

The South Indian Teacher

215
THE OFFICIAL JOURNAL OF THE S. I. T. U.

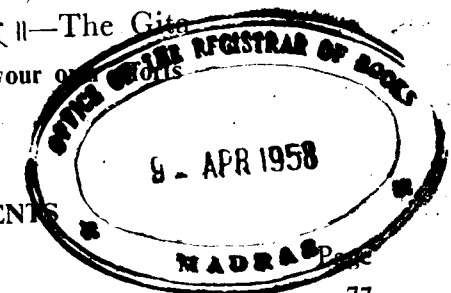
Vol. XXXI

APRIL 1958

No. 4

॥ उद्धरेदात्मनात्मानम् ॥—The Gita
Raise yourself by your own efforts

CONTENTS



Secondary Education—Dr. R. K. Bhan	...	77
Mechanics of Weighting Component Marks in the Final Assessment of a Course—D. G. Kulkarni	...	82
Public School Education—O. P. Malhotra	...	87
Moral Education in the Curricula of Studies in Schools—K. Sankaranarayana Bhat	...	90
News and Notes	...	95
Our Letter Box	...	96
Our Bookshelf	...	98
XXXII All-India Educational Conference, Madras—Resolutions passed	...	99
G. Os. and Notifications	...	100
Editorial	...	103

ANNUAL SUBSCRIPTION :

Inland Rs. 5

Foreign Sh. 10

Single copy nP. 50

POSTAGE EXTRA

RAJA ANNAMALAIPURAM, MADRAS-28.

G. R. DAMODARAN,

B. Sc. Elec., B. Sc. MECH., (DURHAM)

M. I. E. E. (LONDON), M. I. E.

Principal : P. S. G. College of Technology

Director : P. S. G. & Sons' Charity
Industrial Institute

Director : P. S. G. Arts College, Sarvajana
High School

Editor : "Kalaikathir"

Member of the Syndicate—University of Madras

President : Coimbatore Dt. Teachers' Guild

PEELAMEDU P. O.

COIMBATORE

3—3—1958

MADRAS LEGISLATIVE COUNCIL,
TEACHERS' CONSTITUENCY.

ELECTION OF TWO MEMBERS 12-4-'58.

At the instance of friends and well wishers, I am offering myself as a candidate in the ensuing election to the Madras Legislative Council through the Teachers' Constituency.

Having been closely associated with the management of Educational Institutions under P. S. G. & Sons' Charities as their Director, I have gained experience in tackling educational problems. I have had the privilege of enjoying the fellowship of the fraternity of the teaching profession as President of the Coimbatore District Teachers' Guild since 1951. Should I be fortunate to earn your support for my candidature and that of others through your efforts and should I be elected, it shall be my endeavour to do my utmost to promote the cause of Education and Teachers and thus prove myself worthy of your choice and confidence in me.

May I request the teacher friends to kindly favour me with their first preferential vote and get me elected to one of the two seats in the Teachers' Constituency?

G. R. DAMODARAN,

THE SOUTH INDIAN TEACHER

Vol. XXXI

APRIL 1958

No. 4

SECONDARY EDUCATION*

DR. R. K. BHAN,

*Deputy Educational Adviser to the Government of India,
Ministry of Education and Scientific Research.*

Friends, I am grateful to the Federation for being called upon to preside over this Section of the Conference. It is indeed a matter of great pleasure to me to be associated with this work today along with my friends from the teaching profession in which I have spent a major portion of my active life. The work of the teacher is unique from many points of view "while many kinds of labour are needed to do the world's work, no other labour is more important than that one which initiates and improves growth in the realms of minds and morals. Shaping and moulding human beings is a noble and a difficult enterprise. It is in this enterprise that teachers are engaged. It is here that the destinies of millions of youths are determined." In the discharge of his responsibilities, however, the achievements of the teacher will be conditioned by the environments, physical and intellectual, in which he is placed. The teacher is no doubt a human being and as such we cannot be oblivious of the material and physical amenities that he receives from the society while he is called upon to undertake responsibilities of a high order with zeal and devotion. The teacher's organisations while alive to

the needs of the profession in this behalf should, however, develop measures whereby the technical efficiency of the members would improve and opportunities would be extended to them to give a better account of themselves in curricular and extra-curricular activities as builders of the nation. By and large they choose to join the teaching profession under the pressure of circumstances, economic or social, and there are only a few who exercise their choice voluntarily sometimes sacrificing alternative occupations. It may, however, be noted that teachers do not deal with drab files or lifeless machines or materials but with growing human beings whose development is fashioned and watched by them with interest and care. It is thus that in the performance of their duties (obviously for a material return) the finer chords of human heart are played upon and consciously or unconsciously they get so much in tune with their work that it endows them with spiritual and intellectual satisfaction which is a characteristic feature of a noble profession.

Each stage of Education has its importance in the educational system of a

* Presidential Address delivered at the Secondary Education Section of the XXXII All-India Educational Conference at Madras from 27th to 31st December, 1957

country but secondary education has some significant features which no educationist can ignore. "When a pupil enters the secondary school, his learning should become increasingly significant. He should begin to see relationships, to fathom causes and effects, to detect the motives and forces behind major events and eras—in short, to generalise and unify experience and knowledge. The higher mental processes are necessarily brought into operation to promote this deeper education; but, since education should become more profound from grade to grade, the secondary grades are appropriate for much of the initiation and fostering of unity in learning". It is at this stage that the aptitudes and the natural faculties of the young boys and girls can be studied and fashioned so as to be fitted to the appropriate vocation of life. Thus in the context of social and economic conditions obtaining in this country Secondary Education has to play a vital role. While the expansion of elementary education in the country is of paramount importance, the consolidation and improvement of secondary education in conformity with the genius of the people and the needs of the country so as to form a proper base for the future career of boys and girls going through this stage of education, is very urgent. Unfortunately the conditions of Secondary schools in the country call for an immediate attention of all interested in education. For various decades this type of education was unilateral and conducted without any bias towards the broader needs of the country. The Secondary Education Commission after an intensive study of the problems made comprehensive recommendations which are now a challenge to the educationists. The main plank of reconstruction as recommended by the Commission is to change the school from the unitary to the diversified type by the introduction of multilateral courses. The new pattern of school will not only impart instruction in humanities but in six other groups of subjects, viz., Technology, Commerce, Agriculture, Science, Home Science, and Fine Arts. The improvement in the standard of instructions is

implied when it is conceded that the products of these schools should attain at least as much proficiency as that of students who pass the first year intermediate examination. The introduction of this new pattern with diversified courses demands, as a pre-requisite, a thorough all round improvement in such schools in the sphere of class room accommodation, laboratories, libraries, furniture and last but not the least in the quality of the teachers.

The scheme for the reconstruction of Secondary education has been before the country now for the last three years or more and though the response of the State Governments and the universities has been satisfactory, the progress of the Plan has not been commensurate with the immediate needs of the country and the expectations of the people. The difficulties confronting the administration both at the School and the University levels are real and have to be surmounted with vigour and ability. Most of the universities have agreed in principle to the abolition of the Intermediate course and the introduction of the 3-year degree course which is a necessary adjunct of the whole reform but only the universities of Andhra, Orissa, S. N. D. T., Baroda, Nagpur and Travancore have decided to introduce the 3-year course from the academic year 1957-58. Those of the universities which are conducting the Intermediate examination and those colleges which teach intermediate classes have to face financial and administrative problems in switching over to the new type of 3-year degree course and the process of change and adjustment cannot be as quick as one would like it to be. The new programme envisages a 11-year course and those of the schools which have a 10-year course can easily add a year to it. But those which have already a 11-year course feel hesitant in adding one more year thus making the total school course a 12-year one. It is agreed that the school course should cover a eleven year period and the last three years at least should be devoted to the new type of Secondary curriculum involving diversifi-

cation. But whether it should be an 8 + 3 or 7 + 4 years is a matter which has evoked some controversy. It is however, hoped that those States where a 11-year course already exists and which have accepted the new pattern so far as curriculum is concerned will make it possible to reform the school syllabus in such a manner that the degree of achievement at the end of the school career will be higher than what it is at present. It may thus be necessary for them to have a 7 + 4 year course. The introduction of core subjects like Social Studies and the General Science also involves certain re-arrangements in school teaching. The problem of providing teachers to suit the new needs especially in the diversified subjects is no doubt one to be tackled both on an emergency as well as on a long term basis. The All India Council for Secondary Education which is seized with this problem has under implementation a scheme of organising seminar-cum-training courses of 5 weeks duration in diversified types of subjects and this will be a sort of orientation course. On a long term basis, however, the teachers' training colleges or the professional colleges dealing with the diversified subjects will have to do something to produce a stream of teachers to man the multi-purpose schools.

An important reform in the field of Secondary education which has been emphasized from time to time and which is now being tackled systematically is the reform of examinations. That the present system is responsible for many evils which have cropped up in the social and educational system has been emphasized from time to time and something has to be done to reform it in a manner that will bring about better results. The wastage of national human resources caused by failures in examinations is colossal. The All India Council for Secondary Education has taken up this subject and a plan is under consideration for evolving new evaluation procedures and techniques to suit the needs of the country under expert guidance. A pilot project in this behalf is being imme-

diately established and it is hoped that a long term organisation will also be set up very soon. It is easy to condemn the present system of examinations but it is rather difficult to find out new methods of educational evaluation which would effect a distinct improvement. It has been observed that evaluation must be regarded as an integral part of the total examination process, in which educational objectives, learning experiences and evaluating procedures are all linked together. It is not possible or appropriate to transplant in this country methods howsoever successful in foreign countries. Further research and study are essential before the reforms are introduced.

Another important reform to which attention is to be drawn is that of educational and vocational guidance. Every school should have a nucleus of this organisation and no effort should be spared to equip schools with the necessary tools for this purpose. One of the most outstanding problems of social and economic system of this country is that of educated unemployment. Even though all those who are employable do not get themselves registered, the figures of unemployment revealed by the Employment Exchanges tell an awful tale. Not only young men and women with undergraduate qualifications are unemployed but there are several thousands fit for professional occupations (industrial, supervisory or educational) who are without any jobs. It is high time that all those who are interested in the future of our country devote their earnest attention to this problem and thrash out a remedy. That there is not much of correlation between employment opportunities and instruction imparted in educational institutions is clear. That there should be a close coordination between employers, industries or commercial concerns, and the institutions which turn out employable young men and women cannot be doubted. But still there is a greater need for giving advice to young boys and girls at the appropriate stage so that their talents and aptitudes may be well directed and they may go in those

fields of activities in which they are likely to flourish. This will check to a great extent wastages in education and at the same time prepare a base for the supply of requisite material for different vocations.

A question is often asked in this behalf as to whether a multipurpose school can be a vocational school; the answer is definitely no. It is not a substitute for a trade school either. But it will certainly prepare our young men and women for a vocational training befitting their mental and physical callings. I may also refer to the need for the introduction of worthwhile experiments and projects in at least some selected schools. In the words of the Secondary Education Commission,

"If a few progressive schools are established in every State, where experienced teachers would be free to work out an improved syllabus and methods of teaching and discipline, they might in due course help to leaven the whole educational system."

Now that, as a result of several seminars and workshops, some of the participant teachers and headmasters are carrying back fresh ideas to their schools with a view to trying out new techniques and projects, this recommendation of the Commission can take shape. The All India Council for Secondary Education has quite recently implemented a scheme whereby such schools can get some financial aid. It is hoped that the respective institutions will evince enthusiasm in demonstrating tangible results.

These are some of the facts of our educational reconstruction at the Secondary stage. The role which the teacher has got to play is fundamental. He is the pivot on which the whole machinery of reconstruction will revolve. It is not necessary as much to talk about improvements in the technique of teaching as development of a proper understanding among the teachers about these problems and still more important of instilling in them a new urge for improvement. It is a matter of happiness to observe

that the teacher has reacted well to the need for reform. The Government of India and the All India Council for Secondary Education have been conducting all over the country on an all India and regional basis scores of seminars in which by now thousands of teachers have participated. In these meets a fund of enthusiasm has been generated to tackle the reform in different areas. The Extension Services Departments attached by now to 52 training colleges which are expected to cover 4,000 schools and 20,000 teachers have galvanised the latter into professional activity and it is extremely gratifying to observe that even at personal inconvenience and cost the participating teachers have evinced a desire to learn and make contributions in this scheme. It has been sufficiently demonstrated that given the opportunity to develop his initiative and originality and the feeling that he has a contribution to make for the development not only of ideas but of various projects, he responds very effectively and indicates a new spirit so much needed to overcome the inertia of decades.

To meet the needs of the situation we should kindle a fire in the hearts of all present and prospective teachers so that they will not feel at rest until results are achieved, which will certainly tell. There is nothing so galling as to hear so often from different quarters that the standards of achievement in schools are falling. Whatever be the causes, whether the teacher is responsible for this deterioration or not, the community has a right to look up to him to give a lead in evolving and initiating measures for improvement. I may be permitted to repeat that our plans for Secondary Education reconstruction will not be complete unless there is a definite improvement in the level of students' attainment at this stage. I, therefore, take this opportunity of appealing to the teaching profession to accept the challenge and make the whole process of reconstruction of Secondary education not only easy and quick but fruitful from all points of view. I am sure the community will not forget the teacher, his

economic and social status but he should come up professionally too. The improvement of teachers' salaries has been taken in hand both at the Central and State levels and though only a beginning has been made, it indicates that the community is deeply interested in the problem. I do hope that a day will come when the teacher will attain his appropriate status in this country which should be in keeping with our traditions.

India is passing through a critical stage in its history. Independence has no doubt opened a vista of bright future but it has also created huge responsibilities for the people and its leaders. From the struggle for political independence we are marching on the more difficult path of economic and social reconstruction which will be through 'blood,

sweat and tears'. We look round and see how other nations with their higher rate of literacy, national income, capital formation, industrial and agricultural production are going still further. Some of them (like West Germany) devastated by the Second World War have effected their economic recovery in an amazing manner mainly through hard work and sacrifices of its people. Should we still lag behind?

Teachers who are the architects of nations, have to play a leading role. It is quite obvious that the goals to be achieved are yet very far and even the limited targets in various sectors are shining at a distance. We have gone through the First Plan and are in the middle of the Second Plan. The following figures will reveal the magnitude of the problem.

	Percentage of children enrolled			Percentage of literacy	No. of multi-purpose schools
	6-11	11-14	14-17		
First Plan	51	19.2	9.4	16.6	500
Second Plan	62.7	22.5	11.7	20.0	1187
				(approx)	(as against 12000 High Schools)

The total outlay on education in the 2nd Five Year Plan, Central and States Sectors, will be about Rs. 307 crores out of a total of Rs. 4300 crores. It is obvious that education and social welfare have not received that position in the Plan which the educationists would like these to have. It is no doubt true that the economic development of the country with an emphasis on key industries should receive greater attention at the hand of the planners since all our social welfare programmes will depend upon the total flow of national income within

the country. But it cannot be denied that for the success of the industrial and agricultural plans, education, both general and technical, is an important factor and any resources diverted towards this end will ultimately reflect themselves with advantage to the industrial and agricultural sectors. Anyhow circumscribed as we are with limitations of financial resources the task ahead is greater. But if we harness our energy and enthusiasm to the available resources, the journey will be covered sooner than anticipated.

MECHANICS OF WEIGHTING COMPONENT MARKS IN THE FINAL ASSESSMENT OF A COURSE*

SHRI D. G. KULKARNI, M.Sc., B.T., M.Ed.,
Professor, Government Training College, Raipur.

The Mudaliar Commission in its report on Secondary Education has made among others the following recommendations regarding examination.

1. "In the final assessment of pupils due credit should be given to the internal tests and school records of the pupils".

2. "The system of symbolic rather than numerical marking should be adopted for evaluating and grading the work of pupils in external and internal examinations and in maintaining school records". (P. 154)

PART I

TECHNICAL PROCEDURE OF FINAL ASSESSMENT

The final assessment of pupils is the composite appraisal of pupils' competence. It is composite because it is composed of several component part assessments such as cumulative records of personality traits, periodic tests or partial examinations throughout the course, laboratory and workshop activities, craft work and so on. To each of these components we decide upon to give relative emphasis. They are then combined in the final assessment.

To this final assessment, we assign grades—A, B, etc. or merit divisions as first division etc. What is the technical and hence correct procedure in assigning grades or divisions to the final assessment? What is the mechanics of weighting and component assessments in the final assessment? These and similar questions will be now considered here.

Technical Aspect:— Just as in a preparation of a test in a subject the first step is to define the objectives of instructions in that subject and then to translate these objectives into performances that can be tested, similarly the first step in deciding what should be represented in the final assessment of a course is to define the several objectives of the course and decide upon the relative weightage to be given to each. What weight is to be given to memorisation of facts? To development of social virtues? To laboratory and craft skills? etc. Thus, though in a course, the final assessment constitutes an appraisal of competence, the specific elements or components that make up the competence must be identified specifically for that course. The technical procedure in arriving at the final assessment consists of (1) defining the objectives of the course (2) fixing upon evidences or typical tests, to measure the objectives (3) deciding upon the weightage to be given to each of the component tests and combining the test scores (4) assigning grades or merit divisions to the final assessment.

DEFINING OBJECTIVES

In a secondary school course, we should among others decide upon the following objectives.

(i) Understanding the day to day units of class instructions. To what extent did the pupils acquire knowledge imparted in a day, in a week, in a month, in three months, in six months? The underlying principle of evaluation is that it is a continuous process and it inevi-

tably follows teaching. Understanding class instructions includes creative ability.

(ii) Development of social and democratic virtues. To what extent did the pupils develop leadership, habits of working in cooperation, and other social virtues required in the art of living? This includes development of social intelligence.

(iii) Manipulative and manual skills. To what extent did the pupils know laboratory techniques, workshop technique and craft work? This includes the development of productive ability.

(iv) Understanding the retained and comprehensive knowledge. To what extent did the pupils acquire and retain knowledge after prolonged instructions, after a lapse of time, at the end of the course? This includes memorization of facts, understanding principles and relationships, ability to generalize and to apply, ability to organize matter and to present it.

FIXING UPON THE TYPICAL COMPONENT TESTS

In order to realize these objectives, we have to determine specific typical tests showing point to point correspondence between objectives and tests. Among others, the following might be considered:

(i) Periodic tests to measure the realization of objective No. (1). Within the ambit of periodic tests, we can include class written work, quizzes, questions put during class teaching, oral work, home work. The periodic tests are enroute examinations and they can be used for diagnostic purposes.

(ii) Observations of student's participation in cocurricular activities to meet the objective No. (2). Participation in cocurricular activities includes participation in cultural activities such as drama, fine arts, etc.; in play ground activities, such as sports and games; in literary activities such as debating, ability to participate in group discussions, in group

projects, in social work, organizing camps for gram seva, excursions.

(iii) Laboratory work and craft work. This work is the evidence of the realization of objective No. (3). In laboratory work, we can include equipment of an apparatus, equipping a laboratory table, performance of an experiment, ability to demonstrate certain skills—use of microscope, use of optical lens etc. Craft work includes organization of material in relation to craft, say basket making etc.

(iv) Annual examination. It is the year end examination based upon the entire course to meet the objective No. (4). It appraises the lasting retention and is well adopted to evaluating mastery of large concepts or integration of parts into the total framework of the field.

WEIGHTING THE COMPONENT TESTS : MECHANICS OF WEIGHTING

Having decided upon the typical component tests to represent objectives, the next important problem is; How are these tests to be weighted in the final assessment? We must allocate weights as between periodic tests, participation in cocurricular activities, laboratory and craft work and annual examination. The allocation of weights among the tests is arbitrary and conventional and it must be decided by intuitive and collateral considerations regarding individual merits of the tests such as reliability, validity and utility. The actual allocation should be decided by consensus for maintaining a sense of proportion in weighting.

Periodic tests: Internal periodic tests are numerous and hence they are more reliable than a single annual examination, for periodic tests can be used for instructional as well as evaluation purposes. Pupils' errors found from the periodic tests can serve as diagnostic guide for restudy of the portion done. Hence they should be given more weight. But tests on a small particular portion shortly after

* (A paper read before the All India Federation of Educational Associations XXXI session, Madras)

it has been taught, measure immediate mastery. They cannot measure lasting retention and are not well adopted for large portions and for finding out their relations with the whole syllabus. These limitations suggest that periodic tests should be given less weight than the annual examination appraising mastery at the end of the course.

Participation in cocurricular activities : The behaviours in the cocurricular activities measure more or less pupil's personality development rather than pupil's competence. They have their value for their own sake and they should be mentioned separately rather than incorporated into the final assessment. Moreover, we have not yet valid tests except teacher's judgement to measure these behaviours. Hence they should be given less weight. Laboratory and work-shop skills, setting up a microscope, replacing a fuse, spinning a yarn of a particular count, weaving carpet, basket making etc. are important manipulative skills and they should have an important place in the final assessment. Moreover they are productive abilities. Hence substantial weightage should be given to them.

Annual examination : It is the year end examination measuring pupil's MASTERY OVER THE ENTIRE COURSE. It measures knowledge retained up to the end of the course. It is a comprehensive examination deciding the pupil's final level of achievement the knowledge of which is required by the parents for planning pupil's future career. It is therefore an important examination and it is difficult to object to giving a major weight. But it has certain obvious limitations. (a) It exercises a cramping and un-wholesome influence on curriculum and methods of teaching during the year. There is little correlation between what is tested in the examination and the objectives of instructions. We know that some objectives such as effective participation in group discussion, ability to organize material in relation to a problem, certain practical and manipulative abilities cannot be measured in a scheduled examination. The correlation is still

lower if the annual examination is an external one. (b) It measures a portion of knowledge acquired by pupil and as the portion is small, it has less reliability. (c) It does not take into account pupil's psychological condition such as working under pressure, mental exhaustion and disturbance etc. (d) Many times it has low validity (curricular and statistical) and reliability. It has other limitations also. Because of these limitations, one is inclined to give less weight to the annual examination.

Thus we have to weigh merits and demerits of each of the typical tests and then decide upon the allocation of proportionate weightage. We can assign equal weightage to each of the four tests as 25% or $\frac{1}{4}$ of total weight to each or equal weights (say 30%) to periodic tests, laboratory and craft work and annual examinations less weight (10%) to the cocurricular activities.

Let us assume that we have decided upon the weight we wish to assign to each of the four component tests as follows :

Periodic tests 30% (or $\frac{3}{10}$ of the total weight), Cocurricular activities 10%, laboratory and craft work 30% and annual examination 30%. The important problem is : how are we to combine the four marks or scores on these four component tests into a composite score of final assessment, so as to achieve the desired weightage. It becomes a problem because the separate components may differ widely and therefore the factors on which effective weight depends are (a) nominal weight and (b) variability. It is a problem similar to the problem of composition of forces in physics. Forces differ in magnitude and direction. They are to be combined into a resultant force by a law of parallelogram of forces. Similarly the effective weightage depends up the (a) nominal weight given to the score and (b) the variability of the distribution of scores. How to combine the component parts into the total final assessment? What is the mechanics of weighting parts into a total?

To understand the mechanics of weighting we consider the four component tests with their following statistical data.

Components	Variation of marks	Range	S.D.	Weightage
1. Periodic tests (Max. marks 400)	176 - 328	152	24	30% or 3
2. Cocurricular activities (Max. marks 100)	42 - 78	36	6	10% or 1
3. Laboratory work (Max. marks 200)	104 - 144	40	6	30% or 3
4. Annual examination (Max. marks 600)	250 - 450	200	30	30% or 3

The problem is how to combine the component marks into a total score for final assessment? Let us consider for a moment only two components (1) Periodic tests and Laboratory and craft work. They are assigned equal weights i.e. 3 : 3 (or 30% each). Suppose a pupil (X) gets a first (328) in periodic tests and a last (104) in Laboratory and craft work and another pupil (Y) gets a last (176) in periodic tests and a first (140) in the Laboratory and craft work. If we combine the raw scores as they are we get for pupil (X) a composite score $328 + 104 = 432$ and for the pupil (Y) $176 + 144 = 320$. Though we assigned equal weights to the two components, in the final assessment, we do not get the desired weightage. There is a great difference between two final scores and we thus get a distorted picture of the weightage. How to achieve the desired weightage becomes a problem. What is the mechanics of weighting? This difference in final assessment is due to relative differences in the variability of periodic tests and laboratory and craft work. The variability of periodic tests is four times that of laboratory and craft work. The more variable periodic tests have affected the less variable laboratory and craft work to the tune of 4 times. If variability is great the weight applied to the raw score must be reduced if the component is to have the desired effective weight in the composite. In the above

example in order to have the desired effective weight to be in the proportion of 3 : 1 : 3 : 3, the weights applied to raw scores should be $\frac{3}{24}$; $\frac{1}{6}$; $\frac{3}{6}$; and $\frac{3}{30}$, i.e. in the ratio of 125, 17, 5, 1, i.e. in the ratio of 125 : 170 : 500 : 100. We must divide the nominal weight by the S.D. or a measure of variability. Taking the scores of the two pupils with regard to the periodic tests and laboratory and craft work, we have :

Pupil (X) $328 \times \frac{3}{24} + 104 \times \frac{3}{6} = 93$.

Pupil (Y) $176 \times \frac{3}{24} + 144 \times \frac{3}{6} = 94$.

i.e. we get the desired weightage in the composition of the final assessment. To determine the effective weight to be applied on raw score on any component the nominal weight must be divided by a measure of variability of the components. The best measure of variability is S.D., the next best is semi-interquartile range or rough estimate of range. After determining the effective weight we can obtain the desired score by multiplying the raw score with the effective weight. The formula for the desired score is

$$X \times \frac{W}{O} \text{ or desired score} \\ = \text{raw score} \times \frac{\text{weight}}{\text{S.D.}}$$

We can now simply add the desired score to get the composite score for the final assessment. Suppose a pupil gets 240 marks in periodic test, and 60 in Co-curricular activities, 120 in Laboratory and craft work, 360 in annual examination. What is the composite score on the basis of above statistical data. Convert the raw scores into the desired score by the above formula and we get :

Raw score	Formula	Desired score
240	$240 \times 1/24$	10
60	$60 \times 1/6$	10
120	$120 \times 1/6$	20
360	$360 \times 1/30$	12

The composite score is $10 + 10 + 20 + 12 = 52$.

ASSIGNING GRADES OR MERIT DIVISIONS

We have now one composite score for the final assessment. We have to assign a grade or merit division to a pupil in view of his composite score. How many will get A or First division, B or second division and so on. One should be quite clear about the meaning that is to be attached to the composite score and to the merit division. Composite score is a relative appraisal and not an absolute one. It shows a relative performance in a relative group and not in general population. It is by intuition and by collateral judgement that we compare one group with another or with population. Similarly merit divisions are completely arbitrary and conventional. It is futile to argue that 5% or 10% fall in the first division or get 'A' grade. The decision as to what percentage fall in 'A' or in first division, is not a statistical decision, but a practical administrative decision. Hence a consensus must be sought within a school, that grade A 90 and above signifies 10% of high school students and 20% of higher secondary school students. A general consensus for the merit division is

Distinction	Top	5%
First division	next	20%
Second division	next	45%
Third division	next	25%
Failures	last	5%

Summary :- The final assessment is a composite assessment. It is a combination of component assessments duly weighted by intuitive and collateral considerations. The component assessments are supposed to satisfy the particular objective of the course. Hence the technical procedure in getting a composite number for the final assessment is (1) defining the objectives of the course (2) fixing up particular tests that satisfy the objectives (3) assigning course or marks on each of the component test (4) weighting the scores taking into consideration the variability of the scores and obtaining desired scores (5) adding together the desired scores to get the composite total score for final assessment (6) fixing the merit division or a grade on the final assessment.

PART II

LETTER GRADING THE FINAL ASSESSMENT

As per second recommendation of Mudaliar Commission we can assign letter grades or symbolic marks A, B, C etc. to answers written to the essay type or otherwise questions asked in a scheduled examination. For example a question paper consists of six questions and answers written by pupil to each of six questions are symbolically marked or letter graded as A, B, C etc. The problem is how to letter grade the total.

Question		Letter grade to the Answer
1.	..	A.
2.	..	B.
3.	..	B.
4.	..	C.
5.	..	D.
6.	..	E.

What is the letter grade to the final assessment? Here again we can arbitrarily assign weightage to each of the grades. We assume the grades are continuous distribution and the difference between any two constitutive grades is constant throughout the distribution. Thus we may assign weightage arbitrarily.

PUBLIC SCHOOL EDUCATION*

O. P. MALHOTRA.

Delhra Dun.

What is a 'Public School'? This question has been posed and debated many a time by those interested in education. Doubtless it is not easy to arrive at a satisfactory definition. Many imagine that a Public School is a quite old, cumbersome and very expensive boarding school, enjoying a large measure of independence. Yet some Public Schools are not old, but are comparatively modern, not big, but small, not quite independent, but are under some form of external control. Nor are all Public Schools expensive, as fees range from practically nothing to about £270 a year.

Some people think that only those schools which are members of the Headmasters' Conference or the Governing Bodies Association are Public Schools. That is also not true. Thus they differ from one another in particular respects, though they are all of the boarding school type, distinct from day schools. A few classical examples are the Public Schools of England like Eton, Harrow and Winchester.

Perhaps, it may be readily granted that a Public School aims at the best type of secondary education in the formative years of the young. Besides the traditional attention to the three R's, it aims at inculcating ideas of discipline, cooperation, self-reliance, team spirit, tolerance, initiative, and leadership, which are elements of sound character building. The Public School boy develops habits, attitudes and qualities of mind which enable him to shoulder the responsibilities of citizenship by and by, and resist the insidious and fissiparous tendencies of chauvinism and petty loyalties to region, clan and so on. These latter, as we have seen particularly during recent months all over the country, strike at the root of a broad, healthy,

dynamic outlook and understanding of world trends. It is only a Public School that can foster in the minds of the young a legitimate pride in the achievements of the nation not only in the realm of knowledge but also in administration, statesmanship, and contribution to world order. In short, it stands for a balanced education as a preparation for a full, good life.

But how is all this achieved? How is a Public School distinct from other schools? It has been said that the English Public School system rests on four pillars — the all powerful Headmaster with a touch of genius in him, the all wise teacher serving as House Tutor, the Sixth Form or the topmost class, and the boarding school organisation. The strength, grit and endurance of these pillars determine the tone of the structure as a whole and the degree of its usefulness to society. Nevertheless, as the principal guiding figure, the Headmaster does play a role that calls for great and rare traits of personal worth and distinction. That is why he is generally invested with very wide powers of authority.

The Housemaster is to the House what the Headmaster is to the school. The Headmaster shares a part of his authority and responsibility with the Housemaster. As life in a Public School largely centres round a House, the success of the latter depends on the Housemaster and his team of prefects — the senior boys in the House. These in turn share some of the Housemaster's authority, and are responsible for the management of the House. School prefects and the School Captain are selected by the Headmaster on the advice of the Housemaster. In some schools House prefects are elected by boys of the House. As a measure of safety, the Housemaster has a power of veto in this matter.

* A paper read at the All India Educational Conference, Dec. 1957.

The Housemaster is very seldom "off the job". He may be called upon at an emergency at any hour, day or night. He has to answer endless enquiries of boys about pocket-money, of parents about their children, and of colleagues, taking care not to exhibit impatience with any of them and secure in his conviction that his is the one job in the world worth doing. Besides academic qualifications, he needs a "steady nerve and alert sensitiveness". What he is is more important than what he knows or what he does. Throughout the day, in the classroom, on the playing fields, in the workshop, or in the art school, it is he who, unconsciously, shapes the personality of young and impressionable minds.

The Sixth Form consists of the senior-most boys in the School, and out of them emerges the team of prefects. This prefectorial system, popularised by Dr. Thomas Arnold of Rugby, is one of the contributions of the Public School to Secondary Education. Prefects carry on all school activities. Consequently they shoulder immense responsibilities. Juniors help them by their diligent, faithful and implicit obedience to the errands entrusted to them. In this way obedience to authority builds up a boy's fitness to wield authority in turn. This is a crucial test in the preparation for life. "Learn to obey; live to command", runs a common adage.

The boy who shoulders responsibility and wields authority learns how a policy is framed and enforced. He realises that obstinate assertion does not pay, and that patience, forbearance and gentleness are more effective and fruitful. He realises also that the success of any activity depends on agreement, adjustment, compromise and cooperation. He is mindful of his obligations to those above him, and his duty to those below. The greatest of all the lessons he learns is, perhaps, that he has authority because he has responsibility.

The last pillar of the Public School is the Boarding School or the House system. It is generally felt that the princi-

pal need of the growing young is a firm and reliable background for life. A principle that commands the acceptance of any civilised society is that human values matter more than anything else. A boy in a Public School lives hour after hour, day after day, in the midst of a well-knit, compact community. In contrast to this, the day scholar knocks against all kinds of people in buses, trains, streets and shops. The impact of this difference may not be obvious on the face of it. On closer scrutiny, however, this constant change in the atmosphere is bound to tell on the emotions and reflexive habits of a personality that is still in the making. The utmost care in the selection of company, and the homogeneity and camaraderie that obtain in the one have nothing in common with the rude jolts and almost rudderless drift in the uncharted ocean of humanity that characterise the other.

If a small family may be considered the fundamental unit of social organisation, the Public School boy lives, moves and has his being in quite such a unit. It forms a link between the family and the school *per se*. The size of the family is shrinking so fast nowadays that it hardly provides a wide range or variety of social experience. The Public School boy, as a rule, is in contact with people of all ages — the masters and their wives, some young and some old, the administrative staff, some seniors and some juniors. Not many families can provide the number of age groups, elder brothers, friends and companions, guides and models for emulation as a Public School can do. It is there that a boy gets the constant and spontaneous urge and stimulant "to hitch his wagon to a star", to do and dare, to make the best of his opportunities and, above all, to make his mark in life.

A day scholar parts company with his friends at the end of the day, and carries home with him a bundle of impressions often full of conflicts, annoyance and misgivings. The Public School spares the young all such situations and psychological troubles.

A very important feature of the Public School is that it facilitates the change from one form of activity to another, with not much of varied emphasis on this or that.

We are familiar with homes where sufficient care and attention can never be bestowed on the young due to various causes. The Public School fills up this void, with a cut and dried programme from day's end to day's end, well planned and integrated into the pattern of life that the newcomer enters. Naturally the latter fits into it all, as the entire plan has been framed by those who have the necessary experience and equipment, and who have taken into account the differences in mental levels, physical fitness, individual aptitudes, instinctive interests, general development, etc. Planning with such a vast perspective of all-round culture can surely provide no end of amenities like the playing field, swimming pool, art and music schools, workshop, machinery, library, and the Museum and Portrait Gallery. It is needless to mention that the fulfilment of such an ambitious and all-embracing plan calls for adequate funds and superior man-power, which only a Public School can find.

A team of talented men who bring to the noble art of teaching an exalted idealism and purposeful mission, and a Public School that can boast of all the foregoing paraphernalia do mean sumptuous finance. An expensive institution of this type may be open only to those who can foot the bill. The number of such may not be very impressive. Is the Public School, for all its merits, only for the fortunate few? What exactly is its place in a society which is going the socialist way? How will a social Government look upon it? These are all questions which this conference has to face and answer.

As one connected with a Public School for a number of years I am no stranger to them. However, once we admit the

advantages of a Public School over the ordinary day school, considerations of economy, if not parsimony, may not be allowed to hinder progress. Social inequalities in some manner or degree may cease to exist altogether only in Utopia. Human species can never be regimented and streamlined all into one shape or on one level. So long as such inequalities persist in all other spheres of life, the persistence of unequal levels and standards in education also may be inevitable. If a Public School can cater only for the wealthier class, may it not be that the latter, in their turn, are entitled to aid from a Government that fills its coffers mainly with taxes paid by them and not by the man in the street, for what he is worth? Is it the way of charity or good fellowship to deny the benefit of a Public School education to those who have their table full of the world's good things? If the less fortunate prove their worth otherwise, it may not be impossible to lend them a helping hand through scholarships and similar aids. This is, after all, only one among several problems that confront a changing society, and it blesses none to cry "wolf" and hurl execrations like "Down with snobbery, down with the privileges of birth and parentage!"

If the Public School has justified its existence by sending out, year after year, streams of youth who have played their part in life worthily, it is a social asset that deserves to be fostered. In a vast country like ours, with ever increasing opportunities of service and distinction, we need more and more of Public Schools, which, for their part, have not been slow to adjust themselves to the spirit of the times. As an instance in point, one has only to mention the introduction of Hindi, of Indian music and dancing, of participation in rural uplift and community project work, etc. Lastly, the growth of these schools will have a healthy influence on the day schools, thereby benefiting the education of the country as a whole.