GRADING STUDENTS' ACHIEVEMENT

DESALEGN CHALCHISA

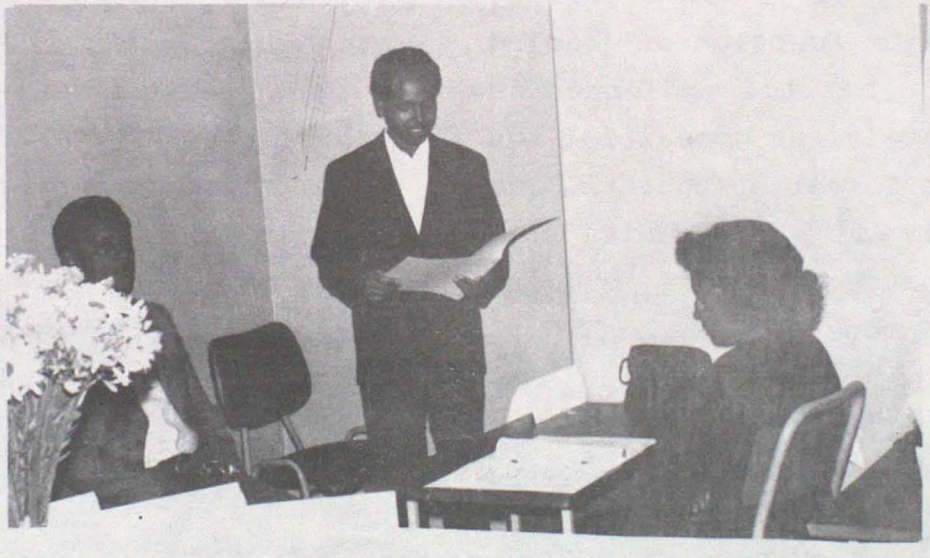
1. The need for grading

Grades are valid indicators of important educational achievements. They are used for self-evaluative measures and for reporting students' status to parents, future teachers and prospective employers.

Grades also provide an important means of stimulating, directing and rewarding educational efforts of students. To serve these functions effectively, they must be valid. The highest grades must go to those students who have done the best in achieving the objectives of instruction in a course.

2. What meaning should grades convey?

A grading system is primarily a method of communicating measurement of achievement. It involves the use of a set of specialized symbols whose meanings ought to be clearly defined and uniformly understood by all concerned. Only to the degree that the grading symbols have the same meaning for all those who use them, it is possible for grades to serve the purposes of



THE AUTHOR ADDRESSING PARTICIPANTS IN WORKSHOP ON TESTING

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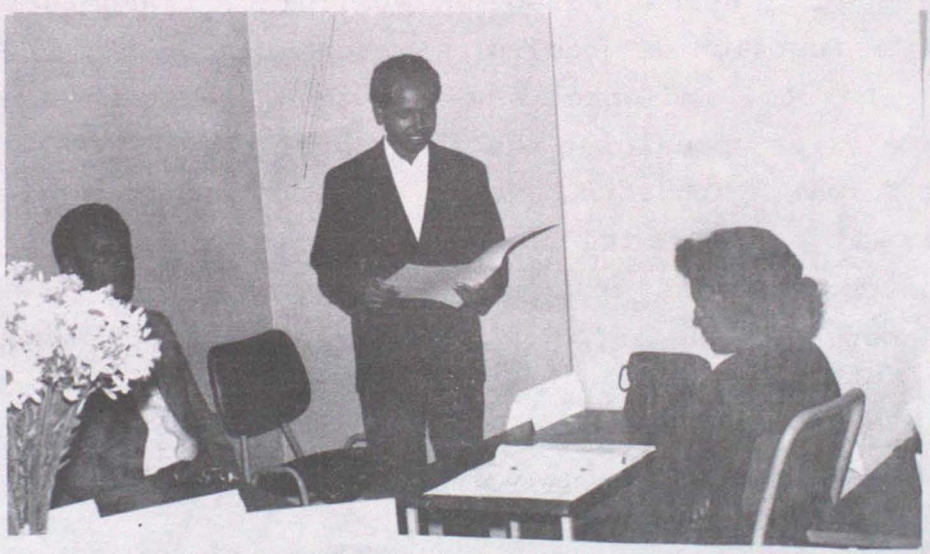

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communication meaningfully and precisely. A grade obtains its meaning from what it represents.

a. A grade represents the comparison of a students' performance with either some absolute or relative standard defined by the performance of specified group. Absolute standard is characterized as percentile grading (e.g. 40%, 55%, 80%) and relative standard as letter grading (A, B, C, D, F) or number grading (5, 4, 3, 2, 1) or pass-fail grading.

b. A grade represents quality of performance with respect to either amount of effort expended or amount of achievement demonstrated. The major function of grading should be to indicate as accurately as possible the extent to which students have achieved instructional objectives. Besides, grading should consider the effort and the desire of students to learn.

c. A grade represents either the amount of knowledge possessed at the end of instruction or the amount of learning attributable to the instructional program.

3. Combining grading components

When teachers determine a course grade by combining scores from tests, papers, demonstrations and projects, each component carries more or less weight in determining the final grade.

To obtain grades of maximum validity, teachers must give each component the proper weight, neither too much nor too little.

It is not easy to give a precise answer to the question of how much influence each component

ought to have in determining the composite grade. But some guidelines can be offered.

In general, the use of several different components is better than the use of only one, provided that each indicator is relevant to the instructional objectives and that it can be observed or measured with reasonable reliability. Other things being equal, the most reliable components should be assigned the greatest weight. The actual weight that a component of a final grade does carry depends on the variability of its measures and the correlations it has with the other components. As the first approximation to the weight, the standard deviation of its scores serves quite well. If one set of scores is twice as variable as another, the first set is likely to carry about twice the weight of the second in their total. The following example illustrates the use of standard deviation in combining grading components.

Example - Scores of grading components and their corresponding ranks for four students

Student	Test I		Test II		Mid-exam		Final-exam		Total	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
A	8	2	13	4	22	3	38	1	81	2
B	9	1	14	3	28	1	30	4	81	2
C	5	4	16	2	20	4	32	3	73	4
D	6	3	17	1	26	2	36	2	85	1
Σ	28		60		96		136			
$\bar{X}$	7		15		24		34			
S	2		2		4		4			

On which component do you base your final ranking or grading? Using standard deviation of scores the approximate weight for each component is in the ratio of 1:1:2:2 for test I, test II, mid-exam and final test, respectively. Then multiplying each component by its respective weight results in the following combined scores which could serve as a base for ranking or grading.

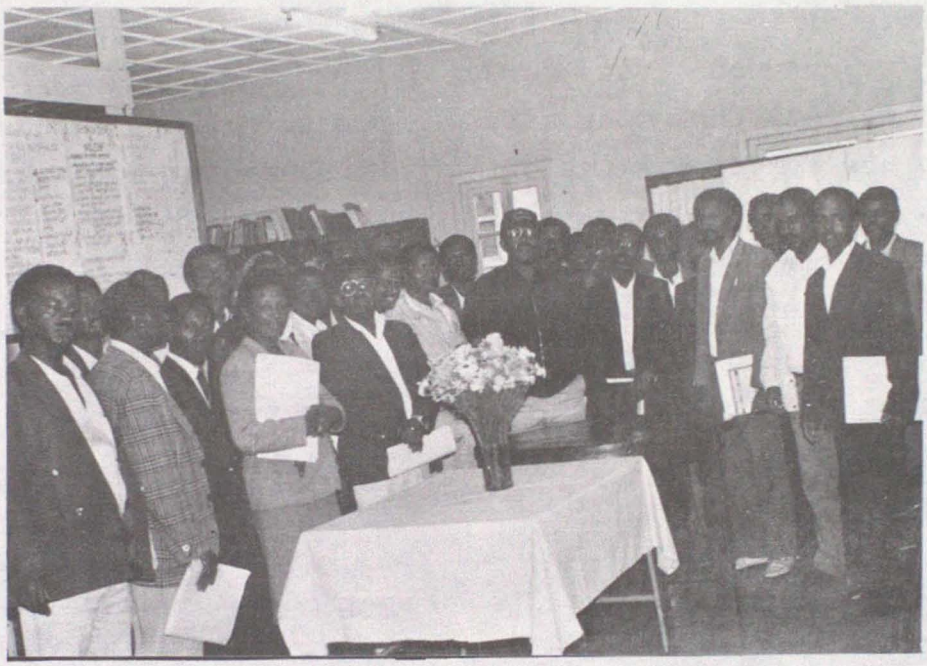
Student	Test I	Test II	Mid-exam	Final-exam	Total	Rank
A	8	13	44	76	141	2
B	9	14	56	60	139	3
C	5	16	40	62	123	4
D	6	17	52	72	147	1

The most efficient means of ensuring proper weighing involves the computation of standard scores, perhaps, T - scores for each grading component. Then each grading component will be represented on a score scale that yields the same standard deviation of 10 for T - scores, for each measure. If an instructor has promised a

class, for example, that the final grade will be based on five components, weighed as follows:

Unit Test 1	20%
Unit Test 2	20%
Term Paper	10%
Term Project	20%
Final Grade	30%

the T - Scores of each component can be multiplied by 2, 2, 1, 2 and 3, respectively to achieve the desired weighing.



ORGANIZERS AND PARTICIPANTS OF THE 1992 IER WORKSHOP ON TESTING

(See pp. 28-33, for report on workshop)

4. Methods of Grading

a. Relative grading.

Although there are many varieties of relative grading methods, the widely used and generally sound procedure might be labeled as the standard - deviation method. The first step in this method is to build a frequency distribution for the total or composite scores. Then the median and the standard deviation of the composite scores are computed. Cut-off points for the range of C grades (average performance) are determined by adding one - half of the standard deviation to the median and subtracting one-half of the deviation from the median. Add one standard deviation to the upper cut-off of the C's to find the A - B cut-off score. Subtract the same amount from the lower cut-off of the C's to find the D - F cut-off score. In this method, if the use of the number grading is preferred to that of letter grading, the letter grades from A - F can be replaced by the numbers 1 - 5.

b. Absolute grading.

The common method of absolute grading is the percentile scores. The popularity of percent scores has diminished since the early part of this century. Percentile scores from tests, papers and other projects are interpreted as the percent of skills, or knowledge over which students have command. For example, a test score of 83 percent means that the student knows 83 percent of the content represented in the instructional objectives.

c. Multiple grading method.

This retains the use of the traditional grading methods (letter grades or numbers) and supplements the grades with ratings of check

lists of adjectives. In this method, two separate grades are assigned to achievement and effort along with the ratings of the important characteristics of the student.

References

Gronlund, Norman E. (1985). Measurement and Evaluation in Teaching (5th ed.). New York: MacMillan Publishing Co. Inc.

Ebel, Robert L; Frisbie, David A., (1986). Essentials of Educational Measurement (4th ed.) Englewood cliffs, New Jersey: Prentice-Hall Inc.

FACTS AND FIGURES

Number of New Students Admitted to Extension (Evening) Diploma Programs for Selected Institutions (1990/91 A.Y)

	Institute/College				
Area of Study	Bahir Dar Teachers' College	Faculty of Science (AA)	Institute of Lang. Studies	Kotebe College of Teacher Education	Total
Foreign Langs. & Lit.	59	0	60	121	240
Eth. Langs. & Lit.	59	0	60	59	178
Geography	60	0	0	46	106
History	0	0	0	0	0
Maths	0	65	0	60	125
Biology	60	62	0	49	171
Chemistry	0	60	0	57	117
Physics	0	0	0	0	0

Source: **Higher Education Main Department, Statistics on Higher Education 1990/91**, April 1992, pp. 15 & 16.

IER Suggests: Compare, if you will, the admissions into

- Geography and History, or
- Chemistry and Physics.

Any explanation for the discrepancies?