

**GRADING SYSTEM IN CONTINUOUS AND COMPREHENSIVE EVALUATION**

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Abstract

This paper on grading system in continuous and comprehensive evaluation presents a theoretical frame work for understanding different types of grading namely direct grading and indirect grading. How to combine the information obtained from in and outside the classroom observations, interaction between pupils and different tasks provided to the pupils for assessing their progress in cognitive and non cognitive learning outcomes and converting these recorded performance and proficiency into grades are also discussed in the light of guidelines provided by CBSE in the 'CCE manual for teachers'.

Key words : *Grading system, continuous and Comprehensive evaluation.*

Introduction: National policy on Education (NPE 1986) and National Curriculum Framework NCF (2005) suggested that grades be used in place of marks in determining the level of pupil performance and proficiency. In continuous and comprehensive evaluation system, Criterion referenced grading is used for scholastic areas assessment and direct grading for co-scholastic areas assessment. "CCE manual for Teacher" published by CBSE provided clear guidelines regarding procedures to be followed in assessing and grading pupils' development in scholastic areas and co-scholastic areas. Research on evaluation practices revealed that teachers are facing problems in the understanding and implementation of CCE, especially in the grading and reporting aspects. Most of the teachers do not know how to combine the information obtained from class room observations, assignments, experiments, role playing, oral test, surprise test and written test and converting the marks into grades. The condition of periodic assessment of co-scholastic attainment through communication skill dealing with emotions, self awareness, attitude towards and teachers, peers, school environment, program, creative and critical thinking,

decision making, scientific creative and literary activities etc are also facing the same problem. The teachers do not know the specifics of deciding how to implement performance standards, when a performance meets a proficiency standard, and how to combine information gathered from different sources by using different tools and techniques of evaluation and converting the information to categorize pupils according to their ability, attitude and activities. That means teachers are facing serious problems in recording, and grading and reporting. Even though CBSE provides clear cut guidelines for implementation of CCE system through their “CCE manual for teacher’s” specific implementation practices vary from school to school and from teacher to teacher within the same school. There is no uniformity or unanimity in grading and reporting mainly in co-scholastic areas and formative assessment. To overcome these problems, teachers must aware of the different methods of grading.

The grading system :

The word ‘grade’ is derived from the Latin word ‘gradus’ where it means ‘step’. Grading is a process where in subjects or pupils may be classified on the basis of predefined standards and aimed at minimizing misclassification. In grading, students are categorized into a few ability groups on the basis of their performance and proficiency. It involves the use of a set of specialized symbols or numerals whose meaning ought to be clearly defined and uniformly understood by the students, teachers, parents and all other stakeholders. The grading symbols must have the same meaning for all who use them to serve the purpose of communication meaningful and precise.

The grading process depends on many things such as nature of the subject matter, the difficulty of the question paper, the different abilities such as intellectual, physical, emotional, personal, social etc assessed by tools of evaluation and precision is required in the evaluation program.

TYPES OF GRADING

1. Direct Grading : In direct grading the performance exhibited by the examinees is assessed in qualitative terms. It may be in the form of mode of behaviors expected from the response of the question or activity to be assessed or by using certain indicators expressed in the form of specific behaviors on the basis of the impression so obtained by the examiner is directly expressed in terms of letter grades. This method may profitably used for the assessment of both cognitive and non cognitive learning outcomes. It is suggested that non-cognitive factors that are

important should be enumerated stage wise and evaluated and reported separately in terms of letter grades. For grading cognitive learning outcomes, the examiners are required to categorize answers and to provide grade for its quality based on the range of the question and weightage given in the question paper. Usually numerical values are used for weightage.

The weighted grade points of an answer are arrived at by multiplying grade point by weightage. The sum of weighted grade points is then divided by the sum of the weightage to arrive at the Grade Point Average (GPA) for the paper. The grades of different papers could be combined and the mean taken to arrive at the cumulative Grade point average.

The following table depicts the assignment of grades.

Five Point Scale:

Q.No	Grades awarded	Grade point	Weightage	Weighted grade points
1	A	5	1	5
2	C	3	2	6
3	B	4	3	12
4	D	2	4	8
5	A	5	5	25
			Sum =15	Sum=56

Grade point average of the paper is equal to total weighted grade point divided by sum of weightage. Here $\frac{56}{15} = 3.73$. This GPA can be converted into a suitable, grade point scale which will give the grade of that paper.

2. Indirect grading : In this technique, marks are assigned to the answers as usual. Then these marks are converted into grades. This is done mainly in two ways Norm-referenced (relative) grading and criterion-referenced (absolute grading). Which type of grading is most suitable will depend on the purpose for which it is used. If we want to identify the best students in a group, then we can adopt norm-referenced grading. If it is to indicate what each student has achieved, then criterion-referenced grading is preferred.

2. (a) Criterion-referenced Grading

Assigning grades on an absolute basis involves comparing a student's performance with specified standards set by the authority, preferably in reference to agreed-on performance standards and for the school or board. These standards may be concerned with the degree of mastery to be achieved by students and may be specified as (a) tasks to be performed or (b) the percentage of correct answers to be obtained for a test designed to measure a clearly defined set

of learning tasks. With a standard based system, letter grades are assigned on the basis of an absolute standard of performance rather than a relative one. If all students demonstrate a high level of mastery consistent with the established performance standards, all will receive high grades. Here the grade is assigned according to a student's level of achievement or performance, regardless of other student's achievement or performance. For attaining mastery learning, percentage of marks can be set as absolute standards. The assignment of grades can be based on the range of marks as shown below.

Marks - Range	Grade	Grade point
91 - 100	A1	10.00
81 - 90	A2	9.0
71 - 80	B1	8.0
61 - 70	B2	7.0
51 - 60	C1	6.0
41 - 50	C2	5.0
33 - 40	D	4.0
21 - 32	E1	
00 - 20	E2	

For using this system of grading the teaches should have some prior knowledge of what level of achievement or performance is reasonable to expect. Teachers should also have knowledge about the difficulty level of test and each of the items in the test.

2. (b) Norm referenced Grading (Relative Grading)

When using a non-referenced grading, teacher compares a student's performance with that of a reference group, typically one's classmates. With this system, the grade is determined by the student's relative ranking in the total group rather than by some absolute standard of achievement. Because the grading is based on relative performance, the grade is influenced by both the student's performance and the performance of the group. The assignment of relative grades is essentially a matter of ranking the students in order of overall achievement and assigning letter grades on the basis of each student's rank in the group. This ranking might be limited to a single classroom group or might be based on the combined distributions of several classroom groups taking the same course.

The most common version of this approach is grading on the normal curve. There are two different techniques used in grading on the normal curve. They are prefixed proportion approach and prefixed interval approach. Usually odd numbered grading scale is used. In prefixed proportion approach, before assigning letter grades proportion of each grade to be assigned must

be determined. For example, if five point grading scale is using on the normal curve, then there must be equal percentage of A's and F's and also B's and D's. Thus, regardless of the group's level of ability, the proportion of high grades is balanced by an equal proportion of low grades.

An example of this type of assigning grade is as follows:-

Grade	Percentage of students receiving grade
A =	10%
B =	20%
C =	40%
D =	20%
F =	10%

With this arrangement, in a class of 20 students, the two students receiving the highest grades will receive As, the next four students will receive Bs, the next eight students will receive Cs, the next four will receive Ds, and the two students with the lowest scores will receive Fs. This type of grading helps to prevent grade inflation.

Gronlund (1998) provides another approach to reducing the effect of variability in class achievement. He recommends using ranges of percentages instead of precise percentages.

For example:

Grade	Percentage of students Receiving mark
A	10-20%
B	20-30%
C	30-50%
D	10-20%
F	0-10%

Another technique used in grading on the curve is Prefixed Interval Approach. Here, first find out the mean and standard deviation of the marks of the students in a group. Then divide the group into different categories by taking equal distance from mean and standard deviation and assigning grades from excellent to poorest performance. For example, arithmetic mean and

standard deviation of marks obtained by particular class of students is 50 and 10 respectively. Then according to prefixed interval approach we can categorize pupil in a five point grading scale in the following way.

GRADE	Range on the basis of Arithmetic mean(\bar{x}) and Standard deviation(σ)	Marks Range
A	From Greater than $\bar{x} + 2\sigma$ to $x + 3\sigma$	71-80
B	From Greater than $\bar{x} + \sigma$ to $x + 2\sigma$	61-70
C	From Greater than $\bar{x} - \sigma$ to $\bar{x} + \sigma$	41-60
D	From Greater than $\bar{x} - 2\sigma$ to $x - \sigma$	31-40
F	From Greater than $\bar{x} - 3\sigma$ to $x - 2\sigma$	21-30

“Grading on the normal curve” is not feasible for class room groups because of the following reasons.

1. The groups are usually too small to yield a normal distribution, (b) Class room assessment instruments are usually not designed to yield normally distributed scores.(c) Some of the traits or behaviors are not normally distributed.

GUIDELINES FOR EFFECTIVE GRADING

In the light of the CCE manual for teachers published by CBSE, the following procedures can be adopted.

1. School authorities describe the grading procedures to students and parents at the beginning of instruction
2. Make clear to students that the course grade will be based on the achievement only. It includes formative assessment of scholastic achievements through classroom activities including communication skill, problem solving skills, creative and constructive works, oral questions, scientific and literary activities, written test, surprise test etc. During each term there will be two formative assessments and each carry ten percentage weightage for the total course grade. It is the assessment which is carried throughout the year by the teacher formally and informally. It is diagnostic and remedial
3. Minimum number of Formatting Assessment (FA) tasks as suggested in the annual plan have to be conducted.
4. The performance of students in each task will be assessed on the basis of assessment criteria given in the manual.

5. The total of marks obtained by each students in the formative tasks will be calculated and reduced to 10 marks. For instance, if three tasks of 5 marks each have been given for FA, and a student obtain 3,3 and 2 in these tasks, the total obtained by the student will be out of 15. The weightage for 10 will be $(8 \div 15) \times 10 = 5.33 = 5 = \text{Grade } C_2$. The total will be rounded off to the next whole number if the decimal is 0.5 or more. If less, it will be ignored. If the teacher provides four different tasks, and on the basis of assessment criteria, the maximum mark allotted for each task is different. The weightage for 10 or 100 (percentage) can be calculated as follows and can criterion-referenced grading (absolute grading).

TASKS	Maximum Mark	Mark obtained by student	Convert Marks out of 2 (mark ÷ max. mark)	Weightage or mark out of 10	Mark out of 100	Grade
Debate	5	3	12.0	7.84	78.4	B ₁
Experiment	10	7	14.0			
Oral test	15	14	18.7			
Class test	20	18	18.0			
Total			62.7			

The weightage for 10 = $\frac{62.7}{80} \times 10 = 7.84$

Similarly the mark will be calculated for FA₂, FA₃ and FA₄ and the total will be yield the marks in formative assessment out of 40% marks for the whole academic session. Cumulative and separate consolidated mark register must be maintained for each child.

1. The weightage for Summative Assessment (SA) is 20% in first and 40% in second term. This is also converted into criterion referenced grading. For the whole academic year weightage for SA₁ and SA₂ is 60%.

2. Care must be taken while combining marks of two terms in FA's and SA's and assigning grade for the whole academic year or course. For that following procedure can be followed.

First find out the mean and standard scores deviations of FA₁, FA₂, FA₃, FA₄, SA₁ SA₂ and convert each students score into standard scores (Z-scores or T- scores). The standard scores can then be multiplied by whatever weights are desired (ie 10 for FA's and 20 and 40 and SA₂

respectively for SA's and summed up to compute composite scores. Then convert these scores into nine point grading scale. That is criterion referenced grading.

For example a student's grade in mathematics in a particular class can be calculated as follows:

Assessment component	Raw score of a student out of 100	Mean	Standard deviation	Desired weight %	Z-score $= \frac{x-\bar{x}}{\sigma}$	T=50+10z
FA ₁	72	70	9	10	(72-70)/9 0.22	50+(0.22x10%)=52.2
FA ₂	68	65	12	10	(68-65)/12 0.25	50+(25x10%)=52.5
FA ₃	80	60	10	10	(80-60)/10 2.0	50+(2.0x10%)=70.0
FA ₄	88	72	11	10	(88-72)/11 0.73	50+(0.73x10%)=57.3
SA ₁	69	55	14	20	(69-55)/14 1.00	50+(1.00x20%)=60.0
SA ₂	86	62	13	40	(86-62)/13 1.85	50+(1.85x40%)=68.5

$$\begin{aligned}
 \text{Weighted composite} &= 52.2x^{10}/_{100} + 52.5x^{10}/_{100} + 70.0x^{10}/_{100} + \\
 &\quad 57.3x^{10}/_{100} + 60x^{20}/_{100} + 68.5x^{40}/_{100} \\
 &= 5.22+5.25+7.00+5.73+12+27.4 \\
 &= 62.6
 \end{aligned}$$

Overall grade in Mathematics in B₂.

Now it is very easy for teachers to assigning grades, because grade book software programs are available. One such software is ETNL CBSE software ETNL CCE is a complete school based assessment tool for helping the teaching staff to assess students and to make the evaluation more effective and efficient.

1. The software explain how co-scholastic areas will be graded and reported: In co-scholastic areas, each student will be graded on each of the three life skills; work education,

visual and performing arts, attitudes and values, two curricular activities two health and physical education.

The maximum score for each life skill, work education, visual and performing arts, attitudes, co-curricular activities, health and physical education is 50 and faro values is 200. These areas are assessed by using indicators and the maximum score assigned for each indicator in five. Now what is the meaning of indicators is not clear to most of the teachers. “Continuous and comprehensive Evaluation for Teachers” – Revised Edition 2010 CBSE, India-clearly mentioned about the indicators like this.

Research on human behavior recommends use of triangulation technique-collecting and interpreting evidence by multiple assessors (at least 3 in number). Other terminologies that are land marks in human behavior assessment are ‘Overt behaviour’ Evidence of behaviour’ and ‘Trend of behaviour’. The triangulation technique involves the following steps:

1. Identifying qualities
2. Specifying behaviours and indicators of the concerned area or skill
3. Collection of evidence in respect of behavior and indicators through observation and other techniques.
4. Recording of the evidences
5. Analysis of the recorded evidences
6. Reporting or awarding grades.

Each component of the scholastic areas are assessed using indicators and grade points are calculated by dividing the total score obtained by a student by number of times in the component. Usually 5 point grading scale is used for assessing co-scholastic area. The five point grading scale suggested by CCE scheme is as follows:

Most indicators in a skill A+

Many indicators in a skill A

Some indicators in a skill B+

Few indicators in a skill B

Very few indicators in a skill C

1. Periodic observation is done to validate the attainment of the quality resulting in growth in co scholastic areas by using different tools and techniques like checklist, rating scale, anecdotal records, observation technique and interview and it should be done systematically and methodologically.
2. Provide clear information regarding the performance and proficiency in the co scholastic area of the child.

3. Frequent encouragement and suggestion must be provided to the child to improve his weak points.
4. While assigning grades in co-scholastic activities at least a team of two teachers including the class teacher should get together.
5. Teacher must keep the documentary evidences of periodic assessment of the co-scholastic areas chosen by the student. And consolidation of recording and reporting of the same in the form of grades must be done twice in an academic session.

CONCLUSION: One of the major objectives of the school education is to prepare a student for life. For realizing this objective CCE stress on the development of Scholastic and co-scholastic areas of the child. CCE aims at creating good citizens possessing sound health, appropriate skills and desirable qualities besides excellence. For that it is important to equip teachers with required skills and competencies of evaluation well with the teaching – learning process. The CCE system demands continuous and comprehensive assessment of both scholastic and co-scholastic aspects of the child. The direct grading may profitable exploited for the assessment of scholastic and co-scholastic areas of learning outcomes. But direct grading is preferred for the assessment of co scholastic area. Assessment in co-scholastic areas need to be done systematically and methodologically by using specific observable and measurable indicators and finding grade points resulting into grades. In the case of scholastic areas criterion-referenced grading is preferable . In criterion-referenced grading, teacher can assess the position of each child. The grading system will reduce the competition among students and also minimize the stress and strain.

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