical tools will need to be determined based on the specific research methodologies and data parameters employed in the study.

The analysis phase extending this study should include an instrument designed to elicit student opinions concerning their perceptions of this grade determination approach. Student perceptions from these two course sections can be examined and compared using the selected instrument. Along with the examination of student perceptions, grades received in each section will need to be analyzed. Analytical results can then be used to form a more definitive conclusion concerning the usefulness of further extending this newer form of student grade determination.

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