MARKS AND MARKING PRACTICES: TOWARDS AN IMPROVED SYSTEM

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ABSTRACT

Despite the general agreement that marks do measure the degree of attainment of the basic objectives of education, marking systems remain an educational controversy. In this paper the two basic systems of marking, relative and absolute, are compared, and their main features are summarized. Comparisons between marking systems in sample universities from around the world are presented and a new marking system is proposed. The proposed system comprises ten steps on the marking scale. Each step is associated with a brief description of its meaning.

Keywords: *Education and training, marking systems.*

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1. INTRODUCTION

Marks are, of course, a measure of educational achievements and their uses are numerous and crucial. They are used to:

1. Report a student's educational status to him, to his parents, to his future instructors, and to his prospective employer. They provide a basis for important decisions concerning his educational plans and his occupational career. It is, therefore, essential that each student's educational progress be watched carefully and reported as accurately as possible.

2. Provide an important means for stimulating, directing, and rewarding the educational efforts of students. To effectively serve this purpose marks must be valid.

The problem of marking student achievement has been persistently troublesome at all levels of education. This is attributed to the fact that marking is a complex and difficult problem. In fact measurements which involve human capacities and acts are always subject to special difficulties.

2. SHORTCOMINGS OF MARKING

The major shortcomings of marking are:

1. The lack of clearly defined, generally accepted definition of what various marks should mean. Marking standards, therefore, tend to vary from instructor to instructor, from course to course, from department to department, and from institution to institution; see for example Table I.

2. The lack of sufficient relevant, objective evidence to use as a basis for assigning marks. Marks, therefore, tend to be unreliable.

3. The lack of stability is assigning grades from year to year in the same institution; see for example Table II. There appear to be long-run tendencies in many institutions to increase the proportion of high grades issued and to decrease the proportion of low grades. In fact, the phenomenon of grade inflation has been the subject of several studies around the world.

4. Variability in marking standards and practices among the faculty members of the same institution. Unfortunately, there is wide differences in opinions among faculty members on what various marks should mean and the standards that should be followed in assigning them. Professor Mitchel, 1998, says "After all, grading is among the more powerful gestures that teachers make and, at the same time, among the least examined collectively. I know of no university where new faculty members are uniformly counseled on the protocols of grading or where colleagues regularly strive for consensus about what a particular grade means or where deans customarily take the trouble to suggest that departments review their grading policies. I rarely have been asked by colleagues what I have meant by an "A" paper or a "B" exam or a "C" final grade. No one has ever suggested that my colleagues and I might want to consider discussing our expectations as a group to transform grading into something more than a happenstance collection of idiosyncratic evaluations. The fact is that our Ph.D.s and competence in certain scholarly material authorize us to assign whatever grades we think students deserve, no questions asked." Despite lack of statistical significance, it is tempting to see that there is a generational disparity regarding the purpose and meaning of grades with younger faculty less inclined to identify grade inflation as a problem. In fact younger faculty perhaps attach less importance to the measurement of learning and therefore experiencing less concern over grades and grade inflation.

5. The lack of clearly defined uniform bases for marking, and standards for the meanings of various marks, tends to allow biases to lower the validity of marks. In many occasions a student's mark has been influenced by the pleasantness of his manner, his mere glibness, his personal charm, his self-assurance, his skill in expressing ideas orally or in writing, his willingness to participate in class discussions, or his success in building an image of himself as an eager, capable student. Such irrelevant accomplishments, should not be mistaken for solid command of knowledge. Nor should much weight be placed on vague intangible or subjective impressions that cannot be quantified reliably. Unfortunately, some instructors deliberately use high marks as rewards and low marks as punishments for behavior quite unrelated to the attainment of the objectives of instruction in a course.

In order to tackle some of the marking problems, it is important for any institution to develop, adopt, and enforce an institutional marking system. If an institution lacks a clearly defined marking system or if instructors do not assign marks in conformity with the policies that define the system, then marks will tend to lose their meaning and the marking system will not perform its essential functions adequately; in fact a marking system is basically a communication system. The meaning of a mark should depend as little as possible on the instructor who issued it or the course to which it pertains. This means that a general system of marking ought to be adopted by the faculty and the administration of an institution. It requires that the meaning of each mark must be clearly defined. General adherence to this system and these meanings ought to be expected of all faculty members. Such a requirement would in no way infringe the right of each instructor to determine which mark to give to a particular student. But it would limit the right of any instructor to set his own standards or to invent his own meanings for each of the marks issued.

3. MARKING SYSTEMS

At present two types of marking systems are widely in use around the world; the relative and the absolute marking.

3.1. Relative Marking System

In the relative marking system, a small number of letter marks is used to express various levels of achievement. In the five-letter system, truly outstanding achievement is rewarded with a mark of A. A mark of B indicates above average achievement; C is the average mark; D indicates below average achievement; and F is used to report failure (that is, achievement insufficient to warrant credit for completing a course of study). Grading on the curve of normal distribution "grading on the curve", or using the mean and standard deviation of the distribution of achievement scores, are among the popular varieties of the relative marking system.

3.2. Main Features Of Relative Marking System

1. Not all class groups to which marks must be assigned are typical. It is, therefore, absurd to give an 'A' for the best achievement in a low-ability group if identical achievement would have received a mark of 'C' in a group of high ability. In fact this is an inherent limitation of the relative marking system as an 'A' among highly able students does not reflect the same level of achievement as an 'A' among less able students.

2. It permits the students rather than the instructors to set the standards. Students-set standards are likely to be low-lower, at least, than those most instructors would set.

3. It encourages a general slow-down of student effort as members of a class can earn just as good marks on the average by taking it easy as by putting forth maximum effort.

4. It requires an instructor to give some low marks and some average marks, even if most of the students in the class learn practically all that he was trying to teach them.

5. Professor Gail Mahood says "If you think of grades as the slang we use to communicate to students and the outside world, we have a problem in that our vocabulary has really shrunk. We can't communicate with as much precision as would have been possible in the sixties" [Margolick, 1994].

6. With the typical symbols of performance: A,B,C,D,F, some institutions say one is the highest passing grade and one is the lowest passing grade with "F" being failure. Others say excellent, above average, average, and below average in addition to failure. Some even do not say anything; see for example Table I. What these symbols mean depends upon the reader; in fact, everyone brings a lifetime of experience and specific connotations to those academic symbols.

7. The term transcript generally means or refers to an exact report of what happened. How exact are we in presenting what happened if all we provide is course, semester, credit hours and grade symbols without any explanation of their meanings?

8. What a mark means is determined not only by how it was defined when the marking system was adopted, but also, and perhaps more importantly, by the way it is actually used. For example [Archibold,1998] quoted two Princeton University students explaining the meaning of the grade symbol 'A': "If you are getting A's, it means you are doing good work" and "If you go to class and participate and write a semi-intelligent paper; you get an 'A'.", and [Rupel,1998] quoted an Indiana University student saying "I had a literature class last semester; and I got an A-plus on everything I wrote. I know there is no way everything I did in there was worthy of such a high grade". On the other hand, if an instructor assigns some A's, many B's, some C's, and very few lower marks, then B has become his average, not C, as the marking system may have specified. According to [Toby, 1994] "Grades can't communicate clear meanings unless they are understood in

the same way by the professor who assign the grade, the student who receives it, and the other people who read the transcript".

9. Relative standards are likely to be variable standards. A student whose achievements result in his designation as excellent in one school might be regarded as only average in another school.

3.3. Absolute Marking System

In the absolute marking system, a student who learned all that anyone could learn in a course, whose achievement could therefore be regarded as flawless, could expect a mark of 100%. A student who learned nothing at all would, theoretically, be given a mark of zero. A definite percent of perfection usually between 50 and 60 percent is ordinarily regarded as the minimum passing score. Because a student's percent mark is independent of any other student's mark, percent marking is sometimes characterized as absolute marking.

3.3. Main Features of the Absolute Marking System

1. It clearly relates achievement to degree of mastery of what was set out to be learned. It does not give high marks to incompetent students simply because they happen to be the best of a bad lot. It does not require that some students receive low marks when they and all their classmates have done well in learning what they were supposed to learn.

2. It provides fixed standard measures of achievement. This is in contrast to relative grading, where the achievements of the group set standards for what is excellent, average, or very poor in individual achievement.

3. For the absolute marking system to be meaningful, it is necessary to define and measure two quantities: (a) the amount available to be learned in a course and (b) the part of that amount that a particular student did, in fact, learn. While it may be difficult for inexperienced instructor to define and measure these quantities, experienced instructors can always do.

4. TOWARDS AN IMROVED MARKING SYSTEM

An educational institution that sets out to improve its educational effectiveness by improving its marking practices, and to improve its marking practices by developing an institutional marking system, is likely to encounter a number of questions on which opinions will differ.

1. Should marks report absolute achievement, in terms of content mastery, or achievements relative to those of other comparable students? Grades are viewed by some faculty as a motivator or reward for effort expended, not accomplishment attained.

2. Should marks be regarded as measurements or as evaluations?

3. Should marks simply indicate achievement in learning or should they be affected by the student's attitude, effort, character, and similar traits?

4. Should marks report status achieved or amount of growth in achievement? Some professors see higher grades as a way to provide students with a sense of satisfaction and positive self-concept. Some faculty do not want to thwart academic exploration by giving low grades which would be seen as negative or contribute to low student self-esteem.

5. Should a student receive a single composite mark or multiple marks on separate aspects of achievement?

6. Should the marking system report few or many different degrees of achievement?

7. Should the student be penalized for the instructor faults? Unfortunately, in some circles it is believed that if a student fails, it is the instructor's fault so the student shouldn't be penalized.

8. Should the maintenance or expansion of course enrollments justify higher grading? Unfortunately, there has been more strategic student decision-making in choosing courses and instructors. Students are more intensely grade conscious and research more carefully instructor and course grade patterns and histories [Al-Ruwaigh, 2001]. No academic department wants to get a reputation for tougher grading for the fear that students will choose to major in other areas. The more insidious problem is that of eroding course requirements, by some faculty, to attract more students to their classes and to achieve the grades they give. Although very difficult to document, lowering course standards and expectations results in grade inflation. This amplifies the negative effects of grade inflation; that is, not only are higher grades not justified by a rise in student aptitude, but also, students appear to earn higher marks in courses whose standards have diminished over the years [McSpirit et al, 2000].

9. Should the students and their parents be treated as customers and consequently higher grades are awarded for their satisfaction?

10. Should the pressure to be popular with students lead to grade inflation? Unfortunately, some faculty are loosening their standards and grading leniently for professional self preservation and economic survival. Faculty may be giving good grades to stay in favorable terms with students. Research done by [Greenwald and Gilmore, 1997] confirms that there is a strong correspondence between student grades and student evaluation of the

course and instructor, with students rating more highly those instructors who award higher marks. In most universities student ratings play a central role in evaluating faculty job performance; student evaluations of the course and instructor weigh heavily in decisions on promotion, merit pay and awards.

11. Should the steps on the grade scale be few in number or not? In fact, reducing the number of steps on the grade scale may make marking much easier and may also reduce marking errors. That is, with a few broad categories more of the students will receive the marks they deserve because fewer wrong marks are available. However, each error becomes more crucial. Moreover, the weakness of this approach is evident if we take it to its extreme, that is using two steps only; pass or fail. Obviously, all marking problems will vanish, but so does the value of marking. A major shortcoming of the two-steps, and to a large extent of the widely used five steps, grade scale is this kind of loss of information.

Before proceeding to propose an improved system of marking each of the above mentioned questions will be discussed in the sections that follow.

1. One of the important requirements of a good marking system is that the marks indicate as accurately as possible the extent to which the student has achieved the objectives of instruction in the particular course of study. The highest marks must go to those students who have achieved to the highest degree the objectives of instruction in a course. Marks must, therefore, be based on sufficient evidence. Marks assigned on the basis of trivial, incidental, or irrelevant achievements or if they are assigned carelessly, their long-run effects on the educational efforts of students cannot be good.

2. There are several advantages in treating a marking system as a means of reporting measurements of achievement rather than as a means of reporting evaluations. If students and instructors regard marks as objective measurements of achievement rather than as subjective evaluations, instructors will, most likely, assign fair and accurate marks, and students and their parents are less likely to react emotionally. In fact relations between students and instructors will improve.

3. Achievement in most subjects is a complex process to measure. There is a knowledge to be imparted, understanding to be cultivated, abilities and skills to be developed, attitudes to be fostered, interest to be encouraged, and ideals to be exemplified. Therefore, the bases used for determining marks include many aspects or indications of achievement, for example home-works, quizzes, test scores, laboratory work, projects, class participation, and effort. Of course, the use of increased number of indicators of competence is better provided that each indicator is relevant to the objectives of the course and provided also that it can be observed and measured with reasonable reliability. Instructors must, therefore, strike a good balance among these indicators. Obviously, this may vary from course to course.

4. With less pressure to be popular with students, faculty will be able to make grade decisions more freely and will become more stringent in the grades they assign. Grades will become more accurate measure of student academic performance. This can be achieved by giving lesser weight to the student evaluation of instruction for the purpose of promotion and merit pay decisions. Rather than being inflated assessments, grades will become more accurate measures of student academic performance.

5. Exams should not be graded on a strict curve. If the entire class does well, then everyone gets a good grade, and conversely if everyone does poorly. Grading of exams should follow a percentage scale. However, comparison with previous sections of the same course and a look at the class performance of border students may be helpful.

6. A grade without context has no meaning. Grading policy is assigned to the faculty so that grading issues are exclusively faculty matters. University faculties have, therefore, the obligation to establish and maintain clearly defined meanings for the symbols used in their marking systems. The responsibility of setting standards obviously belongs to the faculty.

7. To trade more precisely meaningful marks for marks easier to assign may be a bad bargain for education. If an instructor gives a student a mark of 90 percent instead of 91 percent, the error has less consequence than if the instructor assigns B when the student deserves A. Therefore, if maximum reliability of information is the goal, then a 5-letter grading scale is better than a 2-letter scale, and a 10-letter scale is better than a 5-letter one.

5. PROPOSED MARKING SYSTEM

5.1. Basis of the Proposed Marking System

It appears from the previous sections that a reliable marking system must:

1. Use the absolute system; no relative grading.
2. Include a description for the meaning of each mark or grade.
3. Assign a letter grade for different levels of achievement.
4. Comprise a relatively large number of letter grades.
5. Report measurements of the achievements.

A proposed marking system, based on the above criteria, is shown in Table III. Each grade is associated with a brief description. Grades awarded to a student depend mainly on the marks earned by the student for answers to examination questions and for coursework. Consequently, faculty and/or examiners should refer to the following descriptive criteria when allocating marks. Note that not every examination question or piece of coursework needs be

designed to differentiate between performances over the entire range of students' abilities. Nevertheless, the overall assessment procedure must be capable of indicating an appropriate classification.

5.2. Main Features of the Proposed Marking System

1. Grade A+ can be obtained only by students who score consistently high marks on exams, quizzes, projects, assignments and laboratory works.

2. Grades A+, A, B+ and B represent work that is amongst the best that can be reasonably expected under examination or other prevailing conditions at this stage in students' careers. Students show themselves capable of tackling entirely new problems which, although within the subject area, have not been specifically addressed during formal classes or in program material.

3. Grades D+, D and D- indicates marginal results which may be acceptable for peripheral courses but not for core courses required by the program. The classification of a course as a core course or peripheral depends on the individual student's program and must be decided by the department concerned. For example, while a course in thermodynamics is considered as a peripheral course in an electrical engineering program, a   course in electrical circuit analysis is considered as a core course in the same program. Thus, while grades D+, D and D-, can be considered as pass grades for the thermodynamics course, they are considered unsatisfactory for the electrical circuit analysis course and the student is required to repeat the course.

4. No relative marking. The course instructor and/or examiner considers only the total marks achieved in determining the student's end-of-course grade which reflects his achievement in the course. The grade average and/or the standard deviation are not used.

5. Full description for the meaning of each grade together with the equivalent percentage. This description would be helpful in designing examination questions to differentiate between performances over the entire range of students' abilities.

6. It is possible for everyone in the class to get a good grade, or the opposite.

7. CONCLUSION

In this paper the main features of the relative and absolute grading systems were highlighted. Based on the absolute grading system, a criteria for a reliable marking and grading system was established. Based on this criteria a new marking system was proposed. The proposed marking system comprises ten-letter grades on the grade scale with a brief description

associated with each grade. The major advantages of the proposed marking system were discussed. It is believed that the new marking system will help establish a meaning for the letter grades. It will also help instructors in designing their assignments, examinations, quizzes and projects. With the definitions of each grade in mind, it is expected that the different achievement indictors can be easily designed to reflect what a student has achieved and consequently to assign meaningful grades. This will help in avoiding the grade inflation problem and will form a reliable and stable marking system.

ACKNOWLEDGEMENT

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Table I Comparison between different meanings of the letter marks.
Toby, J., 1994, In war against grade inflation, Dartmouth scores a hit, Wall Street Journal, September 8.
NA= Not Applicable

	Drexel University USA	University of Bahrain	VTECH USA	KFUPM
A+	NA	NA	NA	Exceptional
A	Excellent	-	Excellent	Excellent
A-	NA	-	NA	NA
B+	NA	-	NA	Superior
B	Good	-	Good	Very Good
B-	NA	-	NA	NA
C+	NA	-	NA	Above Average
C	Fair	-	Fair	Good
C-	NA	-	NA	NA
D+	NA	-	NA	High Pass
D	Passing	-	Barely Passing	Pass
D-	NA	NA	NA	NA
F	Failure	-	Failure	Fail

	McGill Uni. (Except Engg.) Canada	Assiut University Egypt	Ryerson Polytechnical Uni. Canada	International Islamic Uni. Malaysia
A+	NA	NA	Exceptional (90-100%)	NA
A	85-100%	Distinction(>85%)	Excellent (80-89%)	Excellent (90-100%)
A-	80-84%	NA	NA	NA
B+	75-79%	NA	Very Good (75-79%)	Very Good (80-89%)
B	70-74%	Very Good(>75%)	Good (70-74%)	Good (70-79%)
B-	65-69%	NA	NA	NA
C+	60-64%	NA	Satisfactory (65-69%)	Satisfactory (60-69%)
C	55-59%	Good (>65%)	Adequate (60-64%)	Pass (50-59%)
C-	NA	NA	NA	NA
D+	NA	NA	Passing (55-59%)	NA
D	50-54%	Pass (>50%)	Barely Passing (50-54%)	Redeemable (40-49%)
D-	NA	NA	NA	NA
F	0-49%	Fail (weak) (>30%)	Failed (0-49%)	Fail (Below 40%)
F-	NA	Fail (very weak) (below 30%)	NA	NA

Table II Meanings of letter marks at KFUPM over two decades.
NA= NOT Applicable

Grade	KFUPM (1981/1983)	KFUPM (1990/1991)	KFUPM (2000/2001)
A+	NA	NA	Exceptional
A	Superior academic performance and achievement	This grade indicates a superior and comprehensive grasp of the principles involved in the subject. It denotes an ability to think quickly and with originality towards the solution of difficult problems.	Excellent
A-	NA	NA	NA
B+	NA	NA	Superior
B	Commendable academic performance and achievement	This grade indicates evidence of a good degree of familiarity with the principles involved in the subject. It implies less originality and a tendency to hold patterns of thought presented in the formal subject matter.	Very Good
B-	NA	NA	NA
C+	NA	NA	Above Average
C	Average academic performance and achievement	This grade indicates an average knowledge of the principles involved in the subject and a fair performance in solving problems involving these principles. This grade implies average ability to apply the principles to original problems.	Good
C-	NA	NA	NA
D+	NA	NA	High Pass
D	Passing marginally, below average academic performance and achievement	This grade indicates a minimum workable knowledge of the principles involved in the subject. The grade denotes low achievement and if the course is a prerequisite to further studies, its repetition for a higher grade is advised.	Pass
D-	NA	NA	NA
F	Failure	This grade indicates that the student is lacking in understanding of the subject matter involved so that it will be necessary to repeat the subject if credit for the course is desired.	Fail

Table III Proposed marking and grading system

Grade (Credit)	Percentage	Description
A+ (4.0)	95 to 100	Outstanding work: complete, without significant error, and displaying clear thought, a through grasp of concepts, attention to detail, critical analysis and, where appropriate, originality.
A (3.67)	85 to 94.5	Work generally meeting the above criteria apart from minor omissions.
B+ (3.33)	80 to 84.5	Work generally meeting the above criteria but with minor omissions and errors.
B (3.0)	75 to 79.5	Well-organized, detailed and logical work. The work displays a good grasp of concepts but it may be incomplete and/or contain the occasional error. Where appropriate, there is evidence of some relevant reading beyond lecture notes.
C+ (2.5)	70 to 74.5	Structured work displaying a basic level of understanding. Examination answers to essay questions may reproduce lecture notes and display little evidence of relevant additional reading. Errors or omissions increase in number and significance towards the lower end of the Second Class range.
C (2.0)	65 to 69.5	Elements of the work are correct but it shows that the student has only a partial grasp of concepts, or there are frequent omissions or errors of detail. There is a failure to discuss important points and a tendency to irrelevance.
D+ (1.67)	60 to 64.5	Minimum workable knowledge of the principles involved in the subject. Low achievement with marks occasionally awarded for few correct pieces of information.
D (1.0)	50 to 59.5	Work generally meeting the above criteria but with fewer correct pieces of information.
D- (0.67)	40 to 49.5	Marginal achievements. Work is basically incomplete with very little correct information.
F	Less than 40	The work is basically incorrect or is substantially lacking in detail. There is little evidence of any understanding of the concepts involved. Minimum required course objectives not met. Marks are awarded only for isolated pieces of correct information.