

REPORT
OF
THE SIXTH CONFERENCE
OF
CHAIRMEN & SECRETARIES
OF
THE BOARDS OF SECONDARY EDUCATION

Held at the
MAHARASHTRA S. S. S. E. BOARD, POONA.

From Nov. 10 to 13, 1964



CENTRAL EXAMINATION UNIT
DIRECTORATE OF EXTENSION PROGRAMMES FOR SECONDARY EDUCATION
(National Council of Educational Research and Training)
7, LANCERS ROAD, TIMARPUR,
DELHI-7.

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DELHI-7.

Sub. National Systems Wing,
National Institute of Educational
Planning and Administration
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FOREWORD

The importance of external examinations as an effective instrument for maintaining quality and standards of education in India, which is now a rapidly expanding phenomenon, cannot be too strongly emphasized. They do, no doubt, suffer from glaring limitations and, as such, urgently call for improvements, if they are to tone up, in any appreciable way, the educational standards of the country.

The Central Examination Unit has, since its inception, been committed to a phased programme of examination reform which envisages immediate improvements in examinations as also solutions to a wide range of problems which require continuous thought, observation and experiment. As an integral part of its programme, the Central Examination Unit annually convenes the Conference of Chairmen, Secretaries and non-official members of the Boards of Secondary Education to discuss and review the progress made by individual Boards towards examination reform and to plan what new ground could be broken in future.

It is heartening to note that some Boards are becoming increasingly alive to the need for immediate improvements in examinations, and have either started or contemplated introducing them in their examinations. The introduction of improved question papers in Social Studies, General Science and Elementary Mathematics in the Secondary and Higher Secondary Examinations this year in the state of Rajasthan, is nothing short of a landmark in the history of examination reform in India and in a way a real break-through for the Central Examination Unit's efforts to bring about improvements in examinations.

The Sixth Conference of Chairmen, Secretaries and representatives of the Boards of Secondary Education has not only shown keen interest in what is going on in Rajasthan but also exhorted other Boards to undertake similar programmes. Besides discussing academic problems, the Conference focussed its attention on quite a number of administra-

tive problems and stressed the need for initiative in the field of research so essential to effective planning and implementation of examination reform.

It is again a landmark that the Conference has approved the policy statement on examination reform, which has not only admirably prepared the ground for the future action of the Central Examination Unit but also for the development of proper attitudes towards examination reform.

It is hoped that the present report would serve as a useful means of stimulating thought and discussion and provide enough stimulus and direction to Boards of Secondary Education, State Departments of Education, Training Colleges, etc., to rise, both individually and jointly, to the challenge which the programme of examination reform in all its correlated aspects offers.

A. C. DEVE GOWDA
Director

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INTRODUCTION

One of the major tasks of the Directorate of Extension Programmes for Secondary Education is to improve evaluation procedures at the stage of secondary education so that they might serve a constructive educational purpose. The Central Examination Unit of the Directorate has been devotedly addressing itself to this task for the last few years now. As an important step towards implementing this task effectively, the Central Unit has felt the imperative need for the improvement of Board examinations, and for this the greatest and most sustained effort on the part of the Boards of Secondary Education is vitally necessary. The Central Examination Unit has, therefore, accorded the Boards a central place in its programme of examination reform and set in train, justly enough, the convention of the annual conference of Chairmen and Secretaries of the Boards of Secondary Education to take stock of the progress made by the individual Boards and other agencies towards examination reform and also to co-ordinate their activities.

Five such conferences had already been held in the past and the sixth one was convened at Poona from 10th to 13th November, 1964, at the invitation of the Maharashtra S. S. C. E. Board.

The Sixth Conference was unique in more ways than one. It was for the first time that the Conference was held outside Delhi, and that too, quite in the fitness of things, at the office of an S. S. C. Examination Board, which provided an excellent motif for the Conference. Again for the first time the Chairmen of the Boards were invited to attend the Conference for the whole duration. The response was encouraging and their contribution to the Conference was significant.

Significantly enough, the officers of the State Evaluation Units, who are supposed to work as the extended arms of the Central Unit, were invited to attend the Conference for the first time with a view to according them an opportunity of gaining insight into the programme and functions of the Boards of Secondary Education vis-a-vis the Central Unit and also to

bring about proper co-ordination between the activities of the Boards and those of the State Units.

The agenda, besides comprising reports of the work done by various agencies concerned with examinations, the programme to be undertaken from time to time, etc., were articulated by some special items of academic and practical value which demand continuous thought, observation and experiment, viz., the introduction of oral and practical examinations, introduction of mechanical devices in processing the results of Board examinations, improvement of the present practices of deciding results and a policy statement enunciating in comprehensive and clear-cut terms the direction in which the programme of examination reform should move.

Two other significant features of the Conference were an exhibition on evaluation, displaying important books on evaluation, publications, reports and test material prepared by the Central Unit and State Evaluation Units and admission forms, certificates and question papers of the Boards, and demonstration of the data processing machines used by the Maharashtra S. S. C. E. Board.

The Conference was attended by 57 participants, the break-up being 31 delegates from 15 Boards, 12 officers of the State Evaluation Units, 3 special invitees, 2 U.S.A.I.D.D. Consultants and 9 officers of the N. C. E. R. T. and D. E. P. S. E. The Conference was preceded by a joint meeting of the Programme Advisory Committee of the Central Examination Unit and the Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education on the 9th November, 1964.

The tone of the Conference was set both by Shri A. C. Deve Gowda, Director, D. E. P. S. E., in his welcome address and by Shri M. D. Chaudhari, Minister for Education, Maharashtra State, in his inaugural address. They both expressed the hope that the deliberations of the Conference would have a far-reaching impact on the examination system and consequently on education at the Secondary stage.

The Conference during all the four days, both in general and group sessions, devoted its poised thinking to a number of vital issues like introduction of oral and practical examinations, formulation of instructional objectives of different subjects and their incorporation in the Board syllabi, introduction of objective-based questions, improvement in the practices of deciding Board results, undertaking studies and investigations on examinations, use of mechanical devices in processing Board results, the high incidence of failure, especially among private candidates, etc., and passed a number of resolutions of far-reaching consequence. The Conference also appreciated the valuable work done by the State Evaluation Units during the brief period of their existence and hoped that at their best they would surely make an effective contribution in a number of ways to the programme of examination reform.

The Conference took the opportunity of discussing evaluation at the elementary and university levels and recommended that a suitable programme at these two levels is

intrinsically desirable, if the programme of reform at the secondary stage is to be made more effective.

The Conference also discussed at length the Policy Statement on Examination Reform formulated by the Central Examination Unit and the changes that it postulated at various stages.

The Conference noted with satisfaction the improvement programmes that a few Boards have undertaken and optimistically felt that other Boards will follow suit.

The Sixth Conference made a bold stride forward by recommending a Policy Statement with its major goals and specified targets and passing a number of worthwhile resolutions. It is hoped that an appropriate action on the Policy Statement and implementation of the resolutions would surely mark significant milestones on the way to examination reform.

DELEGATES OF THE CONFERENCE

I. Delegates from Boards

| <i>Board</i> | <i>Delegate</i> | <i>Designation</i> |
|--|--|--|
| 1. Board of Secondary Education, Andhra Pradesh, Hyderabad. | Shri B. Venkataramanappa Shri T. V. Narayana | Deputy Commissioner Secretary |
| 2. Board of Secondary Education, Assam, Gauhati. | Dr. A. K. Borkakoty Mrs. P. Chaudhary | Secretary Non-Official Member |
| 3. Gauhati University, Assam, Gauhati. | Shri C. Das Shri S. N. Das | Registrar Non-Official Member |
| 4. Bihar School Examination Board, Patna. | Shri Rameshwar Prasad | Secretary |
| 5. Central Board of Secondary Education, New Delhi. | Shri D. I. Lall | Secretary |
| 6. Gujarat S. S. C. Examination Board, Baroda. | Shri M. M. Shukla Shri P. M. Joshi Shri D. C. Shukla Shri M. S. Patel | Chairman Secretary Non-Official Member Research Officer |

| <i>Board</i> | <i>Delegate</i> | <i>Designation</i> |
|--|---|--|
| 7. Board of Secondary Education, Madras. | Shri R. G. Subramaniam | Non-Official Member |
| 8. Maharashtra S. S. C. Examination Board, Poona. | Shri C. G. Sahasrabudhe Shri G. S. Dhar Shri S. R. Tawde | Chairman Secretary Non-Official Member |
| 9. Board of Secondary Education, Mysore, Bangalore. | Shri T. Vasudevaiah Shri V. B. Desai Shri Hucha Masti Gowda | Director of Public Instruction and Chairman Dy. Director (Examinations) Non-Official Member |
| 10. Board of Secondary Education, Orissa, Cuttack. | Shri P. K. Das | Secretary |
| 11. Rajasthan Board of Secondary Education, Ajmer. | Shri L. L. Joshi Shri T. K. Dandiya Shri M. L. Garg | Chairman Dy. Secretary Non-Official Member |
| 12. Board of High School & Intermediate Education, U. P., Allahabad. | Shri S. D. Pant Shri Ali Ameer | Secretary Non-Official Member |
| 13. Vidarbha Board of Secondary Education, Nagpur. | Dr. C. D. Deshpande Shri S. M. Yaqub Shri B. M. Deshmukh | Chairman Secretary Non-Official Member |
| 14. Board of Secondary Education, West Bengal, Calcutta. | Dr. J. C. Sengupta Shri B. Banerjee Shri D. M. Mukherjee | Chairman Secretary Non-Official Member |

II Delegates from State Evaluation Units

| | <i>State Evaluation Unit</i> | <i>Delegate</i> | <i>Designation</i> |
|-----|--|--------------------------------------|---|
| 1. | State Evaluation Unit, Office of the Director of Public Instruction, Andhra Pradesh, Hyderabad. | Km. Jayanti Venkubai | Evaluation Officer |
| 2. | Examination Research Bureau, Bihar School Examination Board, Patna. | Shri R. S. Sinha | Director |
| 3. | State Evaluation Unit, Office of the Director of Education, Gujarat State, Ahmedabad. | Shri B. L. Shah | Evaluation Officer |
| 4. | State Evaluation Unit, Education Department, Himachal Pradesh, Solan. | Shri Pritam Singh | Evaluation Officer |
| 5. | State Evaluation Unit, Office of the D. P. I., Kerala State, Trivandrum. | Shri P. G. Jacob | Evaluation Officer |
| 6. | State Evaluation Unit, Board of Secondary Education, Madhya Pradesh, Bhopal. | Shri H. S. Dave Shri U. G. Alkari | Evaluation Officer Technical Assistant |
| 7. | State Evaluation Unit, State Institute of Education, Poona. | Shri V. B. Sule | Evaluation Officer |
| 8. | State Evaluation Unit, Office of the D. P. I. (Examinations) Myore State, Bangalore. | Shri S. R. Rohidekar | Director |
| 9. | State Evaluation Unit, Office of the D. P. I., Punjab State, Chandigarh. | Shri S. S. Jolly | Evaluation Officer |
| 10. | State Evaluation Unit, Office of the Director of Education, Rajasthan, Bikaner. | Shri C. M. Hada | Technical Assistant |

| <i>State Evaluation Unit</i> | <i>Delegate</i> | <i>Designation</i> |
|---|------------------|-------------------------|
| 11. Govt. Central Pedagogical Institute, Uttar Pradesh, Allahabad. | Shri C. B. Misra | Evaluation n Officer |

III. Special Invitees :

1. Shri A. R. Dawood, Member, Education Commission, U. G. C. Building,
Mathura Road, New Delhi.
2. Dr. G. S. Khair, Headmaster, Poona Anath Vidyarthi Griha, Poona.
Member, Programme Advisory Committee.
3. Shri B. V. Bapat, Principal, Tilak College of Education, Poona.

IV. U. S. A.I.D. Consultants :

1. Dr. Walker H. Hill
2. Dr. J. T. Cowles

V. Officers of N. C. E. R. T. and D. E. P. S. E.

1. Shri P. N. Natsu, Secretary, NCERT, New Delhi.
2. Shri A. C. Deve Gowda, Director, DEPSE, Delhi.
3. Dr. R. H. Dave, Dy. Director, DEPSE, Delhi.
4. Dr. R. G. Misra, Field Adviser, DEPSE, Delhi.
5. Shri Y. B. Patwardhan, Evaluation Officer, DEPSE, Delhi.
6. Shri H. S. Srivastava, Evaluation Officer, DEPSE, Delhi.
7. Shri S. N. Saha, Evaluation Officer, DEPSE, Delhi.
8. Miss J. Kaur, Jr. Evaluation Officer, DEPSE, Delhi.
9. Shri P. M. Patel, Asstt. Psychometrician, DEPSE, Delhi.

WELCOME SPEECH

by

SHRI A. C. DEVE GOWDA, *Director,*

Directorate of Extension Programmes for Secondary Education, Delhi.

Hon'ble Minister, Ladies and Gentlemen,

On behalf of the National Council of Educational Research and Training and the Directorate of Extension Programmes for Secondary Education, I feel honoured and privileged to extend to you, Sir, the delegates of the Conference and the guests a hearty welcome to the inaugural function of the Sixth Conference of the Chairmen and Secretaries of the Boards of Secondary Education in India. It is for the first time that this Conference is meeting at a place outside Delhi in response to the invitation extended by the former Chairman of the Maharashtra S. S. C. Examination Board, Dr. C. D. Deshpande, now the Director of Education, Maharashtra State. Every time when we met at Delhi, we had a feeling that the right place for the meeting of such a Conference should be the headquarters of some Board of Secondary Education for the obvious reason that it is their conference and not of the Central Ministry of Education or the National Council of Educational Research and Training. This change of venue may probably lead to a better understanding of each other's problems and a direct experience of the functioning of individual Boards. As a matter of fact, the organization of such conferences should be the proud privilege of some All-India body that the Boards may establish. A beginning in this direction has already been made by the establishment of a Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education. Let us hope that it will soon develop into a strong body to take care of the problems of All-India importance related to secondary education. In my opinion, the Boards have a unique opportunity to develop such a programme. This Conference provides an excellent venue for developing it and I hope the esteemed delegates assembled here will give some thought to it.

I am very happy that the Maharashtra Board took the lead by extending invitation for this Conference to meet at Poona. Its newly constructed, spacious and well-planned building is not only very convenient for a Conference of this type but it also provides the required atmosphere for a discussion of problems related to examination reform. Another attraction for the delegates is the machine-section of the Board. They will get a chance to go round this section and see how efficiently the machines handle the processing of examination results in a shorter time than would be possible through human labour. We have a feeling that in the interest of efficiency and quick work, other Boards may also set up such sections as early as possible.

Among the delegates present before you, Sir, are the Chairmen, Secretaries and non-official members of the Boards along with some representatives of the Universities that conduct equivalent examinations. They are all seasoned educationists and their participation will result in some concrete and practical suggestions for overcoming some of the problems of secondary education and examination with which we are seized at the moment. One special feature of this Conference is that the Chairmen of the Boards, unlike previous years, have been requested to participate in the deliberations on all the four days of the Conference. I hope their presence will give the Conference the necessary impetus, direction and guidance.

Under a centrally sponsored scheme of the Government of India, the State Governments have set up State Evaluation Units—one in each State. Thirteen States have either set up such units or are in the process of doing so. These units are expected to act as the extended arms of the Central Examination Unit and work in close collaboration with the State Boards of Secondary Education to bring about reform in examination. Representatives of these units are also present here.

The Directorate of Extension Programmes for Secondary Education which has been organizing this Conference so far is at present a department under the National Council of Educational Research and Training. The Council came into existence as an autonomous body under the Union Ministry of Education on September 1, 1961, with the objective of carrying on and providing facilities for high level research and training in specialized areas of educational thought and practice in our country. The two major activities of the DEPSE are :

- (i) Organizing and developing Extension Services Centres in the States to carry new ideas and practices in education to the average school teacher and thereby have a definite, positive impact on the quality of secondary education.
- (ii) Working upon the problem of examination reform directly and through various other agencies such as the Boards of Secondary Education, Training Colleges, State Evaluation Units, etc., to pull out secondary education from the rut into which it has fallen at present and base both teaching and examining in secondary schools on very specifically determined realistic objectives of teaching individual subjects.

The Central Examination Unit of the DEPSE takes care of this latter activity. The functions of this Unit can be divided under the following seven major heads :

- (i) Work with Boards of Secondary Education
- (ii) Work with Training Colleges
- (iii) Work with Secondary Schools
- (iv) Work with State Evaluation Units
- (v) Developing pools of tests and items
- (vi) Studies and Investigations
- (vii) Publications.

Without going into the details of each one of the above separately, it may be pointed out that the Central Examination Unit has already oriented a large number of secondary school teachers to the concept of evaluation. Several extensive and intensive programmes have been organized to implement these new ideas in schools. Some of these ideas have already been incorporated in their day-to-day practices by some progressive schools. Yet much remains to be done. It has not been possible to reach each and every school in the country and it shall never be possible for the Central Examination Unit to do so single-handed, unless the States take to this programme earnestly and strengthen their own Evaluation Units suitably.

Similar programmes have been organized for the Training Colleges. Without the introduction of the concept of evaluation in the teacher-training programmes, the task of orienting teachers to this new concept will remain a perennial problem. The training colleges have reacted favourably to this programme. Many universities have already incorporated the concept and techniques of evaluation in the curricula of their training colleges.

The Central Examination Unit conducts investigations on various problems related to examination the findings of which are published from time to time. It has brought out a number of publications on examination. Some of these publications have been translated into regional languages by the Departments of Extension Services attached to Training Colleges or the State Evaluation Units. Some publications have been brought out in thousands and sent to each and every school in the country through the Extension Services Centres in the States.

The Central Examination Unit is trying to develop a large pool of good objective-based items and tests in a number of subjects. These tests and items are being adapted to the needs of various Boards and States through workshops and working groups of experienced teachers.

The work with the Boards is of a crucial nature. It may be mentioned here that we are holding his Conference at the office of a Board which was the first to think of giving a concrete shape to its programme of examination reform by organizing the first ever work-

shop in the country for the training of paper-setters in General Science and Social Studies in May, 1963. Since then this programme has been received so well by other Boards also that it is becoming almost impossible for the Central Examination Unit to cope with the demand. Fifteen such workshops, covering a large number of subjects, have already been organized by the Boards of Maharashtra, Gujarat, Rajasthan, Mysore and Vidarbha and the Punjab University during the last seventeen months.

From the stage of organizing initiation programmes, the Boards of Maharashtra, Gujarat and Rajasthan have passed on to the stage of expansion by undertaking training of paper-setters in additional subjects. Maharashtra, Gujarat and Mysore are developing their own implementation programmes while Rajasthan has already taken a decision in this regard and has started the execution of the change. The Board of Maharashtra in Social Studies and General Science and that of Gujarat in Social Studies, General Science and Elementary Mathematics have finalized sample question-papers with related material for the guidance of teachers in the form of brochures. These brochures are being processed through various channels and will soon be circulated to schools. Mysore is planning a number of workshops for the orientation of headmasters.

Special mention need to be made of the Board of Secondary Education, Rajasthan, which has developed a concrete plan of action. Definite action has been taken by the Board in keeping with this plan. It has been bold enough to declare that a new pattern of examination paper in Social Studies, General Science and Elementary Mathematics will be introduced in the examination of 1965 and the schools have been directed to prepare their students accordingly. To supply them with the necessary guide material, the Board got prepared the sample papers and other related material by organizing working groups in these subjects. The material prepared by these groups has been published in the form of three brochures and circulated to all the high and higher secondary schools in the State. District meets of the teachers have been organized to guide them and remove their doubts regarding the use of this material. The Board has on its own organized some workshops for the training of trainers. It has launched its own programme of developing new curricula in English and General Science. The Board has already organized a number of workshops in these two subjects.

The most gratifying feature of the whole programme in Rajasthan is that it has started moving all by itself. It has accepted the programme of examination reform as its own, and, except for the training of paper-setters, has started financing it completely. It is our belief, Sir, that unless other Boards also follow suit and allocate funds for this purpose in their own budgets, the programme cannot make much headway, for the Central Examination Unit can only initiate action but cannot afford to finance all the related programmes in all the States. It is a serious matter and I earnestly appeal to the delegates to give due thought to it.

The Conference will receive reports from various agencies represented here on the

work done by them in connection with the reform of examinations and also the action taken on the recommendations of the last Conference. It will discuss some important issues regarding the policy of examination reform, introduction of oral and practical examinations, use of mechanical devices in processing results, and an all India analysis of the results of Board examinations in the General Sessions. It will also take up for group discussions items like the introduction of objective tests in the Board Examinations, problems related to internal assessment, pupils' performance in English and Mathematics, and the present practices of deciding results at Board Examinations.

In conclusion, I am greatly indebted to you, Sir, for having graced the occasion, to Dr. C. D. Deshpande, who encouraged us to move out of Delhi and meet here in Poona, to Shri C. G. Sahasrabudhe, Chairman and Shri G. S. Dhar, Secretary of the Maharashtra S. S. C. Examination Board, for having agreed to bear the burden of organizing this Conference and making the delegates comfortable during their stay at Poona, to the guests present here who have been good enough to snatch away some time from their busy schedule of work for this function, and to the delegates who have taken so much trouble to come here in spite of their other engagements.

May I now request you, Sir, to inaugurate the Conference ?

THE N. C. E. R. T. and EXAMINATION REFORM

by

SHRI P. N. NATU, *Secretary, NCERT.*

Shri P. N. Natu, Secretary, National Council of Educational Research and Training, made a panoramic survey of the various departments of the Council and referred to some important programmes like preparation of text-books and the reading project. He informed that the Council has also undertaken a very comprehensive programme of publications in order to reach out to thousands of teachers all over the country with the latest developments in the field of education.

He then referred to the Central Examination Unit. He very much appreciated the work put in by the Central Unit and assured it of full co-operation from all other departments of the Council. In this connection he specifically mentioned the very significant work done by the Unit during the last eight or nine months and said that the delegates, by assessing its work themselves, might very well concur with him in this respect. He also paid glowing tributes to Shri A. C. Deve Gowda and Dr. R. H. Dave and remarked that under their able guidance and enlightened leadership the programme of examination reform has gained great momentum and is sure to reach the destined goal of fulfilment with steadier and more accelerated pace within the foreseeable future.

In conclusion, he expressed gratefulness to the Chairmen and Secretaries of the Boards of Secondary Education for their attending the Conference. He hoped that this august assemblage of distinguished educationists would deliberate on some of the crucial issues and problems and put across quite a number of valuable suggestions. He assured them that, whatever suggestions they would make, the Council would strive its utmost to put them into practice. He also hoped that the torch of the Conference that the Minister for Education was to lit that morning by inaugurating the Conference would keep on burning with undimmed and undiminished lustre and glow and continue to shed its benign light on some of the dark corners of secondary education.

INAUGURAL ADDRESS

by

SHRI MADHUKARRAO D. CHAUDHARI,

Hon'ble Minister for Education, Govt. of Maharashtra.

Friends in Education,

I have great pleasure to be with you today to inaugurate the Sixth Conference of Boards of Secondary Education in India, meeting here in Maharashtra. Let me, therefore, first extend a warm welcome to the delegates from other States assembled here to deliberate on various issues connected with public examinations.

2. I am happy to learn that this is the very first occasion that the venue of the conference has moved out of New Delhi and that the Maharashtra S. S. C. Examination Board invited the conference to meet in Poona. Holding the conference at the headquarters of a State examining Board acquaints, at close proximity, the visiting Boards with the set-up and working of the host Board. These first-hand and intimate contacts with different Boards in rotation, may activate real and fruitful exchange of ideas in the conduct and procedures of the examination system. Such contacts between Chairmen, Secretaries and non-official members of different Boards may even contribute unobtrusively to evolving a uniform pattern of the public examination system so very necessary in a vast and far-flung country like ours.

3. Examinations, however important and inevitable they may be, form but a part of the educational system. The most urgent need of the day is for a well-planned uniformity in the educational systems themselves. Even according to the conference of State Ministers of Education, integrated uniformity with minor variations to suit regional or State peculiarities, has been accepted as the pressing need in education. The appointment of the Education Commission has raised high hopes of an overall re-assessment of the entire educational system. The Commission is manned by national and international educationists

of high eminence and their task is made no easier by the wide diversity of educational systems current in the different States of India. Diversity has been and is the main characteristic of Indian life but even so, through this diversity a core of national uniformity has now become urgent, more so in the field of education. Regional and State peculiarities should not be allowed to create divergence in goals and aspirations, whatever minor variations may appear necessary in the details. National integration in the sense of oneness is ever so necessary in education and it is only education which can replace narrow regional and State loyalties by the broader and higher ones of national ideals. Knowledge and education have no regional and State frontiers and a free and smooth flow of these should be one of the fundamentals of the national educational policy. The present chaos of varying duration of courses and variation in standards of achievements, both lacking any rational equivalence as to years of study, curriculum load and areas of knowledge needs to be replaced. A national educational policy should lay down national norms for all educational fundaments from the lowest stage of pre-primary to the highest of post-graduate and research. The country fervently looks up to the Education Commission to state these in unambiguous terms and to stipulate broad principles of national education policy and practice. You will be concerned in your deliberations with one aspect of this national uniformity, namely, that of public examinations.

4. More than enough has been said about the evils of the present examination system by Committees and Commissions and little new can be added to the chorus of agreement on the issue. The most appalling aspect of these examinations is the colossal waste of human and educational potential as exemplified by the failures at these public examinations. In the whole of India as many as 11.3 lakhs of candidates face public examinations at the end of Secondary stage, and of these 49.09 per cent, i. e., a little less than half scrape through to a pass, while the wastage of human potential is about 5.7 lakhs. The States present as bad if not a worse picture. In Bihar and Rajasthan the results are about 38.00 per cent, the Punjab showing the highest percentage of 60.5. If for no other reason but this of high incidence of failures and the consequent wastage of human potential, something drastic needs to be done about public examinations. I certainly do not advocate easier examinations in the sense of easy questions, liberal assessment and generous condonation to step up percentage of passes. Far from it. What appears to me to be wrong with the present system is that a public examination in a few subjects and papers presumes to assess the whole of the 10-11 years of a child's educational effort, giving no consideration or weightage to his year's work, his aptitudes and abilities in fields other than purely academic and his personality as an individual. So long as internal assessment of a child's yearly effort and achievement is ignored in the final assessment, that assessment cannot be reliable and authentic. I suggest that the conference may take this issue for a thorough examination and suggest workable schemes for implementing this highly desirable feature in our public examinations.

5. Most of the lacunae in the examination system could be attributed to the inherent

weaknesses in Boards of Secondary Education in that they do not always have comprehensive and wide enough powers over the entire field of Secondary education. Boards of Secondary Education should not either be purely advisory bodies or be only examining bodies. It is this division of functions and powers which is at the root of the over-emphasis which examinations receive unrelated to, independent of, and at the cost of other fundamentals of education such as laying down the curricula, allotment of time to different subjects, prescription of textbooks, and many other aspects of educational instruction in schools. There can be no two opinions about the overwhelming desirability of investing a Board of Secondary Education with comprehensive and over-all powers, inclusive of the conduct of the Secondary School Certificate Examination, so that the progress of Secondary education is guided, supervised and assessed by one corporate body responsible for this stage of education. It may then be possible progressively to eliminate many of the defects now apparent in the examination system and gradually introduce the new concepts and techniques, the changes being integrated in the very system of instruction instead of only in the public examinations.

6. It may not be out of place here to highlight what in public opinion is the main defect in the examination system. Education somehow is equated with knowledge and knowledge with information so that examinations tend to be nothing but attempts to test the stock of information carried by a candidate in his memory. No attempt is made to test the application of knowledge or information. No scope is afforded to assess thinking and to evaluate aptitude and ability. The over-emphasis on academic subjects ignores the mental and personality traits, co-curricular and extracurricular attributes; not even the physical proficiency in athletics, sports, or aesthetic achievements in art, dance and music are taken note of. There has, therefore, to be a reorientation of the values, objectives and contents of the subjects and a dynamic and revitalised programme of instruction in schools. Then only can the new concepts of evaluation be adopted and applied with success intensively in home examinations culminating effectively in the public examinations. Without preparing the appropriate climate and environment in the schools in their day-to-day teaching and learning, no high degree of success can attend reforms in the public examinations.

7. It gratifies me to note that the Directorate of Extension Programmes for Secondary Education, in particular the Central Examination Unit of DEPSE, has launched an All-India drive to attack the problems connected with public examinations through various channels and are now working through examination Boards. I am also happy to note that the Maharashtra Board was the very first Board in 1963 to conduct a series of three workshops for their Paper setters and Senior Moderators. The fourth was held just last October at Panchgani. The Maharashtra Board has now covered six of the major subjects of the examination. Boards of Rajasthan and Gujarat have also made commendable headway in organizing similar workshops. From a perusal of the reports of these workshops which detail the work done, I am inclined to believe that the adoption of the new

techniques of evaluation calls for considerable mental reorientation, intelligent and dogged perseverance and hard labour in preparing pools of new type tests of diverse variety. By their very nature these new concepts must be hard to assimilate and practise. Such intensive training of a few select hand-picked teachers can only be a start in propagating the new ideas and measures, and snow-ball fashion, these teachers will have to, in their turn, train others. In fact, unless the movement gains self-generated momentum to reach every school and every teacher in these schools, the impact of the workshops may restrict itself to the chosen few. Quantitatively the problem posed is one of numbers. The phenomenal expansion of Primary education in the last decade has caused a consequential spurt at the Secondary stage. While once Secondary schools were clustered in cities and large towns, to-day the rural landscape is dotted with them. Not all of them have adequate accommodation, qualified and trained teachers nor satisfactory laboratories and libraries. I may illustrate the magnitude of the problem by quoting the situation in Maharashtra. From 1955-56 to 1962-63, a span of 7 years, schools have jumped from 1412 to 3179, a rise of 125 per cent; pupils from 5 lakhs to 11 lakhs, an increase of 120 per cent and teachers from about 21,000 to about 44,000, a gain of 106 per cent. The programme of workshops will have to take note of these realities of the situation and plan the programmes accordingly. This conference may, with profit, also discuss this aspect of the problem.

8. Examinations have a dual aspect—one educational and the other procedural. The status and the prestige of a public examination is as much dependent on one as on the other. In this context I am happy to say that the S. S. C. Examination Board was the very first to introduce mechanisation in examination procedures. I notice from the agenda that the conference plans to familiarise itself with these mechanised procedures. Other Boards may take initiative from the pioneering success achieved by the Maharashtra Board in this field of examination procedures.

9. Friends, I have used this opportunity afforded to me in inaugurating this conference to share with you a few of my thoughts on the subject which will engage you the next few days. India is a vast country peopled with a complexity of people. All problems, in which-ever field of State or National endeavour in India, are always huge in magnitude and intricate in nature. You, the delegates assembled here, bring with you an expert knowledge of your own State and its problems. This conference affords you a chance to realise your distinctness from others and yet find much that is common with others. The issues you are deliberating on are vital and important as all of them relate to human potential of the nation.

I close these words of my address with a fervent wish that your deliberations may be fruitful and the conference a success. Thank you.

VOTE OF THANKS

by

SHRI T. VASUDEVAIYYA,

D. P. I. & Chairman, Mysore State.

Hon'ble Minister for Education, Ladies and Gentlemen,

It is now my pleasant duty to propose a hearty vote of thanks to the ladies and gentlemen who are going to make this Conference a success. Mr. Deve Gowda has said in his address that this Conference is meeting outside Delhi for the first time. No better place could have been chosen than this great historical city and a centre of higher learning. You will agree with me that we are meeting at a critical time in the field of education in this great country. Now when the Education Commission has been set up, our views regarding educational reform will have a more important place in any scheme which this Commission is going to place before the country. Therefore, I believe that the programme of educational reforms should receive the poised thinking it deserves from all educationists assembled here.

I need hardly emphasize that our attention has been focussed and, rightly so, on the failures at the public examinations in a greater degree than ever before, so much so, that both government and the people are thinking very seriously about this and devising ways and means to arrest this annual wastage of talent.

Ladies and Gentlemen, I take this opportunity of thanking Mr. Madhukarrao D. Chaudhari, Hon'ble Minister for Education, for the honour he has done us by inaugurating this Conference. His work with regard to education is well known both at the Centre and in the State.

Mr. Natu, Secretary, National Council of Educational Research and Training, who has spoken to you, has been one of our prominent educationists and deserves our thanks

for his encouragement to educational thinking in the new set up of education in this country. I propose a very hearty vote of thanks on behalf of this Conference to Dr. Deshpande, who is one of the prominent educationists of Maharashtra State, and who, when he was the Chairman of the S. S. C. E. Board, Maharashtra, invited this Conference to be held at Poona. I also thank Shri Sahasrabudhe, Chairman, S. S. C. E. Board, Maharashtra, for his undertaking the responsibility of organizing the Conference at Poona. Mr. G. S. Dhar, Secretary, S. S. C. E. Board, Poona, has taken great pains in organizing this Conference. I thank him deeply too, I also thank the delegates, Chairmen, Secretaries of the Boards of Secondary Education, the non-official members of the Boards and the officials of the State Evaluation Units for having come over here to take part in the deliberations of the Conference. Thanks are also due to all the guests who have graced this occasion by their presence.

Our particular thanks are due to Dr. W. H. Hill and Dr. J. T. Cowles, U. S. A. I. D. consultants, for the honour they have done us by gracing this Conference with their presence. Last but not least, we are grateful to the Directorate of Extension Programmes for Secondary Education in India and the National Council of Educational Research and Training for the active part they are playing with reference to the development of education in the country in all its multifarious aspects. Once again, Ladies and gentlemen, I thank you all for your presence here this morning and for the encouragement you have given us in the task ahead.

GENERAL SESSIONS

ITEM I : To receive the report of the work done by the Central Examination Unit upto October, 1964.

Work done by the Central Examination Unit from December, 1963 to October, 1964.

Discussion :

The first general session started with the presentation of the report of work done by the Central Examination Unit upto October, 1964 (vide Appendix A). In introducing this item Dr. R. H. Dave, Dy. Director, D.E.P.S.E. pointed out that the Central Unit works towards two basic goals, i.e., better measurement of students' achievement and the full utilization of the potential of this measurement for bringing about changes in the desired direction of better study habits on the part of students, improved instructional material and procedures, improved teacher-training programmes and other cognate aspects. In this context he made, significantly enough, a distinction between physical measurement and educational measurement by emphasizing that while in the former case the tool of measurement does not influence the object of measurement in the latter it does. What is more, both the tool and the object of measurement are influenced by each other and thus amenable to the process of continuous change and renewal. Herein exactly lies the challenge of educational measurement. He also emphasized the close action and inter-action in educational measurement by pointing out how questions of a set pattern influence not only the child in a particular fashion but also the teacher who makes an all-out effort to condition him mentally that way.

Coming to the report of work as such, Dr. Dave said that the Central Unit conducted 52 workshops for the training of paper-setters, for the orientation of training college lecturers and school teachers to the concept and techniques of Evaluation, for the preparation of sample question papers, unit tests and test items and for the adaptation of test

material to the needs and requirements of individual states. In the Boards of Rajasthan, Gujarat and Maharashtra, the Central Examination Unit has taken up expansion programmes by including languages like English, Hindi, Marathi and Gujarati and electives like Physics, Chemistry, Biology and Mathematics. The Board of Rajasthan, Dr. Dave continued, has embarked, commendably enough, upon an implementation programme of examination reform by deciding upon introducing the improved type of question papers in General Science, Social Studies and Elementary Mathematics in their examinations of 1965. As a preparatory step, they circulated sample papers to schools in the beginning of the session, organised one-day-teacher-meets to acquaint the teachers with the meaning and purpose of reform and held workshops for the orientation of all the teachers teaching these subjects so that they might prepare their students quite well in advance for the change that has been envisaged.

Dr. Dave then briefly referred, inter-alia, to the development of a large pool of about 10000 test items, and 280 unit tests inclusive of 9 full tests, to studies and investigations of practical educational impact and significance, and to consultative services which the Central Examination Unit had occasion to provide to various educational agencies in the country.

In the discussion that followed Shri P. N. Natu, Secretary, N. C. E. R. T., and Shri A. R. Dawood, Member, Education Commission and a special invitee to the Conference, appreciated the excellent work done by the Central Examination Unit. Shri Dawood in the course of the discussion said that since 1882 when the Indian Education Commission made a reference to examination, people have been hearing much about the potential evil of examination. But nothing substantial was done to counteract this evil. Nobody ever cared to probe deeper into the problem and just tinkered with it. Thanks to the pioneer effort of Dr. B. S. Bloom and the enthusiastic zeal of the Central Examination Unit to sustain it and carry it forward, the programme of examination reform with the emphasis on the integrated approach to its related aspects got into its stride in the desired direction with a dynamic force. Shri Dawood emphasized the need for accelerating the pace of examination reform and, as a step towards it, suggested that the Central Examination Unit should now concentrate much more on major programmes like training the training college lecturers in the concept and techniques of evaluation. In the stupendous task of examination reform the Central Examination Unit should play a vital role of the trainer of the trainers and thus provide enlightened leadership in evaluation.

Some of the main points that emerged out of the discussion were as follows:

- (i) The Central Examination Unit should concentrate on major programmes only and pass on the minor ones such as orientation workshops for Secondary School teachers to the training colleges and Extension Services Departments.
- (ii) Due emphasis may be accorded to internal assessment in the educational evaluation of the school child since the assessment of the child's performance over a

number of years has great pedagogical potential. In this connection the assessment of non-cognitive aspects of the educational growth of children may be taken up.

- (iii) To ensure a balanced programme affecting all phases of education, the training of teachers both at the primary and at the University level needs to be emphasized. State Institutes of Education and the University Grants Commission may launch intensive training programmes in this direction.
- (iv) Functions and constitutions of the different Boards of Secondary Education may be studied by the Central Examination Unit and the necessary information may be circulated to all the Boards.
- (v) State Boards of Secondary Education may draw up a detailed plan of examination reform in consultation with the Central Examination Unit and take positive steps to give it a concrete shape.
- (vi) Evaluation and Measurement may be incorporated as a compulsory subject, at the B. Ed./M. Ed. level. Teachers' Training Colleges may be involved more intensively in this programme.
- (vii) The Central Examination Unit may undertake some studies on examination practices involving more than one Board so that the findings arrived at might put on a representative character.
- (viii) The strength of the Central Examination Unit may be considerably augmented so as to enable it to push ahead the programme of examination reform more effectively and intensively on a much wider scale than hitherto.

ITEM II: To consider the action taken by the various agencies on the recommendations of the Fifth Conference of Chairmen and Secretaries of the Boards of Secondary Education Examination.

In introducing the report of action taken by various agencies (vide Appendix B) towards implementing the recommendations of the Fifth Conference, Dr. Misra, Field Adviser, D. E. P. S. E., observed that Shri P. N. Kirpal, Secretary, Ministry of Education, had forwarded the recommendations of the last Conference to the State Governments requesting them to take early action on them. The delegates might be glad to know that the majority of the recommendations were being implemented.

Dr. Misra then referred to the resolutions of the Fifth Conference which recommended the translation of the Central Examination Unit's publications into regional languages, appointment of a Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education, establishment of research units in the Boards, publication of a Newsletter by the Central Examination Unit, stay of State Evaluation Officers in their posts for at least 3 years, attachment of State Evaluation Units to the state Boards of Secondary Education and development of action plans for examination reform by different Boards.

The action, as reported, Dr. Misra continued, indicated that some of the publications of the Central Examination Unit like the '*Concept of Evaluation*' and specimen test items and unit tests had been translated into regional languages, a Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education had been formed and had met twice, Research Units had been set up in a number of Boards, twelve State Evaluation Units had been set up and seven Boards had formulated their action plans. The Central Board of Secondary Education, Delhi, and the Rajasthan and Maharashtra Boards had started the publication of Newsletters focussing attention on their programmes and activities.

The following were the highlights of the discussion that followed :

- (i) State Departments of Education may be involved more and more in the programme of examination reform to ensure a quicker and more effective implementation of it and to give it added momentum.
- (ii) The Central Examination Unit may co-ordinate work undertaken by different Boards in respect of translation and research in order to avoid duplication of effort. In this connection the inter-state services of language teachers may be utilized to advantage.
- (iii) The Boards may be made statutory wherever they are not so as yet. That would ensure better and quicker implementation of the programme of improvement of examinations.
- (iv) Academic activities of different Boards may also be co-ordinated to advantage. Some research projects may desirably be taken up at the inter-Board level.
- (v) The Central Examination Unit may undertake preparation of a glossary of technical terms in evaluation for uniform use all over the country. Their standard translations into different languages may be published for the convenience of non-technical persons.

ITEM III : To receive the reports from the State Boards about the progress made so far regarding the introduction of the examination reform and the changes proposed to be implemented in the near future.

Shri A. C. Deve Gowda, Director, D.E.P.S.E., introduced the item. He requested Shri L. L. Joshi, Chairman, Board of Secondary Education, Rajasthan, to report the action taken by his Board in this regard. In presenting the report Shri Joshi highlighted some of the Board's activities like organization of workshops for the training of paper-setters in General Science, Social Studies and Elementary Mathematics, holding of meetings of working groups to finalize sample question papers in the three subjects, organization of one-day-teacher-meets all over the state to explain the potential implications of the improved question papers, preparation of unit tests on the various topics of the syllabus in each subject by the working groups, try-out of the unit-tests in a few select schools to ascertain how they work in practice, etc.

The Board of Rajasthan, Shri Joshi said, had successfully gone through its preparatory stage with a series of special initiation programmes, concerned with particular needs and particular situations, and would hopefully embark upon the implementation phase of the programme in 1965, when it would introduce improved examination. Accordingly, the question papers for the Board examinations in General Science, Elementary Mathematics and Social Studies would be framed on the lines of the sample question papers which had been sent to schools. The Board has also taken up an expansion programme by including four new subjects from among the electives, in Physics, Chemistry, Biology and Mathematics, and the improved examination in these subjects would be introduced in 1967 with the same kind of preparation as in the core subjects. Shri Joshi then gave a brief overview of the Master Plan of Action to be spread over six years, which not only aimed at improving both teaching and testing in the secondary schools of Rajasthan but also envisaged consequential changes in other related areas like curriculum and text books. Shri Joshi concluded by saying that

the Board has already started organizing orientation workshops on its own and taken action to introduce desirable curricular changes in General Science, English and Sanskrit.

Shri M. M. Shukla, Chairman, Gujarat S. S. C. Examination Board, in presenting the report of his Board, said that Gujarat likewise has also gone ahead with the programme of examination reform and undertaken expansion programmes by including additional subjects like Gujarati, Hindi and English. From 1966 onwards, he said, there would be an increase in the proportion of objective and short answer questions in the question papers of Elementary Mathematics, General Science and Social Studies. In order to insure against mal-practices at the examination and also to ensure that the objective type section of the paper is not just left with the candidates for more time than necessary, objective type questions would be administered as a separate section in a fixed time limit with effect from 1967 onwards. Another significant change would be introduced in the question paper of English in which questions on prose and poetry would be set separately, and students would be required to attempt them compulsorily. The programme of training paper-setters, he said, will continue as before, perhaps with reinforced emphasis, and the brochures on sample papers in General Science, Elementary Mathematics and Social Studies are being processed before they are printed.

In presenting the progress report of the Maharashtra Board, Shri G. S. Dhar, Secretary of the Board, informed the House that some far-reaching changes would be introduced in the Board's question papers. The changes that he envisaged related to the discontinuance of over-all options in favour of internal options which should in no case exceed 60%, increase in the number of application questions and reasonable reduction of information questions, reduction of essay type questions and setting of more objective-based short answer and objective type questions. The Board has also prepared sample question papers in General Science and Social Studies in collaboration with the Central Examination Unit for use and guidance in schools. The Board, he said, has also undertaken the expansion programmes of training paper-setters by including additional subjects like Marathi, English Hindi and Elementary Mathematics. The Board has also taken a decision to organize follow-up workshops on its own for the personnel already trained. Shri Dhar then referred to the use of mechanical devices for processing the Board's results and to the decision of the Board to appoint a joint secretary to look after exclusively the activities on the academic side for more effective and expeditious implementation of the programme.

The following other Boards submitted their reports of activities :

- (i) Andhra Pradesh
- (ii) Assam
- (iii) Bihar
- (iv) Delhi
- (v) Kerala
- (vi) Mysore

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- (vii) Orissa
- (viii) Punjab
- (ix) U. P.
- (x) Vidarbha
- (xi) West Bengal

Item III and Annexure III-A have been given in Appendix C. The summaries of these Boards' reports have been given in Appendix S.

ITEM IV : To receive the reports of the work done by State Evaluation Units and to review their future programmes.

Shri A. C. Deve Gowda introduced the item and requested Shri R. S. Sinha, Director, Examination Research Bureau, Bihar, to present the progress report of his bureau. Shri Sinha at the outset said that the Bureau's work has been based on the main premise that teaching and testing do not fall apart, but are significantly inter-dependent. He then gave a brief overview of the activities of 1963-64. In this connection he referred to some of the activities like initiation of experimental school teachers in the teaching of Social Studies, General Science and Hindi on the basis of a four-month teaching plan, discussion with principals and teachers on the performance of students on tests so as to identify the strengths and weaknesses of tests constructed, preparation of teaching plans and evaluation material for higher secondary classes, preparation of achievement tests on the basis of the above four-month teaching plans in General Science, Social Studies, Language and Literature (Hindi), etc. He then dealt with the Studies and investigations undertaken by the Bureau, which were either completed or under way.

As regards the future programme for 1964-65, the Bureau, Shri Sinha emphasized, has been striving towards qualitative improvement of teaching and testing and the bedrock on which this improvement should be based envisaged work with :

- (i) Schools,
- (ii) Bihar School Examination Board,
- (iii) The Department of Education, and
- (iv) Training Colleges.

The Bureau, he continued, has also developed an experimental design for assessing the impact of the programme of work for improvement of teaching and testing in some selected schools.

The following are some of the highlights of the programme for 1964-65.

- (i) Supply of teaching plans and test pools to schools.
- (ii) Supply of illustrative diagnostic tests.
- (iii) Training of teachers in the preparation and use of instructional material and tests and in the analysis of test results.
- (iv) Organization of Action Research Seminars.
- (v) Analysis of the Board's question papers in those subjects which register a high incidence of failure.
- (vi) Preparation of model instructions for examiners to ensure objectivity of marking.
- (vii) Involving more and more the inspecting staff in seminars and workshops so that they may gain insight into new trends of teaching and testing.
- (viii) Involving Training Colleges in the preparation of instructional material and test pools and helping them adopt evaluation procedures both in theory and in practice teaching.

Shri P. G. Jacob, Evaluation Officer, State Evaluation Unit, Kerala, then presented the progress report of his unit. The activities of his unit included among others orientation of secondary school teachers to the concept and techniques of evaluation, construction and finalization of about 2000 test items in Social Studies, General Science, English and Mathematics, preparation of instructional material in English, General Science and Social Studies, publication of a compendium of test items in General Science and Social Studies for standard IX, etc. In addition, the unit, Shri Jacob said, has undertaken certain studies and investigations of academic import. The unit has also the following publications to its credit :

- (i) Evaluation Bulletin in English.
- (ii) The Concept of Evaluation in Malayalam.
- (iii) Evaluation in General Science in Malayalam.
- (iv) Evaluation in Social Studies in Malayalam.

Presenting the progress report of her unit, Kumari Venkubai, Evaluation Officer, State Evaluation Unit, Andhra Pradesh, outlined the activities undertaken in 1963-64 which included workshops and seminars for orienting headmasters, teachers and language specialists to the concept and techniques of Evaluation, construction of about 700 test items in the major school subjects, studies and investigations like 'A study of the procedures adopted in internal assessment in higher secondary/multipurpose schools' and 'An investigation into the causes of high percentage of failures and distinctions in certain subjects.'

The programme for 1964-65 included 21 orientation seminars involving about 1300 teachers and studies and investigations—'A qualitative analysis of examiners' reports of Board examinations' and 'Comparison of answers in the mother tongue and English.'

Shri Pritam Singh, Evaluation Officer, State Evaluation Unit, Himachal Pradesh, then presented the progress report of the unit. The main emphasis, he said, had been focussed on the orientation of teachers at the secondary level. In addition to this a programme of

training pupil teachers of the post-graduate teachers' training colleges had been undertaken. The unit believes in the spontaneous initiative at the grass roots and consequently a programme of training of pupil teachers of Junior Teachers' Training Colleges had also been undertaken. The Unit had organized 8 workshops for the paper-setters of English, Social Studies, Mathematics and General Science. Through these workshops the unit had been able to collect a pool of test items.

These activities apart, translation work had received the attention it deserved. The brochure 'The Concept of Evaluation in Education' (DEPSE) had been translated into Hindi. A handbook of Biology had been prepared by the unit and supplied to all the schools for use and guidance.

The unit, Shri Singh continued, had also organized two workshops to work out a uniform system of internal assessment in middle schools. It is now a policy of the unit to involve the District Inspectors and Additional District Inspectors directly in the evaluation programme so that they might develop a more enlightened awareness of the new trends in instruction and evaluation. In addition, the unit had undertaken six studies and investigations of academic significance. The unit had also twelve publications to its credit.

Time permitting, the reports of the rest of the State Evaluation Units could have been presented to the House to acquaint it with the nature of work that these units turned out during the brief period of their existence. However, the progress reports of the four units cited above bore eloquent testimony to the sincerity of purpose with which the work had been undertaken by them, and the Conference was unanimous in appreciating the commendable work they had put in, especially that of Himachal Pradesh.

The memorandum and the annexure IV-A and the brief reports of the other state Evaluation Units, viz.,

- (i) Gujarat
- (ii) Madhya Pradesh
- (iii) Maharashtra
- (iv) Mysore
- (v) Orissa
- (vi) Punjab
- (vii) Rajasthan
- (viii) U. P.

have been given in Appendix D and Appendix T respectively.

Post Script

The officers of the Central Examination Unit met their counterparts in the State Evaluation Units during the session of the Conference and discussed various issues and problems of common interest, both academic and administrative. This has been the second joint meeting since they met in early May this year. Recommendations made in the meeting have been given in Appendix Q.

ITEM V : To discuss the programme of work of the Central Examination Unit to be undertaken during 1965-66.

Discussion :

Outlining the programme of work to be undertaken by the Central Examination Unit during 1965-66, (Vide Appendix E) Dr. R. H. Dave, Dy. Director, DEPSE, said that attention would be focussed in the coming year on the organization of short term and long term courses in evaluation for experienced teachers, training college lecturers and officers of the State Units. There is a strong educational case for courses of this kind in that these would not only answer the shortage of staff trained in evaluation but also provide leadership to the entire programme of examination reform.

Dr. Dave then went on to give an overview of the work to be undertaken with secondary Boards, with the State Evaluation Units, with the Training Colleges, and with secondary schools and Extension Service Departments. In addition to these, the unit would work as usual, perhaps more intensively, towards development of test pools, conducting research and investigations with their bearing on practical use and evolving appropriate devices and procedures for effective assessment of non-cognitive traits which together with assessment of cognitive aspects would conduce to the total growth of the child.

In this connection, Dr. Dave laid special stress on development of suitable techniques for conducting oral and practical examinations which have decidedly intrinsic pedagogical and social importance. The unit, he said, felt the imperative necessity of bridging the gap in the existing pool of test material by adding a section on diagnostic tests in Mathematics to begin with.

As before, the unit would also provide consultative services to various educational agencies and bring out publications in the old series as well as in the new ones. In the

discussion that followed, the following suggestions were made :

- (i) National norms of achievement in English and Mathematics at least may be developed by the Central Examination Unit for inter-state comparisons. This would help in finding out whether there is, at any time, a serious relative decline in the standards of these two subjects.
- (ii) Non-cognitive aspects of educational growth may also be given due importance in the total scheme of evaluation.
- (iii) Appropriate techniques and tools of oral and practical examinations may be developed and tried out in select schools and results assessed.
- (iv) Practical examinations, as they are in vogue now-a-days, may be studied and improvements suggested.
- (v) Administrative officers of the Departments of Education directly in contact with schools may be oriented to the concept and techniques of evaluation.
- (vi) The Central Examination Unit may take up with the universities the issue of introducing topics related to the concept and techniques of Evaluation in their B.T./B.Ed. syllabuses.

ITEM VI : To receive the progress report of the Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education and to discuss its Constitution.

Discussion :

Introducing this item (Vide Appendix F) Shri A. C. Deve Gowda, Director, DEPSE, informed the delegates of the genesis and formation of the Standing Committee in response to the recommendation of the last Conference. The formation of such a committee has been felt imperatively necessary for reviewing and co-ordinating the work done by the Boards and also for suggesting further items of work to be undertaken by the Boards in connection with the reform in examinations. The committee had so far met twice and put across a few valuable suggestions. Shri Deve Gowda then placed before the House the Constitution of the Standing Committee for their comments and suggestions.

The Conference discussed the Constitution and the progress report of the Standing Committee, and unanimously agreed upon the following suggestions :

- (i) The minutes of the meetings of the Standing Committee may be sent to all the Boards.
- (ii) The Constitution of the Standing Committee may be amended to increase the number of Board representatives on the Committee from six to nine and that of the co-opted members from two to three.

ITEM VII : To discuss the policy statement regarding Examination Reform at the stage of Secondary Education.

Discussion :

Dr. R. H. Dave initiated the discussion on the above item (Vide Appendix G) by making a panoramic survey of the programme of examination reform at the level of secondary education. He emphasized the imperative need for formulating a policy statement since such a programme is being increasingly realized as one of national importance.

Examination reform, he said, is a multi-dimensional process requiring worthwhile changes in various aspects of examination and education. Various committees and commissions had pleaded in unmistakable terms for the improvement of examination at all levels, but nothing concrete was attempted in this direction until 1957 when Dr. Benjamin S. Bloom of the Chicago University, an expert on examinations, came to India at the invitation of the All Indian Council for Secondary Education and formulated a plan of action which gave the programme of examination reform a much needed drive and stimulus and sparked off activities in various correlated directions. Outlining the Central Examination Unit's activities with various educational agencies in the country and its pioneer effort towards development of a pool of test items and unit tests, Dr. Dave then made a thorough appraisal of the present-day examination and touched upon some of its glaring defects and deficiencies. He enunciated the postulates of examination reform by emphasizing that evaluation, being inextricably related to instructional objectives and teaching-learning activities, has a far-reaching impact on the educational achievement of students.

The major goals of examination reform as envisaged in the policy statement are, Dr. Dave continued, the improvement of written examination as a valid and reliable measure of educational achievement, extension of evaluation to techniques other than written examination, enlargement of the functions of examination with emphasis on diagnosis of students' strengths and weaknesses, academic prediction and guidance and re-orienta-

tion of evaluation procedure towards improvement of instruction and fulfilment of other educational objectives.

These major goals, he said, necessarily called for attention to certain specific targets such as improvement of questions and question papers, the improvement of scoring procedures, the improvement of the administration and mechanics of conducting examinations, the introduction of oral and practical examinations, the use of a variety of tests like diagnostic tests, review tests, prognostic tests, etc., as a basis for planning for further learning, the use of evaluation techniques like observation, rating scales, inventories, etc., and the introduction of worthwhile changes in the curriculum of teacher education and of differential courses at the secondary stage.

In conclusion, Dr. Dave said that the problems of examination are massive and therefore require a massive and concerted attack from various fronts. Thus the reform programme will, surely enough, have to be carried out continuously for a large number of years and developed from phase to phase in a spiral manner, which would include training of personnel at various levels, implementation of changes in a systematic way, production of literature, introduction of changes in the curriculum, instruction and training and development of research on basic as well as practical problems.

The House warmed up to a lively discussion which centered mainly on the training of examiners and paper-setters, on the priorities to be fixed and on the proposal of two-level examination. Shri A. C. Deve Gowda, Dr. Dave, Dr. Misra and Dr. Hill clarified some of the points raised by the delegates.

As regards the training of examiners and paper-setters, it was increasingly felt that the training institutions would have to develop various types of courses at various levels for their training, since examiners and paper-setters are a liquid body and it was just next to impossible for the Central Examination Unit to train them for all time to come. It was for the Central Unit to provide the drive and stimulus in this direction and for the training colleges to take it up and carry it forward.

With regard to two-level examination, it was discussed that, while wide ranges of abilities, aptitudes and interests necessitate streaming of courses, individual differences, wide variance among pupils and their potentialities call for some positive approach to examinations. Admittedly, examinations cannot be pitched at a much higher level merely to cater for children in the upper ranges of abilities and therefore to maintain standards and again at a considerably lower level at the cost of standards for hundreds of thousands of students who just deserve a pass. It is never desirable to have the same yardstick with which to measure the differing abilities and potentialities of students. It is also not a desirable practice to certify the completion of the secondary school stage and the qualification for the university with the same measuring rod, which aims at both but strikes none in a substantial way. Educational planners who have the interests of students most intimately at heart should acknowledge this palpable fact, and the possible course which is open to

them and which calls for continuing attention will be to evolve some kind of two level examination which would ensure that all students get a chance to give an account of their distinctive abilities at their own levels and thus spare themselves the potential frustration.

However, the question of a two-level examination being a controversial issue, it was unanimously agreed upon to leave this to the Boards.

As regards the fixing of priorities in the policy statement, it was suggested that it was not necessary at this stage since it was just a draft policy statement. It was only when a final one with a comprehensive programme of activities would be prepared with the consent of the Boards that academic priorities and priorities from the standpoint of implementation could be decided upon.

Accordingly, the house approved the draft policy statement with some modifications and recommended that this be sent to the Boards of Secondary Education and the State Departments of Education for their opinion and comments.

ITEM VIII : To discuss the feasibility of introducing (A) Practical and (B) Oral Examinations at the Board level.

Dr. R. H. Dave took up for discussion the above item (Vide Appendix H). He said that examination should be used as a motivating force and the introduction of practical examination at the Board level is, therefore, a felt need, which fosters not only the right approach to science teaching at the secondary stage but also develops a favourable attitude towards practical skills among pupils in this era of rapid technological development.

But its great pedagogical value, Dr. Dave continued, should in no way ignore some of the inherent potential problems like reliability of measurement and the development of detailed criteria for assessment of the process variables involved in it as also the pupil's product. He then put across the following few suggestions for making practical examination realize both its pedagogical and measurement potential :

- (i) To analyse the skills involved in practical exercises in terms of basic operations.
- (ii) To develop appropriate procedures for practical work.
- (iii) To improve the reliability of practical examinations by introducing techniques like the rating scale and planned observation.
- (iv) To train personnel to advise, administer and score practical work in the Board's examination.

Dr. Dave also suggested that those Boards that have not introduced practical examinations may consider to introduce them and those that have already introduced them may appraise the present position to effect further improvements.

Coming to oral examination, Dr. Dave said that any language examination which does not include a test of the ability of the candidate to express himself orally, and to understand spoken language is considered to be incomplete. But the difficulties that inhere in the introduction of oral examination deserve careful attention. For example, oral examination

is very time-consuming, teachers are not adequately trained in the technique, assessment may be highly subjective and impressionistic, it is less easy for another person to reassess the results, it may not be very valid in the absence of clear-cut specifics, etc. He then outlined a few suggestions which may take cognizance of some of the problems and thus make oral examination a really effective and worthwhile measurement in the total scheme of examination.

- (i) The Boards may decide upon the languages in which they would like to introduce oral examinations.
- (ii) Aims and objectives need to be carefully defined so much so that it does not become a mere replica of the written examination.
- (iii) The Boards may also consider whether the marks of oral examination should be added to those of the written examination and whether rating scales instead of numerical marks would be more desirable in this respect.
- (iv) Experiments in the construction and administration of oral examination in some select schools may be undertaken to study results before it is introduced on a larger scale,
- (v) Specific criteria may be determined to reduce inter-examiner and intra-examiner variability, thereby ensuring greater uniformity.

Oral and practical examinations were subjected to thorough discussion in the group. The group felt it desirable to introduce practical examination in science subjects and oral examination in the languages both in the internal and the external examination, and, as such, found the suggestions and recommendations worthwhile and accepted them on principle. The group further recommended that a plan of introducing practical and oral examinations may be worked out and suggested that in order to develop reliable procedures of practical and oral examinations, the Central Examination Unit may undertake necessary experimental studies and forward the findings to the Boards.

ITEM IX : To discuss the use of mechanical devices in processing results of Board examinations more expeditiously.

Introducing this item (For memorandum and a special article on 'Mechanized System of Processing Examination Results' Vide Appendix 1) Shri A. C. Deve Gowda requested Shri G. S. Dhar, Secretary, Maharashtra S. S. C. E. Board, to apprise the House of the use of mechanical devices for processing examination results. Shri P. C. Ramaswamy, Manager, Western Zone, International Computers and Tabulators, was also present.

Enumerating the use of mechanical devices in processing Board results, Shri Dhar said that the Boards of Gujarat and Maharashtra have already installed mechanized data processing system and have found it to be the most convenient method of processing data on a mass scale. He then gave for general information of the delegates a brief but comprehensive account of the important functions being discharged by these machines, the number of cards that can be processed per minute, the quantum of load per machine, time taken for the completion of the job, and necessary checks and precautions to ensure maximum accuracy. He then highlighted the advantages derived from mechanization, the cost structure per candidate per year, the annual cost of maintenance and the problem of maintaining secrecy. Shri Dhar also stressed the potentialities of Hollerith Machines if they are intelligently and intensively utilized.

The delegates evinced keen interest in the mechanized data processing devices and sought some clarifications regarding accuracy, time, financial implications and secrecy. Both Shri Dhar and Shri P. C. Ramaswamy clarified the points raised by the delegates.

In view of the utility of such machines for processing data both of examinations and of high level researches and investigations, it was unanimously recommended that the Standing Committee be requested to make a comparative study of the cost structure for tabulating examination results by means of manual labour and by mechanical devices.

ITEM X: To receive the report of the analysis of results of Boards' examinations held in March 1962, 1963 and 1964, alongwith a comparative date of examinations held in March 1960 and 1961.

Presenting this item (Vide Appendix J), Dr. Misra said that one of the regular activities of the Central Examination Unit is to collect and process the information about pupil performance at public examinations and disseminate it to the agencies concerned. He also pointed out that the results so compiled were comparable subject to certain limitations inherent in the difference between practices and rules from Board to Board.

Dr. Misra then drew the attention of the delegates to different tables indicating the analysis of results. As regards the All India summary of results, he said that the summary of data could not be called final for lack of data from some Boards for different years. However, on a comparison of the Boards' results over a period of four consecutive years, it was found that the results in respect of different Boards have borne, unmistakably enough, evidence of upward, downward, fluctuating and constant trends. It was very encouraging to note, Dr. Misra said, that the combined pass percentage of the regular and private candidates at the higher secondary examination had gone up from 47.21 in 1960 to 58.96 in 1963, thereby showing almost a steady increase. The pass percentage of regular candidates at the high school examination had also registered a similar rise, but the analysis of the results of private candidates had revealed a constant decline, barring results in 1962, and, as such, it posed a serious problem and called for immediate attention of the educators.

Dr. Misra observed that combining the results of regular and private candidates eventuated in low pass percentage of over-all results. He further observed that the All India pass percentage of regular candidates at the higher secondary examinations has been consistently higher by about 10 to 11 points over the corresponding figures of regular candidates at the high school examination whereas in respect of the pass percentage of private candidates almost the reverse is true.

In conclusion, Dr. Misra pleaded that the rules pertaining to condonation and grace marks, declaration of results, etc., be based on sounder scientific consideration.

The conference discussed the problem of failure in greater detail and felt that mere formulation of rules would only touch the fringe of the problem. What is imperatively necessary is the creation of a suitable educational climate for students.

The Conference also feelingly discussed the high incidence of failures among private candidates every year, resulting in an appalling wastage of human resources. It was unanimously held that correspondence courses for private candidates may be introduced in different states with the financial assistance from the Central Ministry of Education. In this connection, the delegates referred to the pioneer effort of Delhi University in starting correspondence courses which have since received popular acclaim.

ITEM XI : To suggest studies and investigations that may be undertaken by the Boards.

Dr. Misra, in presenting the item (vide Appendix K) said that as the programme of examination reform advances, the need for research is more keenly felt than ever before because it is through studies and investigations that the results of the changes being introduced in Board examinations are found out and put in proper perspective. Consequently, the Central Examination Unit, as an imperatively necessary measure, has not only conducted a number of studies and investigations and widely circulated their findings but also brought a number of fundamental and applied problems to the notice of research workers and other agencies.

Besides, the Central Examination Unit has located a number of research problems of practical use and significance which may profitably be attacked by individual Boards. A few such problems worth studies and investigations are given below :

1. Analysis of question papers set at Board examinations with respect to coverage of objectives, weightage to objectives and consistency over a number of years in respect of weightage to and coverage of objectives.
2. Analysis of question papers set at Board examinations with respect to coverage of content, weightage given to different topics and consistency over a number of years in respect of weightage to and coverage of content.
3. Analysis of question papers set at Board examinations with respect to difficulty and discrimination value of questions.
4. Analysis of pupil errors in the answer scripts in subjects like English, Mathematics and the Mother tongue.
5. Prediction of College success on the basis of Board examination marks.
6. Effectiveness of existing scoring procedures and measures to improve them.
7. Location of strengths and weaknesses of the entire mechanics of conducting exa-

minations and measures to improve them.

The House underscored the importance of such studies of practical value and was of the view that the findings of such studies may be circulated to the Boards of Secondary Education and similar other agencies for reference and use. It was also suggested that the answer scripts of a cross-section of candidates be preserved for future reference and research. Since some Boards are contemplating setting improved question papers, it would be quite a worthwhile study to investigate how these improved questions influence pupil emphasis on study and, if so, in what directions, whether these questions serve the purpose for which they are meant, i.e., whether they foster the kinds of knowledge and understanding that will be the instruments of continuous change and growth on the part of the learner, how these questions are different from traditional questions, and, if so, in what desirable directions, etc., etc.

Proposal for accelerating Examination Reform

On the second day of the Conference Dr. W.H. Hill, U.S.A.I.D. Consultant, presented his paper 'Accelerating Examination Reform' (See Appendix P). The training of paper-setters in the art of writing better questions and planning better question papers, Dr. Hill said, has marked a turning point in the history of examinations in India.

Dr. Hill then referred to three requisite factors which are indispensable for accelerating the pace of examination reform at the Board level. The first requisite pertains to the organization of a centrally sponsored programme in which all the Boards would participate and thereby make basic improvement in examinations. Herein the basic task of each Board would be to plan a five year programme of examination reform and research. The second requisite relates to the provision of adequate funds to meet the expenditure and the third one, which is last but not least, touches on the will to go ahead with reform.

Dr. Hill also advocated the establishment of a research-cum-academic unit to conduct studies regarding changes in examination and the impact of such changes on teaching-learning procedures. The Unit would also have an examination section, an instructional materials section and a research-cum-statistical section with some Central Organisation to meet the entire cost of their operations. It is an ambitious programme no doubt, Dr. Hill averred, yet a few Boards might try out new ideas, see how they work and study their impact on education. He then specified the expected targets of the proposed programme :

1. The examination so envisaged would test the achievement of a wider range of abilities like application of knowledge, interpretation of facts and data, solving of problems, etc., besides memorized information.
2. It would make extensive use of objective type questions in order to ensure reliable marking and to cover a wider range of intellectual abilities.
3. The external examination would not dominate the entire field of education to the extent that it does now. In fact, the over-emphasis would need some desired change

and correction, not for weakening the external examination, but for strengthening internal assessment in schools.

Dr. Hill also emphasized that the Board would make a distinction between the school leaving examination and the college entrance examination and determine appropriate standards for both. For the successful implementation of this programme, Dr. Hill visualized the following two programmes :

1. A general programme of examination reform open to all the Boards.
2. An intensive programme to try out innovations of controversial character. This might be taken up by a few enterprising Boards, which could serve as the testing ground of far-reaching advances. Necessary guidance and direction would be the responsibility of an agency like DEPSE. Dr. Hill concluded with a note of optimism that such a programme would find favour with the Boards and, with the concerted and cumulative efforts of all, would be implemented in the foreseeable future.

REPORT OF GROUP I

ITEM XII : To discuss ways and means for the introduction of objective-based questions in Board Examinations with special reference to the introduction of objective type questions.

Members of the Group :

1. Shri S. R. Rohidekar
2. Shri G. S. Dhar
3. Dr. A. K. Borkakoty
4. Shri C. Das
5. Shri M. L. Garg
6. Shri P. G. Jacob
7. Shri M. S. Patel
8. Shri H. S. Srivastava
9. Shri P. M. Patel

While discussing the ways and means of introducing objective based questions in Board examinations with special reference to the introduction of objective type questions, (Vide—Appendix—1) the group felt that it is high time that the Boards took up in right earnest the improvement of question papers. The high percentage of questions testing memorized information, a large number of options, ambiguity and impreciseness in the wording of questions, subjectivity in scoring essay type questions, meagre coverage of content and objectives—all these cry out for immediate attention and rectification. The Maharashtra, Gujarat, Rajasthan, Mysore and Vidarbha Boards of Secondary Education and the Punjab University have already taken action in the direction towards getting their paper-setters trained in the art of writing objective based questions of different types—essay, short answer and objective. The group also discussed that the feeling that has gained currency in some quarters that

improvement of questions and question papers means the introduction of objective type questions is altogether an erroneous one. Indeed it is far from it. Objective type tests are not just for replacing essay and short answer questions but for supplementing them for more effective coverage of subject matter and objectives and higher test reliability. Moreover, objective type tests stand on their own merit and are found increasingly useful in the classroom as teachers prepare better tests. Not only that; well-constructed multiple choice items can test understanding, reasoning and application of principles. The group further considered the pros and cons of introducing objective type questions against the backdrop of examination reform and put across the following suggestions :

1. Certain changes for which no special preparation is necessary may be introduced with immediate effect. These changes pertain to inclusion of more short answer questions for effective coverage of content and objectives, reduction of options, precision and unambiguity in the wording of questions, introduction of more reliable scoring procedures, etc.
2. In the improvement of questions the emphasis should be on the objectives that they test rather than on their form.
3. Objective type questions should be so framed as to test complex intellectual functions and abilities higher than mere recall of information. Stress should, therefore, be laid on the construction of thought-provoking questions testing understanding, reasoning and application of principles, interpretation of data, etc.
4. The Central Examination Unit may prepare an exhaustive handbook on the construction and use of objective type tests, on the technical problem of scaling the marks of objective type questions before they are added to those of essay questions, on the necessity of setting a separate paper for objective type questions and allotting a separate time limit for the same and on the adoption of a feasible and rational measure to insure against large scale copying.

REPORT OF GROUP II

ITEM XIII : To discuss ways and means of implementing Internal Assessment effectively.

The group consisted of the following members :

1. Shri S. M. Yakub
2. Shri J. V. Narayana
3. Shri B. Venkatramanappa
4. Shri V. B. Sule
5. Shri Chandra Mohan H. Himkar
6. Shri H. M. Gowda
7. Shri H. S. Dave
8. Km. J. Venku Bai
9. Shri Pritam Singh
10. Shri Y. B. Patwardhan
11. Dr. W. H. Hill

The group examined the paper on 'Internal Assessment and External Examinations' written by Dr. Hill (Vide—Appendix—M). Dr. Hill clarified the different issues raised in the paper. After a lively discussion the group finalized their recommendations on each of the terms of reference as given in the memorandum. The recommendations are detailed as follows :

1. Which objectives should be assessed through Internal Assessment ?

All objectives can be and should be assessed through Internal Assessment. But greater effort should be made to assess such objectives as interests, attitudes, personality traits, character, etc., which cannot be assessed through external examinations. The results of these assessments, however, should not be entered into any certificate. They may be kept as school records.

2. How to develop evaluation tools for these objectives ?

The Department of Psychological Foundations, National Council of Educational Research and Training, may give a lead in this matter. Psychology departments attached to training colleges and Universities may also guide teachers to produce tools for their use.

3. How will reliable and unbiased awards be obtained from Schools ?

The group felt that if scientific tools are provided to measure different aspects of pupils' growth and if schools are required to keep records over a long period, say, for three to four years, there is every chance of school awards being reliable and unbiased. In this regard it is worth noting that wherever the internal assessment is based only on written tests, the awards are not so unreliable.

4. Should marks be replaced by Rating Scales ?

It is desirable to introduce Rating Scales in place of marks so that it will help in eliminating personal bias. Some training to teachers in the use of these scales will have to be provided.

5. How to educate teachers to effectively use internal assessment procedures ?

Teachers require training in the use of these procedures. This subject may, therefore, be introduced in the training programme for secondary teachers both at the B. Ed. and M. Ed. levels. The agencies such as State Evaluation Units, Extension Services Departments, Training Colleges, and Directorate of Extension Programmes for Secondary Education, may produce necessary tools and other relevant literature on the subject and send it to schools. This may be supplemented by in-service training programmes organized for this purpose.

6. What should be the position of internal assessment marks in the external examinations? Should they be combined or shown separate ?

It is not desirable to combine them and, as such, they should be shown separately since the direct addition of the two assessment results is not justified on any scientific and academic grounds, as the scales used for these two measurements are not comparable. But for some practical considerations if they are to be combined, very effective scaling procedures scientifically established and academically sound, will have to be developed and used by the Boards.

This item and the recommendations made thereto provoked a very lively discussion. While assessment in the school was considered absolutely essential in view of its undeniable pedagogical value, the Conference was divided on the procedure to be adopted as regards the combination of marks of internal assessment to those of external examination. Some of the delegates felt that if internal assessment did not find a place in the total scheme of marking at the secondary stage, it is very likely that its importance would dwindle into insignificance and detract from its value as an incentive. The marks of internal assessment should, therefore, be combined with those of the external examination after adopting appropriate scaling procedures. Another group of delegates expressed the view that since

internal assessment, when used for the comparison of pupil-performance at the inter-school level, was highly unreliable, it is desirable that external examination, which already has low reliability, should not be infected with yet another source of unreliability.

However, internal assessment should be used as an instrument to offer a stimulus to endeavour and therefore be profitably used as a means of constantly improving pupil achievement. Scaling procedures, it was held, were highly complex and the underlying assumptions needed verification. Under the circumstances it is very difficult to contrive a simple and feasible scaling procedure which would provide an easy solution without bringing in complicated side-effects. It is to be seen that history does not repeat itself, and with this in view, the high pedagogical potential of internal assessment should be utilized to the fullest extent, without in any way minimizing the importance of external examination as an authentic and reliable yard-stick of pupil achievement.

REPORT OF GROUP III

ITEM XIV : To suggest ways and means of the improving the pupil performance in English and Mathematics at Boards' examinations.

The following members participated in the group discussion :

1. Shri S. R. Tawde
2. Shri B. L. Shah
3. Shri Ali Amir
4. Shri R. Prasad
5. Mrs. P. Chaudhary
6. Shri D. C. Shukla
7. Dr. J. T. Cowles
8. Shri S. N. Saha
9. Miss J. Kaur

The appalling wastage of human resources reflected in the high percentage of failures every year drew pointed attention of the House. There being a general belief that English and Mathematics contribute most to the high percentage of failures, a special group considered item XIV of the agenda (vide Appendix—N) and suggested ways and means of improving pupil-performance in these two subjects. Suggestions are given below :

I Suggestions Pertaining to English

1. Duration and Periodicity of English Course :

For the learning of fundamental skills in the language and their effective re-inforcement, it is desirable that the length of the course in English may be at least six years for

the secondary school and at least seven years for the higher secondary school. It is also felt that a minimum of six to eight periods per week at least of 40 minutes' duration will be essential, if the desired proficiency is to be attained. When there is a shorter duration of 4 years, a minimum of 8 to 12 periods per week will be necessary. These periods should be so distributed as to strengthen all the required skills in proper proportion. Oral delivery being an important aspect of language learning, some part of the period or one full period per week may be devoted to conversation.

2. *Materials necessary for the English courses :*

(a) An integrated syllabus with a continuous logical progression for the entire period should be developed, keeping in view, that the emphasis is to be laid on the development of the language skills, viz., listening comprehension, speaking, reading and writing and not so much on the knowledge of literature.

(b) Teachers' hand-books should be prepared to include exhaustively the material to be taught in a particular lesson, an analysis of the vocabulary and structures to be taught and also reference to those structures which pose linguistic problems.

(c) Suitable work-books should be developed as a supplementation to conventional instruction.

(d) Supplementary readers should be carefully selected to help reinforcement of language skills.

(e) Wherever possible audio-visual aids such as charts, film-strips, records, tape-recorders, linguaphones, etc., should form an integral part of teaching English and should be looked upon as extensions of the text-book. It may be necessary for this purpose to create a central pool of audio-visual aids. Listening being a very important skill, pupils should be exposed more and more to listening situations.

3. *Considerations for schools :*

(a) The approach to the teaching of English should be oral, i.e., through speech related to situations to hold independent units together, since facility in speaking will lead to facility in reading and writing.

(b) Extensive practice in good usage should be given in a variety of situations.

(c) Written work should receive much attention, the themes chosen for written work may be closely related to the pupil's experience, surroundings and activities.

(d) Steps may be taken to stimulate students to extensive reading which will serve to improve the pupil's ability to write well.

(e) Diagnostic tests should be used to locate weaknesses of students.

(f) Individual attention is essential in teaching, and remedial work should be done to cater for individual needs.

4. *Training of Teachers :*

The teaching of English should be entrusted to teachers, especially trained for Secondary and Higher Secondary Schools. For primary schools, the work should be entrusted to teachers who have undergone special training in the teaching of English for a period of at least three months.

To raise and maintain the level of language and professional competency of teachers, inservice training courses should be provided for those who need them. Wherever possible, suitable incentives may be provided for teachers to induce them to undergo such training.

Agencies connected with the teaching of English such as training colleges, Departments of Extension Services, Departments of Education, etc., should be actually associated with teachers in their courses and provide expert guidance to them.

The courses in the teaching of English at the B.T./B.Ed. level should include the objectives of teaching English as a foreign language and should develop teachers' ability to construct measuring devices, develop competence to appraise school syllabi, to analyse texts, and to formulate objectives. etc. etc.

To meet the needs of secondary school language teachers in general and of teachers of English in particular, universities may be requested to teach linguistics at the graduate level.

Inservice training courses should be organized at periodic intervals with the help of universities, training colleges and state Departments of Education.

5. *Inspecting and Supervisory Service :*

Subject inspectors of English with specialised knowledge of the teaching of English as a foreign language may be appointed to assist and guide the teaching of English.

6. *Evaluation :*

Questions should be based on instructional objectives and carefully framed with reference to the pupil's expected level of attainment.

This puts emphasis on the fact that paper-setters and examiners should also be professionally trained, so that they are conversant with the technique of paper-setting.

Scoring procedures may be suitably revised. Questions on comprehension should preferably be of the objective type. Students' lack of expression should not be seriously penalized in case of answers when comprehension of the content is to be tested.

Examiners may be requested to send a detailed report, bearing on areas in which students make mistakes. They should also make specific suggestions as to what should be done to rectify these deficiencies.

In the internal examination, there should be an oral examination in English comprising reading comprehension and oral expression. The feasibility of providing an oral examination at the public examination may be explored.

There may be a pool of carefully evaluated items from which items could be assembled with reference to special needs of particular areas.

Question papers, results and scripts should be periodically analysed by experts to see what in fact is being tested, and how various types of questions are affecting teaching and learning. This information should be made available to all those concerned with teaching and examining.

7. *Research :*

Contemporary teaching methods are making increasing use of the results of scientific analyses of the contrasts between the mother tongue and English, because to a considerable extent, the typical learner's difficulties can be identified and predicted in advance on the basis of this contrast in structure analyses.

So the State Institutes of English in cooperation with Central Institute of English, Hyderabad, may take up the linguistic analysis of Indian languages to find out native structures as different from English and make them available to framers of syllabuses, teachers and examiners in English.

They may also undertake the study of common errors of students at all stages in order to suggest ways and means of remedying them.

II Suggestions pertaining to Mathematics :

The learning of Mathematics by pupils seems to have been weakened partly through a disguised fear that Mathematics is a difficult subject. The teacher of Mathematics, therefore, by his method of teaching should strive to expel that fear from the minds of pupils. The teaching of Mathematics should be so arranged at all stages as to develop a positive attitude towards the subject. As far as possible the teaching of Mathematics should be based upon practical life and day-to-day experiences. There should be thorough grounding in the fundamentals of Mathematics and more and more practice of the portions taught. Mathematics being a highly sequential subject it is essential that the teacher makes sure after every unit before proceeding further that each and every individual pupil has been taught in the Unit. Therefore, in the teaching of Mathematics individual attention is quite essential. It is only the mastery of fundamental principles, concepts and acquisition of skills which may improve pupil's performance at the Board examinations.

Studies of common errors of students may also be undertaken at all the stages in order to suggest ways and means of remedying them.

With reference to some of the weaknesses specific to the area of mathematics, the following suggestions may be made :

- (a) Emphasis in the teaching of mathematics should shift from mechanical routine teaching of stereotyped formulae and processes to the development of an understanding of the fundamental principles and logical thinking.

- (b) More emphasis need to be laid on systematic work.
- (c) Teaching of mathematics at the secondary stage should in no case be left to the charge of unqualified teachers.
- (d) Mental mathematics should be made an integral part of instruction.
- (e) Syllabi in mathematics must be reorganized to lay adequate emphasis on the realization of higher objectives such as understanding of mathematical concepts and principles, inductive and deductive reasoning and application of principles to life situations.
- (f) Diagnostic testing and remedial teaching should be integrated closely with the teaching of this subject at all stages.
- (g) The policy of giving lenient promotions in home examinations should be discouraged, particularly in case of mathematics where the weakness in fundamentals seriously hampers further learning at higher levels.
- (h) Method-master's courses in mathematics should be re-organized so as to fall in line with the actual requirements of the real situation obtaining in schools.
- (i) Some courses in content and methodology may also be run by the training colleges to assist the inservice as well as preservice teachers in acquiring requisite competence for effective teaching.

REPORT OF GROUP IV

ITEM XV : To discuss the present practices of deciding results at Board Examinations and to suggest improvement.

The following members participated in the discussion :

1. Shri M. M. Shukla
2. Shri V. B. Desai
3. Shri S. D. Pant
4. Shri T. K. Dandiya
5. Shri B. M. Deshmukh
6. Shri R. G. Subramaniam
7. Dr. R. G. Misra

Secondary school examinations in India are supposed to be the custodians of educational standards, and, as such, the present practices of deciding Board results constitute the most accepted evidence of educational standards and pupil achievement. At the same time it is indubitably true that the marks on which these results are based are highly unreliable. This factor together with the ever-increasing influx of heterogeneous school population necessitates declaration of Board results being based on more realistic and sounder foundation. Keeping the above consideration in view, the group made the following suggestions :

1. It is necessary to examine on a scientific basis the problem of cutting-scores for pass and fail in individual subjects and in aggregate. At present, it is done on an ad hoc basis, the minimum pass percentage in individual subjects varying from 25 to 35. The Boards may study the problem on a scientific basis.
2. Some Boards prepare model answers and detailed marking schemes and furnish them to examiners with a view to securing uniformity in valuation. This is a

good method and it is recommended that all Boards may adopt this so as to increase reliability of marking.

3. The question papers may be set on a more scientific basis than at present. To reduce the element of chance, options may be curtailed and more content may be covered by increasing the total number of questions to be attempted.
4. The Boards have been following different procedures for keeping secret the identity of examiners and for valuing the answer books of the candidates. It is necessary to study the practices adopted by the Boards in full detail and to circulate a paper in this respect to all the Boards. The Central Examination Unit may be requested to undertake this study.
5. The practice of awarding grace marks by the different Boards for finalizing the results vary greatly from Board to Board. It is necessary to study these practices in full detail. The Boards may be requested to initiate studies in this respect with a view to working out scientific procedures of awarding grace marks. The Central Examination Unit may co-ordinate these studies and circulate a paper in this respect to all the Boards.
6. Some Boards have introduced the diversified courses. It is recommended that they may be introduced by other Boards also.
7. It is desirable to have a two-level course particularly in the following subjects :
(1) The Mother Tongue (2) English (3) Science (4) Mathematics.

RESOLUTIONS PASSED AT THE CONFERENCE

Resolution I

The Draft Policy Statement on Examination Reform was considered by the Conference and was approved with some modifications and with a suggestion that the document may be sent to the Boards of Secondary Education and the State Departments of Education for further comments.

Resolution II

With a view to enlarging the area of evaluation of students' achievement the Conference feels it desirable to introduce practical examination in science subjects and oral examination in languages both in the internal and in the external examination. It is, therefore, recommended that a plan of introducing practical and oral examinations may be worked out. In order to develop reliable procedures of practical and oral examinations, the Central Examination Unit may undertake necessary studies and forward the findings to the Boards.

Resolution III

With a view to bringing about co-ordination among the different Boards of Secondary Education, it is recommended that the Central Examination Unit may collect detailed information about the structure and functions of the Boards and circulate it to all concerned.

Resolution IV

In order that the Boards may undertake programmes of examination reform more vigorously and extend their functions to activities of an academic nature, the Boards of Secondary Education may be made statutory wherever they are not so. As there is an

urgent need to introduce improvement in both teaching and testing simultaneously, the Boards which at present are mainly examining bodies may be given wider powers in the matter of curriculum and instructional procedures over the entire stage of secondary education.

Resolution V

In view of the pressing need for the introduction of reform in examinations, it is recommended that all the Boards of Secondary Education in India may develop a long-term master plan for this purpose. They may also prepare a minimum implementation programme for the first phase, which may include :

- (a) a programme for immediate implementation and
- (b) a programme for implementation after necessary preparation.

The Central Examination Unit may suggest such a minimum programme to the Boards for consideration.

Resolution VI

For expediting the implementation of reform in examinations, it is necessary for the Boards to undertake academic activities such as training of paper-setters, moderators and examiners, conducting studies and investigations related to various aspects of examinations and developing evaluation and instructional material. These activities are most essential for bringing about qualitative improvement in instruction and evaluation. Therefore, the Boards may provide adequate funds for such academic activities. Wherever the Boards are not autonomous, the State Governments concerned may provide necessary funds to the Boards for these activities.

Resolution VII

The large percentage of failures at public examinations every year in respect of private candidates results in a colossal wastage of human energy. One of the main reasons for such a high incidence of failure is the lack of any systematic guidance to the private candidates for improving their academic attainment. It is, therefore, recommended that correspondence courses for private candidates may be started by the Boards of Secondary Education. The Ministry of Education, Government of India, may render financial assistance to the Boards for this purpose.

Resolution VIII

In order to ensure better co-ordination in the research activities of the Boards and other agencies, it is recommended that the Standing Committee of the Conference, in collaboration with the DEPSE, may identify problems of common interest for the Boards and develop a phased programme of studies and investigations.

The Committee may also give concrete suggestions to the Boards for bringing about

a certain amount of uniformity in the syllabi and examination practices in respect of common subjects, thereby making the results of public examinations more comparable.

Resolution IX

In order to base all teaching and evaluation on the instructional objectives of different subjects, the Conference reiterates the recommendation made earlier that the subject objectives may be formulated and incorporated in the syllabi of secondary schools as early as possible by the various Boards. A similar action may be taken by the State Departments of Education for lower classes.

Resolution X

At present, the work of tabulation and consolidation of examination results is being done through manual labour in most of the Boards. The Conference is of the opinion that in view of the rapidly increasing numbers, the use of mechanical devices is becoming necessary. The Standing Committee of the Conference may, therefore, make a comparative study of the cost and other relevant factors involved in the use of mechanical devices and manual labour employed in the preparation of results. The study may be conducted in collaboration with the DEPSE and the Boards using mechanical devices.

Resolution XI

The Constitution of the Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education was accepted by the Conference with an amendment that the number of nominated members be increased from 6 to 9 and that of the co-opted members from 2 to 3.

Resolution XII

This Conference places on record its appreciation of the work done by the State Evaluation Units within the short time of their existence and in spite of considerable handicaps in their way. The Conference is of the view that these units will ultimately have to bear the main burden of bringing about reform in examination and through it in the whole field of education at the secondary level by working directly with schools and other agencies of education in their States. They will have to provide leadership and conduct research and investigations on problems of a practical nature having importance in the day-to-day work of the schools in order to help them achieve the desired goal in matters of educational standards.

The Conference, therefore, recommends that

1. the staff of the State Units may be duly augmented and stabilised; and
2. they may be provided with necessary facilities and funds for carrying on their work effectively.

Resolution XIII

As the ultimate responsibility for implementing the reform depends upon teachers, the Teachers' Colleges may take necessary action to have the topics on evaluation incorporated in B. Ed./B. T. syllabi of the compulsory papers of their Universities.

Resolution XIV

While appreciating the work done by the Central Examination Unit in the field of examination reform at the stage of secondary education, the Conference feels that, in order to make the programme more effective, a similar programme of reform may also be undertaken by appropriate agencies at the levels of primary and higher education. The State Institutes of Education may take up this programme at the primary stage while the University Grants Commission and such other agencies may issue directives and provide facilities to the Universities and other institutions of higher learning for the development of the reform in examinations at the higher stage. The good work already started by the University Grants Commission in this direction may be followed up and expanded further as early as possible.

Resolution XV

The Conference appreciates the valuable work done by the Central Examination Unit with the Boards of Secondary Education, Training Colleges, State Evaluation Units and other agencies. It also records its appreciation of the quality and bulk of test material and publications produced so far by the Unit.

The movement of examination reform is fast gathering momentum and has now reached a stage where more and more Boards, schools, Teachers' Colleges and other agencies are getting involved in the actual implementation of the reform. The Central Examination Unit will have to meet the growing demand for assistance from the Boards and other agencies without decreasing the pace of work. It is, therefore, strongly recommended that the strength of the Unit be substantially augmented in the next financial year.

Resolution XVI

Now that the Education Commission has been set up to make suggestions for the improvement of education as a whole, it is recommended that the resolutions passed in the Conference may be sent to the Commission for consideration and necessary action.

APPENDIX A

ITEM I : To receive the report of the work done by the Central Examination Unit up to October 1964.

Work Done by the Central Examination Unit from December 1963 to October 1964.

The chief functions of the Central Examination Unit (CEU) are : training, extension, research, guidance and dissemination of information on evaluation of pupils in the field of secondary education. For the fulfilment of these functions the Central Unit undertakes activities such as organization of workshops, seminars and working groups, educational conferences and meetings, publication of relevant literature, etc. These activities relate to a number of agencies like Secondary Boards, Training Colleges, State Evaluation Units and others. The work done by the CEU during the above period is summarised under the following headings which relate to agencies :

1. Work with the Boards.
2. Work with the Training Colleges.
3. Work with the Schools and Extension Services Departments.
4. Work with the State Evaluation Units.
5. Consultative Services.
6. Development of Test Pools.
7. Studies and Investigations.
8. Publications.

1. Work with the Boards

The work of the CEU with the Boards consisted of the following major activities :

(i) Preparation Programme

This programme essentially envisages training of paper-setters in the technique of writing good questions and question papers. This training is imparted through two or three workshops, generally of 10 days' duration. In the first workshop the paper-setters are oriented to evaluation approach through group discussion and individual work and in the second they are given experience in writing good questions and preparing better question papers. Workshops were organized for 6 Boards during this period. The detailed information in respect of these workshops is given below in Table 1.

TABLE 1

Workshops for Paper-Setters of Different Boards

| Name of the Board | Nature of the workshop | Subjects covered | No. of Participants | Dates |
|--|------------------------|---|---|-----------------|
| Gujarat S. S. C. E. Board, Baroda | First | Elementary Mathematics, General Science, Social Studies | 25* (*One workshop for 38 participants in the same subjects was held prior to Dec. 63.) | 23-29 Dec. 1963 |
| | Second | - " - | 60 | 20-25 Feb. 1964 |
| Maharashtra S. S. C. E. Board, Poona | Second | Social Studies, General Science | 43* (*Two workshops were already held in these subjects prior to Dec. 63) | 26-31 Dec. 1963 |
| Board of Secondary Education, Rajasthan | Second | Elementary Mathe- matics, General Science, Social Studies | 45* (*One workshop was already held for these subjects prior to Dec. 63) | 2-7 Dec. 1963 |
| S. S. C. Board, Mysore | First | English, Kannada, Mathematics, General Science, Social Studies | 53 | 19-28 Jan. 1964 |
| | Second | - " - | 56 | 11-20 May, 1964 |

| Name of the Board | Nature of the workshop | Subjects covered | Number of Participants | Dates |
|---|------------------------|--|------------------------|-----------------------|
| Vidarbha Board of Secondary Education, Nagpur | First | English, Mathematics, Physics, Chemistry, History, Geography | 58 | 2-11 Sept. 1964 |
| Punjab University, Chandigarh | First | English, Mathematics, General Science, Social Studies | 30 | 23-30 September, 1964 |

(ii) *Implementation Programme*

- (a) For proper implementation of the programme of examination reform in Board Examinations it is quite necessary to prepare schools and pupils for the change through suitable material supplied to them. With this end in view the CEU organized working groups from among the trained paper-setters in Rajasthan, Gujarat and Maharashtra. With the help of these groups sample question papers and other related material were produced. A note for the use of this material was also prepared. The Rajasthan Board has already circulated such material in the subjects of Elementary Mathematics, General Science and Social Studies. They also explained the use of this material to teachers by holding district-wise conferences of teachers for this purpose. The second series of sample papers in the three subjects are also in press and will shortly be circulated. The other two Boards will scrutinize this material and circulate it to all schools.

The table given below shows the details of such working groups organized for different Boards.

TABLE 2

Working Groups for Different Boards

| Name of the Board | Subjects covered | No. of Participants | Dates |
|---|--|---------------------|------------------|
| Board of Secondary Education, Rajasthan | General Science, Social Studies, Elementary Mathematics. | 9 | 25-27 May, 1964 |
| | „ | 14 | 18-20 June, 1964 |

| Name of the Board | Subjects covered | No. of participants | Dates |
|---|---|---------------------|--|
| Gujarat S. S. C. E. Board, Baroda | General Science, Social Studies, Elementary Mathematics | 17 | 5-11 August, 1964 |
| Maharashtra S. S. C. E. Board, Poona | General Science, Social Studies | 16 | September 29 to October 8, 1964 |

- (b) In addition to the sample papers supplied to schools, the CEU undertook another activity. The Unit has collected during this year, a large pool of questions prepared in different workshops. In order to adapt this test material to suit the state syllabuses four workshops were organized in Rajasthan and Gujarat and more than a hundred unit tests were prepared. These Unit Tests will be finalised and sent to the schools of the respective States. These can be administered when the teaching of a unit is complete. There are over 250 such Unit Tests collected by this time from paper-setters' and other workshops. A pool of complete tests based on one or more Units is being developed in the Central Examination Unit.
- (c) Six meetings were held with members and/or officers of the Boards of Rajasthan, Gujarat, Maharashtra, Vidarbha and U. P. in order to chalk out the programme of action by Boards. These meetings were found to be very helpful in stepping up the implementation of the programme.

(iii) *Expansion Programme*

The Boards which had already undertaken the programme of this reform extended it to more subjects. Thus the Boards of Gujarat, Maharashtra and Rajasthan extended the Programme to additional subjects. The details about the workshops for this programme are shown in Table 3.

TABLE 3

Workshops organized under Expansion Programme

| Name of the Board | Nature of the workshop | Subjects covered | No. of participants | Dates |
|---|------------------------|-----------------------------|---------------------|----------------|
| Gujarat S. S. C. E. Board, Baroda | First | Gujarati, Hindi, English | 33 | 5-11 Aug. 1964 |

| Name of the Board | Nature of the workshop | Subjects covered | No. of participants | Dates |
|---|------------------------|---|---------------------|-----------------------|
| Maharashtra S. S. C. E., Board, Poona | First | Marathi, Hindi, English, Elementary Mathematics | 42 | Sept. 29-Oct. 8, 1963 |
| Board of Secondary Education, Rajasthan | First | Physics, Chemistry, Biology, Mathematics | 60 | 13-22 July, 1964 |

(iv) *The Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education*

According to the recommendation of the Fifth Conference of Chairmen and Secretaries the Standing Committee has been constituted. It held its first meeting on 30th April and 1st May, 1964. A Constitution for the Standing Committee is also drawn up. It is being presented under Item VI on the Agenda. The second meeting of the committee is scheduled to be held in Poona on 9th November, 1964.

2. Work with the Training Colleges

Training Colleges are an important agency in the implementation of Examination Reform. The Unit therefore continued its work with the colleges as follows:

- (i) Four workshops were organized for the training college lecturers of U. P., Gujarat, Bihar and Orissa as shown in the Table 4 below.

TABLE 4
Workshops for Training College Lecturers

| No. | Organizing Agency | Area Covered | No. of Participants | Dates |
|-----|--|--------------------------------|---------------------|------------------|
| 1. | Extension Centre, Govt. Central Pedagogical Institute, Allahabad | U. P. | 22 | 22-31 July, 1964 |
| 2. | Extension Centre, A. G. Teachers' College, Ahmedabad | Gujarat | 35 | 5-8 Sept., 1964 |
| 3. | Extension Centre, Meerut College, Meerut | Colleges under Agra University | 60 | 19-28 Oct. 1964 |
| 4. | Extension Centre, Patna Training College, Patna | Bihar and Orissa | 60 | 20-29 Oct. 1964 |

- (ii) Officers of the Central Examination Unit were deputed to five training colleges in Akola, Solan, Vallabh Vidyanagar, Nagpur and Ahmedabad. They discussed the concept of evaluation with the members of the staff and trainees of the respective colleges.
- (iii) A grant of Rs. 500/- was paid to each of 197 training colleges in the country to develop a section on Evaluation in their libraries. They have started purchasing books on evaluation. The titles of the books purchased are being received.

3. Work with Schools and Extension Services Departments

With the establishment of State Evaluation Units, the work with schools will be gradually taken over by them. During the period under report, however, the Central Examination Unit conducted 28 workshops for teachers and head masters to orientate them in the concept and technique of evaluation. Most of these workshops were organized by the Directorate of Education, Delhi, some by the Extension Services Departments of the Training Colleges and a few by State Evaluation Units.

The detailed information in respect of these workshops is given in Table 5 below :

TABLE 5
Workshops for Teachers

| Sr. No. | Organizing Agency | Subjects Covered | No. of Participants | Dates |
|---------|--|---|---------------------|----------------------------|
| 1. | P. G. B. T. College, Solan | All subjects | 17 | 24-25 Feb. 1964 |
| 2. | Extension Services Centre, C. I. E., Delhi. | | 22 | 29 Feb. 1964 |
| 3-18. | P. G. B. T. Schools (16 Workshops) | English, Mathematics, Science, Social Studies | about 400 | Oct. 1963 to March 1964 |
| 19. | C. I. E., Delhi | Mathematics | 14 | 7-9 Feb. 1964 |
| 20. | Evaluation Unit, Bihar | Mathematics | 36 | 4-8 March, 1964 |
| 21. | M. B. Bengali Hr. Sec. School | Science | 16 | 6 April, 1964 |

| Sr. No. | Organizing Agency | Subjects Covered | No. of Participants | Dates |
|---------|---------------------------------------|---|---------------------|--------------------------|
| 22. | Extension Services Centre, Lucknow | Craft | 8 | 28 April- 1 May, 1964 |
| 23. | Seminar for Central Schools | | | 8th-14th May, 1964 |
| 24. | Extension Centre, Surat | Science | 17 | 9-11 June, 1964 |
| 25. | Extension Centre, Meerut | English, General Science, Social Studies | 45 | 16-22 June, 1964 |
| 26. | Extension Centre, C. I. E., | Mother tongue | 14 | 22-25 July, 1964 |
| 27. | Govt. Training College, Ajmer | General Science, Elementary Mathematics, Social Studies | 28 | 24-28 Aug., 1964 |

4. Work with State Evaluation Units

- (i) A 10-day training course for State Evaluation Officers was organized from Dec. 12 to 21, 1963 to acquaint the newly appointed officers with the concept and programme of evaluation. Twelve officers from different states participated.
- (ii) The first All India Conference of the Officers of the State Evaluation Units and the Central Examination Unit was held in Delhi from May 4 to 7, 1964 and planned the programme of State Units for the current year. The items of work to be undertaken were classified as (1) core programme, (2) specific programme and (3) ad-hoc programme. Each state unit will have thereby enough scope to adjust the work according to the needs of the State taking care of the common problems of examination in all states.
- (iii) Whenever the officers of the Central Examination Unit visited the States, they met the members of the State Units and discussed the programmes of the Unit.
- (iv) State Evaluation Officers were involved in evaluation programmes sponsored by the Central Unit in the respective states.

5. Consultative Services

- (i) The CEU helped six Boards in chalking out their programmes of examination reform.
- (ii) It helped State Units to develop their programmes.

- (iii) Some individuals and agencies sent test material or some brochures or research designs prepared by them for advice from the Unit. Such advice was offered in about 20 cases.
- (iv) Guidance is given to the research project on Predictive Potential of Punjab Matriculation Examination undertaken by the Dev Samaj College for Women, Ferozepur.

6. Development of Test Pools

This is a very important programme as envisaged in the original plan of work of the Unit. During the period under report a good deal of work has been done in this regard. Items constructed in different workshops were screened and edited and classified by the officers and they are being put on cards. Cards of different colours are used for items on different objectives to facilitate their classification and use. By this time over 4000 items have been put on cards. They cover the subjects of English, Mathematics, Science and Social Studies. During the report period six workshops were held for preparing, screening and refining the items as shown below in Table 6.

TABLE 6

Workshops for Preparing and Screening the Items

| Sr. No. | Organizing Agency | Subjects Covered | No. of Participants | Dates |
|---------|--|------------------|---------------------|-------------------|
| 1. | Extension Centre, Govt. Training College, Ajmer. | English | 25 | 13-14 Dec. 1963 |
| 2. | Govt. Girls' Hr. Sec. School, Ramesh Nagar | English | 15 | 15-18 Jan. 1964 |
| 3. | Extension Centre, R. V. Teachers' college, Bangalore | Science | 12 | 21-24 Jan. 1964 |
| 4. | Extension Centre, B. R. College of Education, Agra | English | 22 | 20-25 Feb. 1964 |
| 5. | Extension Services Centre, Bikaner | Social Studies | 17 | 16-21 March, 1964 |
| 6. | Extension Services Centre, Kolhapur | Mathematics | 16 | 20-25 March, 1964 |

In addition to the above, the Central Unit is developing a pool of complete tests based on 1 or 2 units through paper-setters' and other workshops and workshops for adaptation of test material. There are over 250 Unit Tests in this part of the pool.

The Unit envisages the following uses of this test material :

- (i) For selecting items for setting good question papers by paper-setters and teachers.
- (ii) For preparing Unit Tests.
- (iii) For preparing standardized tests through suitable agencies.
- (iv) As samples of good question and question papers.
- (v) As teaching material.

This material will be made available to Boards, State Evaluation Units, Extension Centres, Training Colleges and others in course of time.

7. Studies and Investigations

The Unit continued to undertake studies and investigations related to evaluation. Below are two lists : (A) studies completed and (B) studies under way. Some of these are directly conducted by the CEU and some are conducted by other agencies in collaboration with the CEU.

A. Studies Completed

1. A hand book for assessment of non-scholastic traits.
2. A pilot study of the examination systems of the different Boards of Secondary Education.
3. Examination Abstract No. 2.
4. A theoretical outline for identifying areas of research in internal assessment.
5. Analysis of Board results—1962 and 1963.
6. Operational analysis of Maharashtra S. S. C. Examination Board, Poona.
7. Compilation of a list of problems for research in examination.

B. Studies Under way

1. Analysis of question papers of Board examinations, 1964.
2. A study of ambiguity in questions and answers of class X examinations.
3. Development of a master plan for examination reform in Rajasthan Board.
4. A case study of high achieving and low achieving schools.
5. Two studies on reliability of examiners' marks. (U. P.)
6. Intensive programme for the total improvement of schools for raising standards of pupil attainment. (Bihar)
7. An experimental project in evaluation for a group of schools. (Rajasthan)
8. Identification of significant correlates of failures in public examinations.
9. Comparison of difficulty value of objective type and short answer type questions in comprehension of poetry.

Publications

The following publications have been brought out during this period. Some of these publications are brought out directly by the CEU while some others are published by other agencies in collaboration with the CEU.

- 1-4 Sample test items for Delhi schools.
- 5 Evaluation News (First issue).
- 6 Evaluation in Mathematics (Second edition).
- 7 Improving Examinations (Reprinted).
- 8-10 Sample Question Papers in Elementary Mathematics, General Science and Social Studies by the Rajasthan Board.
- 11-13 Second sample question papers in the above subjects by the Rajasthan Board. (In press)

14-24 Reports of Paper Setters' workshops as shown :

| | | |
|-------------|-----|---|
| Gujarat | ... | 3 |
| Maharashtra | ... | 2 |
| Mysore | ... | 2 |
| Rajasthan | ... | 2 |
| Punjab | ... | 1 |
| Vidarbha | ... | 1 |
| | | <hr style="width: 10%; margin: 0 auto;"/> |
| | | 11 |
| | | <hr style="width: 10%; margin: 0 auto;"/> |

- 25 Maharashtra Paper-Setters' workshop report (Consolidated).
- 26-28 Reports of Training College workshops.
- 29 Research in Mathematics Education in India.
- 30 A Bibliography of research in Education.
- 31 Report of the Fifth Conference of the Chairmen and Secretaries of the Boards of Secondary Education.
- 32 Thirteen articles are published in the following three journals :
 - (i) Progress of Education, Poona.
 - (ii) Education and Psychology Review, Baroda.
 - (iii) Educational India, Muslipattam.

In addition to the above activities the fourth meeting of the Programme Advisory Committee was held on 30th April, 1964 in Delhi where the work of the CEU was reviewed and suggestions were given for future programmes.

The fifth meeting of the committee is scheduled to be held on 9th November, 1964 in Poona.

APPENDIX B

ITEM II : To consider the action taken by the various agencies on the recommendations of the Fifth Conference of Chairmen and Secretaries of the Boards of Secondary Education/Examination.

Resolution I

The Central Examination Unit has produced a number of publications useful to schools and teachers in different subjects. These publications require a wider circulation to the schools in different states. It is, therefore, recommended that Boards of Secondary Education may get these publications translated into regional languages, using relatively non-technical terms and may circulate them to the schools. The Boards may seek the co-operation of the State Departments of Education, State Evaluation Units and Extension Services Departments for this purpose.

Action Taken

The work of translating the literature on evaluation produced by the Central Examination Unit (CEU) has been done at several places in the country by different agencies such as the Extension Services Centres and State Evaluation Units.

The Extension Services Centre at Vallabh Vidyanagar (Gujarat) has translated three publications of the CEU, viz., 'Evaluation in General Science', 'Evaluation in Social Studies', and 'Evaluation in Mathematics'. The State Evaluation Unit in Gujarat has recently undertaken the work of translating 'Evaluation in Geography' and 'Improving Examinations' into Gujarati. The Gujarat S.S.C.E. Board has now received three sample question papers prepared in the paper-setters' workshop in the subjects of Elementary Mathematics, General Science and Social Studies. These question papers have been translated into Gujarati.

The State Evaluation Unit, Himachal Pradesh, has translated some brochures into Hindi which are ready for publication.

Similarly, the State Evaluation Unit in Kerala translated three publications, viz., 'The Concept of Evaluation', 'Evaluation in General Science' and 'Evaluation in Social Studies' into Malayalam. This material will be published as soon as the grant sanctioned for this purpose by the Ministry of Education, Government of India, is released.

The State Evaluation Unit in Maharashtra has also translated 'The Concept of Evaluation' and 'Evaluation in General Science' in Marathi. The translated version of these two brochures is being scrutinized.

In Andhra Pradesh, the Extension Services Centre, Hyderabad, has translated some of the publications of the Central Examination Unit into Telugu. The Extension Services Centre, Kurnool, produced a large number of test items in General Science for different classes and translated them into Telugu. This material was printed in both English and Telugu, and circulated to a large number of schools.

Seven Boards have reported that they have not translated any of the CEU publications. The Examination Board in Bihar reported that their teachers feel no difficulty in understanding these publications in English. The Maharashtra S.S.C.E. Board also found that the response to the literature of the CEU, which is being sold to the schools at a nominal price through the Board, is very encouraging.

The Board of Secondary Education, Rajasthan, has circulated a series of sample question papers in Elementary Mathematics, Social Studies and General Science. These publications contain question papers in English as well as in Hindi. About 50 Unit tests have also been prepared in these three subjects through the Extension Services Centres of Rajasthan, and all of them have been translated into Hindi.

Resolution II

In order to expedite the programme of reforms in public examinations and to co-ordinate the related activities of the Boards, a Standing Committee may be appointed from among the Chairmen and Secretaries of the Boards of Secondary Education. The Committee should consist of five members from the Boards and two from the Directorate of Extension Programmes for Secondary Education. The D.E.P.S.E. may constitute the Standing Committee. At least two-thirds of the members may be changed every year.

Action Taken

The Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education was set up soon after the Fifth Conference. It consists of the following members:

1. Shri A.C. Deve Gowda, Director, DEPSE (Chairman).
- *2. Dr. C.D. Deshpande, Chairman, S.S.C.E. Board, Maharashtra, Poona.

(* Shri C. G. Sahasrabudhe has taken the place of Dr. C. D. Deshpande from August 12, 1964).

3. Shri L.L. Joshi, Chairman, Rajasthan Board of Secondary Education, Ajmer.
4. Shri D.I. Lall, Secretary, Central Board of Secondary Education, New Delhi.
5. Shri S.D. Pant, Secretary, Board of High School and Intermediate Education, U.P., Allahabad.
6. Shri V.B. Desai, Secretary, Board of Secondary Education, Mysore, Bangalore.
7. Shri R. Prasad, Secretary, Bihar Examination Board, Patna.
8. Dr. M.B. Buch, Deputy Director, DEPSE.
9. Dr. R.H. Dave, Deputy Director, DEPSE. (Secretary)

The first meeting of the Standing Committee was held at Delhi on the 30th April and 1st May, 1964, where the Constitution of the Committee was worked out. The Constitution will be placed before the Sixth Conference under Item VI. The second meeting of the Standing Committee is scheduled on the 9th November, 1964 at Poona.

Resolution III

This Conference fully endorses the recommendations made by the Programme Advisory Committee for Examination Reform in its meeting on April 23, 1963 with regard to the establishment of Research Units in the Boards of Secondary Education. The recommendation made by the Committee is as follows :

The Committee strongly feels that each Board conducting an examination should have a Research Unit attached to it for the purpose of making effective use of the data available with the Boards and for the purpose of conducting important studies relating to improvement of examinations.

Action Taken

The Maharashtra S. S. C. E. Board and the Gauhati University have already got Research Units attached to them. The Examination Research Unit in Bihar and the Bureau of Educational Research and Services, Kerala, function for their respective Boards. In addition, the examination Board in Bihar has a statistical section. The Gujarat S. S. C. E. Board has established a Research Unit in July, 1964. An Education Officer has been recently appointed in the Central Board of Secondary Education, Delhi, for undertaking research. The Board of Secondary Education, Rajasthan, has appointed an Academic Officer for piloting academic programmes of the Board including research.

Resolution IV

It is very necessary that the Central Examination Unit may act as a clearing house of the information received from different Boards with regard to the progress made by them in various aspects of Examination Reform. It is suggested that the Central Examination Unit may start a Newsletter for this purpose.

Action Taken

The CEU has started an Evaluation Newsletter. The first number of "Evaluation News" has already been brought out in August, 1964 and circulated to various agencies, such as Examination Boards, State Evaluation Units, Extension Services Centres and Training colleges. The Newsletter will normally be a quarterly.

Resolution V

In view of the technical nature of the work to be done by the State Evaluation Officers and in view of the training to be given to them, it is very desirable that the persons appointed as State Evaluation Officers continue to work in this position for a fairly long period of time in order to achieve perceptible results in the programme of Examination Reform. It is, therefore, recommended that the State Evaluation Officers should not be frequently transferred as far as possible.

Action Taken

This resolution was sent to the Directors and Secretaries of Education of all the states.

Resolution VI

Wherever the Examination Board is an independent statutory body, the State Evaluation Unit should be attached to the Examination Board.

Action Taken

This resolution was sent to the Education Secretaries of all the States. However, the suggestion made therein does not seem to have been carried out except in the case of Madhya Pradesh.

Resolution VII

It is now time that the Boards of Secondary Education prepared a concrete plan of action to introduce reforms in the present system of examination. It is also realised that there is a great variety and diversity in the administrative set up and the procedures of conducting examinations in different Boards. Therefore, it is recommended that in the light of the specific conditions, the individual Boards may prepare the action plans indicating specific aspects of the reform that they would like to undertake, the procedures that they would adopt for the implementation of the reform, the nature of assistance that they would require from various agencies concerned including the Central Examination Unit and the expected results of the Reform after a stipulated period of time. It is proposed that each Board may prepare such an action plan by 31st March, 1964.

Action Taken

In all, twelve Boards, viz., Andhra Pradesh, Bihar, the Central Board, Delhi, Gujarat, Maharashtra (Poona), Mysore, Rajasthan, the University of Punjab, U. P., Vidarbha, West

Bengal and Orissa have sent their action plans to the Central Examination Unit. From these plans it is found that all except the University of Punjab propose to introduce objective-based questions in their question papers and as a prelude to this step they have circulated model questions and question papers to the schools. With the help of the CEU, workshops for paper-setters were conducted by the Boards of Gujarat, Maharashtra (Poona), Mysore, Vidarbha (Nagpur), Rajasthan and the University of Punjab. All these Boards propose to hold workshops for the orientation of teachers in the various school subjects. The Rajasthan Board has prepared a master plan for Examination Reform which aims at a through revision of curriculum and text-books suited to the development of desirable abilities, aptitudes and skills, along with the reform in evaluation.

The Central Board of Secondary Education, New Delhi, and the Rajasthan Board propose to publish journals giving news and views on Examinations, modern techniques of teaching, curriculum reform, etc. The Rajasthan Board also proposes to publish a handbook for the teachers of English.

APPENDIX C

ITEM III : To receive the reports from the State Boards about the progress made so far regarding the introduction of the examination reform and the changes proposed to be implemented in the near future.

It has now become a common practice for the Boards of Secondary Education/ Examination to introduce various reforms from time to time so as to improve the system of examination. These reforms are introduced in questions, question papers, scoring procedures and the mechanics of conducting examinations. Some of the Boards have also prepared long-term plans for the introduction of certain reforms. For example, the Board of Secondary Education, Rajasthan, has prepared a Master Plan spread over six years to introduce definite changes both in evaluation and in curriculum. It is, therefore, worthwhile to exchange information about the work done so far by various Boards in the direction of examination reform and the work proposed to be undertaken by them in this regard in the near future. With this end in view, the Boards have been requested to prepare brief reports on this item. A proforma, as given in Annexure III-A, has also been sent to the Boards for this purpose. The reports will be distributed by the Secretaries of the Boards in the Conference for information and discussion.

ANNEXURE III-A

Proforma for the Preparation of the Board's Report for the Sixth Conference

A. Information about the Board

1. Name and address of the Board.
2. Date of establishment of the Board.
3. Functions of the Board (e. g., conducting examinations, framing curriculum, etc.)
4. Administrative set up of the Board (whether autonomous, etc.).
5. Jurisdiction of the Board.
6. Examinations conducted by the Board.

| Sr. No. | Name of the examination | Month and year in which the first examination was held | The month (s) in which the main examination is normally held | The month (s) in which the supplementary examination is normally held, if any. | Class for which the examination is held |
|---------|-------------------------|--|--|--|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

B. Reforms introduced recently

7. Changes introduced in examination questions, if any. (Please specify subjects also)
8. Changes introduced in question papers, if any. (Please specify subjects also)
9. Changes introduced in scoring procedures, if any.
10. Changes introduced in grace marks, condonation marks, etc.
11. Changes introduced in the pattern of declaring results.
12. Whether any changes made in directions to paper-setters, moderators, translators, examiners, tabulators, etc. If so, please specify.

13. How are the examiners' reports used ?

14. Please mention any other modifications introduced in areas not indicated above.

C. Reforms proposed to be introduced in the near future

15. Please state briefly in a table as shown below, the changes proposed to be introduced by the Board in the near future in various aspects of examination.

| Sr. No. | Reform proposed to be introduced | Year from which the reform is to be introduced |
|------------|----------------------------------|---|
| 1 | 2 | 3 |

APPENDIX D

ITEM IV : To receive the reports of the work done by State Evaluation Units and to review their future programmes.

The State Evaluation Units have been recently established in twelve States including the one in Himachal Pradesh. Most of these Units came into existence during the year 1963-64. In some cases the officers were appointed only in 1964-65. The first all India Conference of the officers of the State Evaluation Units and the Central Examination Unit was organized by the Central Unit from May 4 to 7, 1964 in Delhi. The purpose of the first Conference was to develop a systematic programme of action for the year 1964-65. The State Units developed their programmes under three categories :

- (A) *Core Programmes* based on common problems in examinations in all States.
- (B) *Specific Programmes* in relation to the special needs of individual States.
- (C) *Ad-hoc Programmes* of an exploratory nature.

These programmes included orientation of teachers, studies and investigations of local nature, preparation of instructional and evaluation material, translation and publication of literature on evaluation, etc.

As the State Evaluation Units and the Boards of Secondary Education in different States work towards certain common goals of examination reform, it is necessary to co-ordinate the programmes of these two agencies so as to bring about perceptible improvement in the evaluation practices of the schools and the Boards in individual States.

In view of this, the State Evaluation Units have been requested to prepare reports according to the proforma given in Annexure IV-A. The reports will be presented to the participants during the Conference by the Directors/State Evaluation Officers for information and discussion.

ANNEXURE IV-A

Proforma for the Preparation of the State Evaluation Unit's Report for the Sixth Conference

1. Name and address of the unit :
2. Date of establishment :
3. Staff of the unit :
(Name and designation)
4. Agency to which attached :
5. Field Programmes

| Programmes | Purpose of the programme | Duration | Subjects covered | Categories of participants | No. of participants | Agencies involved in conducting the programme. |
|------------|--------------------------|----------|------------------|----------------------------|---------------------|--|
|------------|--------------------------|----------|------------------|----------------------------|---------------------|--|

6. Development of Test Material

(a) Test items

| Subjects | Total No. of items prepared, adapted or translated | Language of the items | No. of items tried out |
|----------|--|-----------------------|------------------------|
|----------|--|-----------------------|------------------------|

(b) Tests

| Subjects | Topics covered | Language of the test | Purpose of the test (whether diagnosis, prognosis, achievement, etc.) | Class for which suitable | Testing time | No. of items in the test (Essay, short answer, Objective Type) | Total |
|----------|----------------|----------------------|---|--------------------------|--------------|--|-------|
|----------|----------------|----------------------|---|--------------------------|--------------|--|-------|

7. Preparation of Instructional Material

| Subjects | No. of instructional units prepared | Topics covered | Language of the instructional units | No. of instructional units tried out. |
|----------|-------------------------------------|----------------|-------------------------------------|---------------------------------------|
|----------|-------------------------------------|----------------|-------------------------------------|---------------------------------------|

8. Studies and Investigations

| Title of the Study | When started | Completed/Progress made so far | Likely date of completion |
|--------------------|--------------|--------------------------------|---------------------------|
|--------------------|--------------|--------------------------------|---------------------------|

9. Publications

| Title of the publication | Language in which published | Whether original or translated | Name of the author | Date of publication |
|--------------------------|-----------------------------|--------------------------------|--------------------|---------------------|
|--------------------------|-----------------------------|--------------------------------|--------------------|---------------------|

10. Directory of Resource Personnel

| Subjects | No. of Resource Persons | | Total No. of Resource Persons |
|----------|-------------------------|----------------|-------------------------------|
| | For item writing | For evaluation | |

Note : For 'Future Programmes', the same proforma can be used in the modified form employing 'to be' with 'covered', 'prepared', 'adapted', 'translated', 'started', 'published', etc.

APPENDIX E

ITEM V : To discuss the programme of work of the Central Examination Unit to be undertaken during 1965-66.

The major activities of the CEU will continue as before in the remaining part of this year. During the period from November 1964 to March 1965 the following workshops, meetings, etc., are planned and will be carried out :

| | | |
|--|-----|---|
| Paper Setters' Workshops | ... | 6 |
| Workshops for Training College Lecturers | ... | 2 |
| Adaptation Workshops | ... | 3 |
| Workshop for the production of test material | ... | 1 |
| Sixth Conference of Chairmen & Secretaries of the Boards of Secondary Education | ... | 1 |

For the year 1965-66, in addition to all the activities of the last year, an additional programme of "Training Courses in Evaluation" has been added. There is a shortage of persons trained in evaluation. To remedy this, at least to some extent, the CEU has planned short term and long term courses in evaluation for experienced teachers, training college lecturers and officers of the State Units.

The main items of work for the next year would be as follows :

1. Work with the Secondary Boards
2. Work with the State Evaluation Units
3. Work with the Training Colleges
4. Training Courses in Evaluation
5. Work with the Secondary Schools and Extension Services Departments

6. Consultative Services
7. Development of Test Pools
8. Research and Investigations
9. Publications

1. Work with the Secondary Boards

The Central Examination Unit will continue to work with the Boards and offer technical and financial assistance to them for the implementation of the programme. Six workshops are proposed to be held for training the Board paper-setters in the technique of writing good questions and setting good papers.

As the demand for such training increases it may be necessary to evolve some alternative procedures like regional or central workshops for training the paper-setters.

Production of test material through working groups will continue and this material will be made available to schools.

Officers of the CEU will continue holding meetings with the Board Officers for planning steps to be undertaken by the Boards towards the implementation of the programme of examination reform.

The Conference of the Chairmen and Secretaries of the Boards will also be held as usual to review the work and to co ordinate the activities of the CEU and the Boards.

2. Work with the State Evaluation Units

The Central Examination Unit will make all efforts to help the State Units in carrying out the programme of examination reform at the State level. It is realized that the State Evaluation Units are in need of training and guidance in planning their work. With this end in view the Central Examination Unit will hold a second conference of the officers of the State Evaluation Units and the Central Examination Unit.

This conference will serve the following purposes :

- (i) The work done in 1964-65 will be reviewed.
- (ii) The work of the State Units for the year 1965-66 will be planned as under :
 - (a) Core programme
 - (b) Specific programme
 - (c) Ad-hoc programme
- (iii) Other measures for strengthening the State Units and co-ordinating their work will be examined.
- (iv) Special programmes for training State Evaluation Officers will be considered.
- (v) Developing test pools by State Units will be considered.

In addition to these the following activities will also be continued :

- (i) The State Evaluation Units will be requested to send the monthly reports of the

work done by them; the information so collected will be published through the Newsletter.

- (ii) The officers of the CEU will meet the State Evaluation Officers when they go to the respective States and discuss the work of the State Units.
- fiii) The State Evaluation Officers will be involved in the field programmes organized by the CEU.
- (iv) The CEU will help the State Evaluation Units in organizing the field programmes.

3. Work with the Training College

During the year 1965-66 two workshops for Training College lecturers, each of 15 days' duration, are proposed. In these two workshops about 120 lecturers will be acquainted with the concept and techniques of evaluation so that they may incorporate in their methodology courses the improved techniques of teaching and testing.

Efforts will be made to help the training colleges to strengthen their libraries with books on evaluation.

The training colleges are supplied with the list of problems on research in evaluation. They will be helped in conducting research on those or similar other problems. Some research problems will be undertaken by the CEU in collaboration with selected training colleges.

4. Training Courses in Evaluation

There is a great need for creating a body of trained personnel in the field of evaluation.

The trained people will assist State Units, Boards, Extension Departments and Training Colleges in implementing examination reform programmes. Some of these people will be available to man the State or Central Units and to undertake related research.

The CEU proposes to take up the following activities in this connection :

- (i) To organize a long term training course for 6 to 8 months.
- (ii) To introduce this course at the M. Ed. level as a special field in N. I.E.
- (iii) To organize short term training courses.
- (iv) To organize a six-week condensed course for training field workers.

5. Work with the Secondary Schools and Extension Services Departments

- (i) Whenever possible orientation workshops for teachers will be organized through Extension Services Departments.
- (ii) Intensive work in selected schools will be undertaken :
 - (a) to develop internal assessment procedures.
 - (b) to develop oral and practical examination procedures.
 - (c) to develop the techniques of objective based teaching, learning and evaluating.

Work with secondary schools, however, will gradually be taken over by the State Evaluation Units.

6. Consultative Services

This has become a growing activity. In addition to the services offered to Boards, consultative services will always be available to State Evaluation Units, Training Colleges, Extension Departments, schools and individuals working in this field. Requests for such services will always be considered and help offered whenever possible.

7. Development of Test Pools

This activity will continue and individual items and unit tests will be collected through workshops or working groups and will be screened by the Unit. The items will be put on cards and unit tests will be published in different series for different subjects.

This material will be made available to Boards, Training Colleges, State Units and schools.

8. Research and Investigations

The studies which are under way will be completed. In addition, some more problems of the action research type will be taken up by the CEU. Problems of the practical use will be taken up in collaboration with other agencies like Training Colleges, Research Bureaus and others. Some such problems which the CEU proposes to undertake are listed below :

- (i) To develop effective procedures of internal assessment.
- (ii) To develop effective procedures of conducting oral and practical examinations.
- (iii) Effects of introducing objective-based questions in Board Examinations on pupil performances and school practices.
- (iv) A study of the use of diagnostic and review tests in the improvement of pupil achievement.
- (v) Intensive programme for the total improvement of schools for raising standards of pupil attainment (Bihar).
- (vi) Identification of significant correlates of failures in Public examinations.

9. Publications

The series like "Research in Evaluation" and "Examination Abstracts" already initiated will be continued during the next year. In addition, the following publications are proposed to be brought out :

- A The revised edition of the following books and brochures will be published :
1. Evaluation in Secondary Schools.
 2. Specimen Items in General Science.

3. Specimen Items in English.
4. Specimen Items in Social Studies.

B The following new series will be initiated :

1. Unit Tests in English.
2. Unit Tests in Mathematics.
3. Unit Tests in Science.
4. Unit Tests in Social Studies.

C. Sample question papers and other related testing material will be published through Boards.

D. State Evaluation Units will be encouraged to translate evaluation literature and publish the same at State level.

E. The Newsletter will be published regularly.

F. Evaluation articles will be published in different Educational Journals.

APPENDIX F

ITEM VI: To receive the progress report of the Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education and to discuss its Constitution.

During the Fourth Conference of Chairmen and Secretaries a suggestion was made for the formation of a Federation of the Boards of Secondary Education in order to expedite the programme of reforms in public examinations and to co-ordinate the related activities of the Boards.

In the Fifth Conference, the attention of the members was drawn to the earlier suggestion and it was resolved, that as an intermediary step towards the formation of the said Federation, a Standing Committee of the Chairmen and the Secretaries of the Boards be constituted. The Conference also passed a resolution to the effect which is worded as

In order to expedite the programme of reforms in public examinations and to co-ordinate the related activities of the Boards, a Standing Committee may be appointed from among the Chairmen and Secretaries of the Boards of Secondary Education. The Committee should consist of five members from the Boards and two from the Directorate of Extension Programmes for Secondary Education. The D. E. P. S. E. may constitute the Standing Committee. At least one-third of the members may be changed every year.

In accordance with the above resolution the D. E. P. S. E. constituted the Standing Committee and also drafted its Constitution.

The Committee had their first meeting on the 30th April and 1st May, 1964 in the office of the D. E. P. S. E., Delhi. Their recommendations and action taken thereon are given below :

Recommendations of the Standing Committee and the action taken thereon:

Recommendation

Action taken

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. The Boards of Secondary Education may be requested to take immediate steps to establish the Research Units which would undertake investigations about the specific data available in the State. 2. The State Boards of Secondary Education may supply to the Central Evaluation Unit relevant information about their activities in the Examination Reform and the results published by them. 3. In order to understand the functioning of the different Boards of Secondary Education, a two - day Seminar of the Chairmen and Secretaries of the Boards of Secondary Education may be held in continuation of the conference. 4. The Committee approved the plan of the Central Evaluation Unit, to study the structural and the operational functions of all the Boards of Secondary Education and suggested that before publishing, these studies may be checked by the respective Boards, who may add to these, the problems faced by them. 5. The Sixth Conference of the Chairmen and the Secretaries of the Boards of Secondary Education may discuss the problem of improving question papers with special reference to the inclusion of objective type tests in the Board Examinations. 6. The State Evaluation Units may take up | <ol style="list-style-type: none"> 1. This has been sent to the Boards for necessary action. Bihar, Rajasthan, Gujarat and Maharashtra Boards and Gauhati University have reported that they have such Units. 2. All the Boards have sent their examination question papers. Fourteen Boards have sent their examination results. They are being compiled and will be published in the Newsletter. 3. (i) Brief reports about their work are called for from the Boards. They will be presented in the conference. (ii) An exhibition is being organized along with the conference where material like application forms, certificate forms, question papers, etc., will be exhibited. (iii) The C. E. U. is planning to prepare a directory of Boards. 4. One study has been sent to the S. S. C. E. Board, Poona. Four others for M. P., Rajasthan, Gujarat and Vidarbha Boards are being taken up. 5. This has been included in the agenda of the Sixth Conference under Item XII. 6. This has been incorporated by the State |
|---|--|

orientation of the teachers of their state in the Evaluation approach and in the construction of objective-based tests.

7. The State Units may take up the study of the promotion rules in force in their States and the problems regarding the reform of the different aspects of Home Examinations.
 8. The State Units should immediately take up the translation of specimen test items in different subjects prepared by the Central Evaluation Unit into their regional languages.
 9. The State Evaluation Units should study prevailing practices regarding the conduct of oral and practical examinations in their States.
 10. The State Evaluation Units should collaborate with the Extension Services Departments in the States, in the evaluation programmes organized by them.
 11. The State Evaluation Units should help the Boards of Secondary Education of their States in implementing the programme of examination reform.
 12. The Committee also approved the draft outline of the Evaluation Newsletter to be published by the DEPSE and suggested that "News from Abroad" may also be incorporated in the same.
 13. The Committee approved the draft of its Constitution.
 14. The Committee also accepted the invitation of the Maharashtra Board regarding the holding of the Sixth Conference of the Chairmen and Secretaries of the Boards of Secondary Education at Poona. The
- Evaluation Units in the core programme of the year 1964-65.
7. This has been incorporated by the State Evaluation Units in the core programme of the year 1964-65.
 8. This has been incorporated by the State Evaluation Units in the core programme of the year 1964-65.
 9. This has been passed on to the State Evaluation Units for necessary action.
 10. (i) This has been passed on to the S. E. U.'s for necessary action.
(ii) Wherever necessary a special letter is sent by DEPSE for this purpose.
 11. (i) This has been passed on to the Boards and State Units for necessary action.
(ii) Officers of the S. E. U.'s have been invited for the Sixth Conference so as to co-ordinate their work.
 12. The first issue of the Newsletter is published. The item on "News from Abroad" will be included in future numbers whenever such news will be available.
 13. The Constitution as approved by the Standing Committee will be presented to the Sixth Conference under item VI.
 14. The Sixth Conference is being held at Poona accordingly.

tentative dates suggested for the conference were November 9-13, 1964.

15. It was suggested that the two additional days added to the conference may be devoted to a Seminar on :
15. This is being included in the agenda of the Sixth Conference.
- (a) the problems of internal assessment. (a) under Item XIII.
 - (b) the improvement of question papers with special reference to the inclusion of objective type questions in the Board examinations. (b) under Item XII.

The Standing Committee also discussed the draft Constitution prepared by the DEPSE. In the light of the suggestions made during the discussion the draft Constitution was modified and finalized for being placed before the Sixth Conference.

The finalized Constitution is given in Annexure VI A.

ANNEXURE VI A

The Constitution of the Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education (Established in 1964).

(As adopted by the Sixth Conference)

1. Composition

The Standing Committee will consist of nine members from amongst the Chairmen and Secretaries of the Boards of Secondary Education and two officers of the Directorate of Extension Programmes for Secondary Education. They will be members in their official, and not individual capacities.

The Director of DEPSE will be the Chairman of the Committee and an officer of the DEPSE will act as its Secretary.

2. Nomination to the Committee

The Chairman will constitute the Committee by nominating nine members from amongst the Chairmen and Secretaries of the Boards of Secondary Education and two from the officers of the DEPSE.

He will also be empowered to co-opt additional members, not exceeding three, over and above this specified number, to work on the Committee at his discretion.

3. The Term of office of the Members

Out of the representatives of the Boards, one third of the members will retire every year. The term of office of the members from the Boards will normally be three years. However, in the first instance, two members will retire at the end of the first and another one third at the end of the second year of the constitution of the Committee. Their names

will be decided upon by the Chairman. A retiring member will be eligible for renomination only after a year of his retirement from the Committee.

The term of office of the representatives from the DEPSE will be decided upon by the Chairman of the Committee.

4. Periodicity of the meeting

The Committee will normally meet at least twice a year.

5. Functions of the Committee

- (a) To review the work done by the Boards towards the reform of examinations.
- (b) To plan the steps for the programme of examination reform by the Boards.
- (c) To make necessary suggestions for expediting the implementation of the programme of reform in public examinations.
- (d) To co-ordinate the activities of the Boards related to the reform of examinations.
- (e) To discuss the problems related to the conduct of examinations.
- (f) To suggest research studies to be taken up by the Boards.
- (g) To plan a programme of publications for the Boards.
- (h) To plan a programme of co-ordination of the work of the Boards with the work of the Central Examination Unit and State Evaluation Units.
- (i) To convene the annual Conference of Chairmen and Secretaries of the Boards of Secondary Education.

APPENDIX G

ITEM VII : To discuss the Policy Statement regarding Examination Reform at the stage of Secondary Education.

Recognizing the programme of examination reform at the level of secondary education as one of national significance, the All India Council for Secondary Education* established the Central Examination Unit in 1958. An action plan for the reform was drawn up by the All India Council in consultation with Dr. Benjamin S. Bloom of the University of Chicago. The plan received the concurrence of the first two All India Conferences of the Secretaries of the Boards of Secondary Education. This plan was designed with the specific purpose of indicating the direction in which the movement of examination reform should be initiated, and hence it was enunciated in fairly general terms.

When the National Council of Educational Research and Training (N.C.E.R.T.) was established in 1961, it was felt that a more comprehensive and definite line of action should be prepared in the form of a policy statement in order to clarify various issues involved in the programme of examination reform at the level of secondary education. As the reform movement has made some progress during the past six years, and as some of the Boards and schools have started the programme of implementing certain reforms in their examinations, it has become all the more essential to formulate a policy statement regarding the programme of examination reform at the stage of secondary education.

* The All India Council for Secondary Education was merged in the Union Ministry of Education in April, 1959 and was re-named as the Directorate of Extension Programmes for Secondary Education (D. E. P. S. E.). The Directorate was transferred to the National Council of Educational Research and Training (N. C. E. R. T.) in September, 1961. Thus, the Central Examination Unit, as a part of the DEPSE, is at present under the N. C. E. R. T.

The Central Examination Unit has, therefore, undertaken the responsibility of formulating such a statement on behalf of the N.C.E.R.T. in consultation with various agencies concerned with the reform. The first draft of the policy statement is briefly outlined below with a view to receiving suggestions on various aspects of the reform before a detailed statement is finally worked out.

A Brief Outline of the First Draft of the Policy Statement on Examination Reform

Purpose

It has now been recognized that examination reform is a multidimensional process requiring changes in various aspects of the system of examination and education. It is, therefore, essential to formulate a comprehensive scheme of examination reform. The present statement is chiefly concerned with the reform at the level of secondary education. The document will be useful to the National Council of Educational Research and Training and other agencies concerned in clarifying their stand regarding various aspects of examination reform at the stage of secondary education. It will also serve as a basis for the development of the programmes and activities of the Central Examination Unit of the N.C.E.R.T. and other agencies.

Historical Review

Various committees and commissions that made recommendations for the improvement of the system of education in India have invariably emphasized in eloquent terms an urgent and pressing need for the improvement of examinations at all levels. The Secondary Education Commission made concrete recommendations regarding the improvement of Board Examinations and school assessment. When the All India Council for Secondary Education was established in 1955, it gave a high priority to the development of a national programme of examination reform. In 1956 an all India seminar on examination reform was convened at Bhopal. This seminar examined the recommendations of the Secondary Education Commission and suggested certain specific steps for the implementation of the reform. In 1957 the All India Council invited Dr. Benjamin S. Bloom of the University of Chicago, an internationally known authority on testing, to advise it in the development of an operational plan for the reform. Dr. Bloom surveyed the existing system of examination and, in consultation with various Indian educationists, proposed a detailed plan of action to bring about the reform. In pursuance of this action plan the Central Examination Unit was established in 1958. Ever since, the unit has been working intensively with the Boards of Secondary Education, Training Colleges, State Departments of Education and schools. The Central Examination Unit has conducted a large number of training programmes through workshops, seminars, and courses all over the country. It has by now trained more than 400 paper setters from various Boards. It has orientated selected lecturers from more than 150 training colleges from all the States and Union Territories. It has worked with school

teachers in a large number of workshops and, besides orientating them in the concept and techniques of evaluation, has developed a large pool of test material. The Unit has established a pool of about 10,000 test items and more than 250 unit tests in English, Mathematics, Science and Social Studies. During six years of its existence the Unit has produced about 75 publications for schools, Training Colleges, and the Boards of Secondary Education. Some of these publications have been circulated to all the secondary schools of the country. A large number of studies and investigations on various practical problems in examinations have been conducted and sponsored by the Unit.

During the Third Plan period, State Evaluation Units have been established as a centrally sponsored programme by the Union Ministry of Education. These have come up during 1963 and 1964, and so far State Units have started functioning in twelve States and one Union Territory.

Appraisal of the Present Position

In recent years the Boards as well as the schools have introduced certain desirable changes in their examinations. These include introduction of short answer and objective type tests in the question papers indicating specific marks for different items and sub-items of the questions set, and so forth.

However, a large number of defects are still persisting in the system. Some of the major ones are as follows :

- (1) Most of the questions test only memorization of information.
- (2) A large number of questions are worded in an ambiguous manner.
- (3) Effective content coverage of the question papers is very limited.
- (4) The system of options reduces the reliability of Board examination, and the practice of providing over-all options ill-inspires students to make selective study.
- (5) There is great rigidity evidenced in the patterns of question papers, which leads to guessing questions and various mal-practices.
- (6) The school examinations having been reduced to just a replica of the Board examinations, the other worthwhile functions and techniques of evaluation are overlooked.

These and similar other deficiencies prevalent in the system, which have produced diverse effects on the whole system of secondary education, will be kept in view while formulating the goals of improving examinations.

Theoretical Framework

The task of examination reform is not only to remedy the existing deficiencies in the system but also to place it on a sound theoretical foundation. It is, therefore, essential to formulate a theoretical framework for the development of a comprehensive and effective programme of educational evaluation, which would be helpful in improving the existing system of examinations and extending it in appropriate directions.

The premises on which the programme of examination reform has to be based are as follows :

- (1) Evaluation forms an integral part of the total system of education and is intimately related to the objectives of education and the learning activities.
- (2) The process of evaluation wields a great influence on the study habits of the student, teaching methods adopted by the teacher and other aspects of education.
- (3) Evaluation provides not only the measure of the educational achievement of the student but also becomes useful in improving achievement.
- (4) Evaluation is a continuous process in a class-room situation. Besides this, it is useful in assessing the comparative achievement of pupils within a school or among schools from time to time.
- (5) The process of evaluation can itself be a learning experience. Good testing material can be used as an effective teaching material also.
- (6) The technique of evaluation is dependent upon the nature of educational objective about which evidence of pupil growth is to be collected.

Examinations and other techniques of evaluation are processes of collecting evidences about pupil development in desirable directions. In order to use them effectively for a variety of purposes, these should be valid, reliable, objective and practicable.

Basic Functions and Major Goals

In view of the present position of examination system at the stage of Secondary Education in India and the theoretical framework for the development of a sound programme of educational evaluation, the following two basic functions emerge :

- (1) To develop a programme of evaluation so as to make it an adequate measure of students' educational achievement in varied aspects in respect of pre-determined educational objectives.
- (2) To develop the programme and practices of evaluation in such a manner that they produce the desired influence on various aspects of education and contribute to their qualitative improvement.

Based on these basic functions the major goals of the examination reform programme will be as follows :

- (1) To improve the written examination, which is about the only method of evaluation used at present, so as to make it a more valid and reliable measure of educational achievement.
- (2) To extend the use of evaluation techniques other than that of written examination so as to obtain evidences regarding those aspects of pupil growth which are not assessed by the written examinations and thereby broaden the area of evaluation of pupil growth.

- (3) To enlarge the functions of evaluation beyond grading such as diagnosis of students' strengths and weaknesses, academic prediction and guidance.
- (4) To modify the entire procedure of evaluation in such a way that it becomes one of the vital means of improving instruction and other aspects of education.

Specific Targets

In order to accomplish the major goals of examination reform as enunciated above, the following specific targets will be achieved :

1. **Improving questions in written examinations by**
 - (a) basing them on specific instructional objectives,
 - (b) focussing them on a definite topic or sub-topic of the content,
 - (c) framing them in a suitable form, essay type, short answer type or objective type,
 - (d) wording them in unambiguous terms so that the length and the scope of the answer is well defined,
 - (e) writing them in a language which is well within the comprehension of the pupils, and
 - (f) constructing them at desired levels of difficulty and discrimination.
2. **Improving question papers by**
 - (a) determining weightage to various objectives under testing,
 - (b) deciding weightage to the different units of the content area,
 - (c) deciding on the number and forms of questions to be used, and weightage to be given to them,
 - (d) deciding on the scheme of options, if any,
 - (e) preparing the test questions according to the specifications mentioned from (a) to (d),
 - (f) editing the question paper into sections, if any, stating instructions for students, indicating time for the question paper, and showing the distribution of marks over questions and their parts, and
 - (g) preparing a detailed scheme of marking.
3. **Improving scoring procedures by**
 - (a) improving questions as stated above,
 - (b) using the scheme of marking,
 - (c) issuing comprehensive instructions to examiners,
 - (d) developing a system of checking the uniformity in scoring, and
 - (e) using appropriate scaling procedures.
4. **Improving the mechanics of conducting examinations by**
 - (a) giving an academic bias to public examination bodies,

- (b) making such suitable changes in the administration and organization of the Board Examinations as will be necessary for the effective implementation of the examination reform programme. (This will include consideration of the practices of giving grace marks, condonation marks, determination of cut-off points for determining pass and grades; the rules regarding the selection of paper setters, admission of candidates, etc.), and
 - (c) making similar changes in promotion policies and other aspects of school examinations.
5. **Extending the techniques of evaluation** by introducing the use of
- (a) oral examination,
 - (b) practical examination,
 - (c) observation, and
 - (d) inventories, rating scales, and similar other techniques.
6. **Enlarging the functions of evaluation** by using
- (a) diagnostic tests,
 - (b) review tests,
 - (c) prognostic tests, and
 - (d) other types of tests,
- for the purpose of :
- (i) self-evaluation,
 - (ii) motivation to intensive study,
 - (iii) academic prediction and selection, and
 - (iv) guidance.
7. **Introducing corresponding changes in**
- (a) instruction by making it objective-centred,
 - (b) curriculum,
 - (c) teacher education by adding courses on evaluation at different levels, and
 - (d) research programmes.

External Examination

1. External examinations will continue, at least in the foreseeable future, for the purpose of :
- (a) making inter-pupil comparison and their classification at the inter-school level at the end of the secondary school stage,
 - (b) maintaining academic standards,
 - (c) stimulating teachers and students for working hard towards higher attainment, and

- (d) certifying students on the basis of a common examination conducted by expert and professional evaluators.
2. External examinations will be made as objective as possible in order to ensure sufficiently high reliability of the measurement, so that the certificates and grades awarded on their basis become more dependable.
 3. External examinations will be based on pre-determined objectives of teaching secondary school subjects, and will be improved according to the specific targets of improving questions, question papers, scoring procedures, mechanics of conducting examinations, and so forth, as stated earlier.
 4. Effort will be made to introduce practical examinations in science subjects and oral examinations in the languages at the Board level in order to increase the area of evaluation of the student's growth. The oral and practical examinations have a great pedagogical value also, whereby two very vital, but often neglected aspects of the student's development, namely, oral expression and practical skills, will receive due emphasis in school instruction. In the case of those Boards where practical examinations in science subjects are already being held, the current practices will be improved where necessary. Oral examination will be introduced in a planned manner after developing appropriate techniques to ensure reliability and training examiners for the purpose. Grade scores based on a rating scale will be awarded in each of these cases. Obviously the question of adding marks with corresponding written examinations does not arise. Separate passing in these examinations will be obligatory.
 5. Distinction will be made between school leaving certificate and college entrance certificate. Those students who will demonstrate adequate performance in a stipulated group of basic subjects will be awarded a school leaving certificate. Those who show an adequate (or, if decided, superior) performance in these subjects and high performance in additional subjects will be awarded college entrance certificate. A telescopic method of examining students in basic subjects (compulsory) and additional subjects (optional) will be worked out. Those students who aspire to obtain the college entrance certificate but fail to reach that standard will be awarded the school leaving certificate instead of dubbing them as failures provided that they show adequate performance in the basic subjects. English will not form a part of the basic group of subjects.
 6. The use of standardized achievement tests will be popularized in lower classes of secondary schools to make the comparison of pupil performance and the comparison of average school performance with local and state norms. This may enable individual schools and students to know their relative standing regarding educational achievement at lower classes as well so that they may be able to take appropriate measures, if necessary, to improve their performance at the Board examinations.

Evaluation in Schools and Internal Assessment

1. All evaluation in the school will be considered as internal assessment. This will be given much more emphasis in the total programme of evaluation than what is being given at present.
2. School evaluation will include all the elements of external examinations. Written examinations conducted in schools will be improved as stated in the section of Specific Targets. In addition, other techniques of collecting evidences about pupil achievement in respect of various objectives will also be used. Thus, internal evaluation will be made more comprehensive by extending the total area of evaluation. The instruments necessary for this extended evaluation will be constructed and teachers trained to use them.
3. The functions of school evaluation will also be enlarged. Internal assessment will be used not only for the measurement of achievement but also for the improvement of achievement.
4. For certain aspects of achievement, rating scales will be used instead of marks. For certain other aspects descriptive appraisal will be given. Hence, internal assessment will not be combined with external examination results. At the end of secondary education, a separate certificate will be given to the candidates in the form of a school record which will bear the seal of the school as well as that of the Board.
5. The schools will be encouraged to maintain a cumulative record for each student indicating his personal data, home background, scholastic achievement and other aspects of his growth. Teachers will be trained to use the cumulative data for helping the student in improving his attainments.

Agencies and Activities

The programme of examination reform has various dimensions and sub-dimensions. Such a complex programme can be carried out successfully only when various agencies concerned assume a collective responsibility for its implementation. The agencies that will have to co-operate in the implementation of the programme are :

1. Boards of Secondary Education.
2. State Departments of Education including the Inspectorate.
3. Central Examination Unit.
4. State Evaluation Units.
5. Teachers' Colleges and Extension Services Departments.
6. Schools and Teachers.
7. Guidance Bureaus.
8. Curriculum and Text-book Bureaus.

The problems in the field of examinations are indeed massive and they require a

massive attack from various fronts to solve them. Secondly, a large number of technically qualified personnel are required to handle the problems well and bring about the reform on a mass scale without losing the quality. Lastly, the reform programme will have to be carried out continuously for a large number of years and developed from phase to phase in a spiral manner. The programme will consist of training personnel at various levels, implementation of the changes in a systematic way, production of literature, introduction of changes in curriculum, instruction and training, development of research on basic as well as practical problems, and so on.

A comprehensive programme of activities to be undertaken by various agencies will have to be worked out after the policy statement is finalized.

APPENDIX H

ITEM VIII : To discuss the feasibility of introducing (A) Practical and (B) Oral examinations at the Board level.

VIII (A) Practical Examinations

The development of practical skills is one of the purposes of science teaching at the secondary school stage. Practical skills include developing reasonable proficiency in experimentation, manipulation with scientific instruments and the like.

Need

The written examinations conducted by Boards cannot test the objective of practical skills.

This objective is becoming all the more important in view of the scientific and technological development in our country that is growing from one plan period to another.

Practical examinations have great pedagogical value also. The absence of the practical examination at the Board level at the termination of a course of study in science at school level has resulted in not giving due emphasis to the organization of practical work in well-equipped laboratories. Moreover, knowledge of skills is equated with acquisition of skills as only the former is tested through the written examination. Introduction of practical examinations at the Board level is, therefore, a felt necessity to inculcate not only the right approach to science teaching at the secondary schools but also develop a favourable attitude towards practical work among pupils.

Conducting Practical Examinations

Some Boards do conduct practical examinations in science subjects. Whenever the Board is responsible for the conduct of Higher Secondary Examination, the practical exa-

minations in Science is a must. This increases the area of measurement.

With the desirable addition of another area of measurement, naturally certain academic and administrative problems have to be faced. Some are given below :

- (i) Should practical exercises be organized as parallel problems or quite different problems ?
- (ii) Should practical work be organized as one major experiment, two major experiments or one major experiment, with a few minor ones ?
- (iii) How to make the measurement reliable ?
- (iv) Should the examiner give marks or give a rating on a five or nine point scale ?

Suggestions

In order to make the practical examination fulfil the purposes for which it is conducted, the following suggestions may be considered.

- (i) To analyse the skills involved in practical exercises in terms of basic operations.
- (ii) To develop appropriate procedures for practical work within the scope of the prescribed syllabus.
- (iii) To provide the laboratories with at least minimum equipment to afford facilities for a group of children to work at a time.
- (iv) To improve the reliability of practical examinations by introducing techniques like the rating scale and planned observation. (As the practical examinations involve direct method of collecting evidences for measurement, there tends to be a high degree of validity, but it often lacks adequate reliability).
- (v) To train personnel to devise, administer and score practical work in Board examinations.
- (vi) Weightages to the year's work and on-the-spot questions based on the experiments may be decided ahead of time, and procedures for accomplishing uniformity in this respect may be worked out. If it is decided to have rating scales, there may be one rating scale for the year's work and the other for the appraisal of the practical skill in the final examination including the on-the-spot questions (some time called viva voce).

Recommendations

The Conference may consider the following while making recommendations on this topic.

1. Those Boards that have not introduced practical examinations may consider to introduce them and those that have already introduced them may make a review of the present position to introduce necessary improvements.
2. For this purpose, Boards may appoint committees of personnel experienced in conducting practical examinations in schools/Boards and persons familiar with the concept and technique of evaluation.

3. Boards may experiment the proposed techniques on a few secondary schools and evolve an effective procedure before practical examinations are introduced on a mass scale.
4. The examiners may also be trained in making the appraisal of practical skills of pupils as reliable and valid as possible.

VIII (B) Oral Examination :

Any examination which does not include a test of the ability of the candidate to express himself orally, and to understand spoken language, especially the second language, is considered to be incomplete. Written examination, with all its attributes, cannot, by itself, claim to be an adequate measure of the candidate's ability to express orally in life situations, or ability to report acts or situations in precise words, or ability to express a sequence of ideas with ease and effortlessness. These abilities are indeed among those that every enlightened person should possess. But on account of the fact that they remain absolutely unassessed either in the school examination or in the Board examination, hardly any school makes any systematic and sustained effort to develop these abilities. It is quite in the fitness of things that Shri M.C. Chagla, Minister for Education, while addressing the Fifth Conference of Chairmen and Secretaries of the Boards of Secondary Education, underscored the necessity of introducing a viva voce test in the secondary school examination.

Implications of oral examination

Oral examination as envisaged above vis-a-vis written examination has two-fold implication. First, as is evident, it aims at supplementing the written examination by testing additional objectives, say, pronunciation, appropriate stress, fluency, delivery of organized ideas, confidence, etc. It, therefore, enlarges the area of the assessment of the students' achievement.

Secondly, oral examination has a rich pedagogical potential. It is likely to result in the development of certain important abilities in students which have hitherto not been adequately emphasized in a systematic manner. Hence instructional programmes should be suitably re-orientated with the desirable emphasis on the essential relationship between speaking and writing side by side with the evaluation programme.

Anticipated difficulties

While accepting the significance and worth-whileness of oral examination, one has to consider the difficulties that are likely to crop up before it is introduced in large scale examinations.

1. Oral examination is very time-consuming. Hence conducting oral testing on a larger scale poses a stupendous problem.
2. Before introducing oral examination at the Board level sufficient time and instruc-

tions should be given to teachers so that they can prepare the students in effective oral expression including good pronunciation, appropriate stress, fluency of thought and delivery of organized ideas.

3. Assessment may be highly subjective and impressionistic to the extent that one examiner will notice vocabulary, another will be impressed by fluency, still another by personality traits, and so forth.
4. In the absence of the clearly formulated techniques and procedures, it may become an examination of knowledge of content matter rather than that of oral expression.
5. It may not be valid in the absence of clear-cut specifics both in objectives and content areas.

Suggestions :

The Conference may consider the afore-mentioned difficulties and suggest ways and means of making oral examination practicable on a large scale. While doing so, the following suggestions may be taken into account :

1. The Boards may decide the languages in which oral examination may be introduced.
2. Since oral examination significantly differs from the written examination, its aims and objectives need to be carefully defined. It should also be scrupulously seen that whatever is asked in the written examination is not repeated in oral examination.
3. Suitable techniques may be devised to examine students orally, since oral examination obtains evidences of the pupil's achievements in those aspects which do not normally come under the purview of written examination.

The Boards may initiate experiments in the construction and administration of oral examination in some select schools and study the results, before there is any question of introducing it on a larger scale. To reduce subjective bias the Boards may also consider appointment of two or three examiners to assess students' performance in oral expression.

4. It is desirable to work out a pattern of grading or rating, preferably on a five-point scale. For dependable scoring and comparable assessments grading again may be explicitly defined so as to make it clear to examiners as to what they are to listen for in each response by the student.

Separate passing in oral examination should be compulsory. It may be observed that the question of combining scores on oral and written examinations does not arise.

5. Specific criteria of giving grading may be determined to ensure uniformity and to reduce variance among examiners.
6. Should the Boards decide upon introducing oral examination, and in that case a deadline may be fixed, steps may be taken to see that examiners are carefully selec-

ted and sufficiently trained in the technique of conducting oral examination by means of a valid and reliable procedure.

7. Every Board may appoint a small committee of experts entrusted with the task of listing objectives and content areas which may form a part of oral testing, preparing a feasible procedure of conducting oral examination, formulating steps as an insurance against examiners' subjective bias, emphasizing the need to keep all questions comparable, etc. The committee may comprise personnel conversant with evaluation techniques and oral examination procedures.

Given adequate safeguards, reorientation of instructional procedures and training of examiners, oral examination is likely to occupy an increasingly important place in the programme of examination reform. The Conference may, therefore, consider this issue and make necessary recommendations.

APPENDIX I

ITEM IX : To discuss the use of mechanical devices in processing results of Board examinations more expeditiously.

The task of processing results of ever increasing number of candidates in the Board examinations, within the same period of time as before, has set the agencies conducting large-scale public examinations to seek new methods of recording, processing, and printing the results. The most favoured solution of handling information on a mass scale is to install mechanized processing system like Hollerith equipment or I.B.M. data processing devices.

The S.S.C.E. Boards of Gujarat and Maharashtra have already installed mechanized data processing system. In both these Boards, the machines used are more or less similar. Some other Boards are also planning to introduce such mechanized systems. In order to acquaint the delegates of the Sixth Conference with the data processing systems in use, the Central Examination Unit requested the S.S.C.E. Board, Poona, to prepare a paper on how the machines are used by them to perform a multitude of jobs in a short period. As the Conference is being organized at Poona, the delegates will also have an opportunity to observe on-the-job operations of machines at the office of the S.S.C.E. Board, Poona.

The paper prepared by the Maharashtra S.S.C.E. Board is herewith attached. In the light of this paper, the Conference may discuss the use of mechanical devices in processing results of Board examinations more expeditiously.

MECHANIZED SYSTEM OF PROCESSING

EXAMINATION RESULTS

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MECHANIZED SYSTEM OF PROCESSING

EXAMINATION RESULTS

1. How 'Hollerith' Machines came to be Installed in the Board's Office

Prior to 1949, when the Matriculation Examination was conducted by the University of Bombay, the number of candidates was comparatively very small. It never exceeded 50,000. The number of subjects to be offered was ordinarily fixed as 8 only. The Examination Centres were never more than 30, and the scheme of Examination was very simple. There was, therefore, no problem for the University to think of mechanizing the Examination jobs. But when the S.S.C. Examination Board was set up in 1949 under the Statutory Act, the whole scheme of the Examination was radically changed so as to allow a very wide choice to the candidates in the selection of subjects. As a result, the number of subjects, the number of candidates and the number of Examination Centres rapidly went on increasing. Moreover, the technique of examination was quite new to the Board's office in the beginning. It had, therefore, to face innumerable difficulties. The almost insurmountable difficulties and delays experienced during the first three Examinations of the Board held in March 1949, March 1950, and March 1951 and the mishaps that attended them demonstrated the acute need for some mechanical devices that would ensure a very high degree of accuracy, expeditiousness and efficiency in the various important and urgent pre-examination and post-examination jobs. Vigorous efforts and extensive enquiries were made with a view to seeking a suitable method of equipment for satisfactorily and effectively mechanizing the examination jobs and the 'Hollerith' equipment of 'Punched-Card System' was after all chosen for the purpose. As this Board was the pioneering examining body in India to attempt an experiment of this type, it had to be extremely cautious in going about the work. It was only after the efficacy of these 'Hollerith' Machines had been demonstrated beyond all possibilities

of doubt that the Board decided upon installing the 'Hollerith' equipment for the jobs of the Examination with effect from the S.S.C. Examination of October, 1951.

2. The Punched-Card or Data Processing System and its Machines

(2.1) What is the System ?

The 'Punched-card system' for which the 'Hollerith' equipment is being used in the Board's office is originally invented by Dr. Hermann Hollerith whose machines were for the first time installed and used for the jobs of the United States census of 1890. It is a system whereby the necessary particulars or information of a large organisation required for accounting or statistical purposes can be recorded in the form of punched holes in the cards of standard size, shape and thickness which serve as the basic documents of the equipment and which can be read by electrical contacts made through the holes and processed with the help of various machines in order to get the desired results in extra-ordinarily short time accurately and in neatly printed manner.

(2.2) Main Machines of the System

The equipment of the "Punched-card System" consists of the following main machines.

| <i>Machine</i> | <i>Main Functions</i> | <i>Speed</i> |
|--------------------|--|---|
| 1. Punch | To transcribe the required data in the cards in the form of punched holes. | 50-130. 80 column cards per hour (depending on the skill of the operator, and type of the machine). |
| 2. Verifier | To verify the correctness of the data punched on the cards in order to eliminate mistakes done, during the operation of punching. | 50-130. 80 column cards per hour (depending on the skill of the operator, and type of the machine). |
| 3. Sorter | To arrange the cards in the desired order. It is this machine that does the sorting of cards wonderfully and very speedily. As far as the examination jobs are concerned, the machine can help in doing the following jobs : | 24000 to 45000 card passages per column per hour. |
| | (1) It can sort cards alphabetically strictly according to the dictionary order. Cards of over 1,00,000 | |

candidates can be brought in the alphabetical and other required order for the lists of candidates within 4 to 5 days.

- (2) With the help of this machine we can classify the mark-cards of the candidates in the various categories required for Result Analysis : i.e.,
 - (a) Candidates passing in all the subjects.
 - (b) Candidates eligible for condonation, i.e., failing in one subject, two subjects.
 - (c) Candidates who are not eligible for condonation, i.e., grace marks and who are, therefore, definite "FAIL".
- (3) Out of all the 50,000 or 60,000 'Pass' candidates who could be easily separated from others by this machine, cards for the following lists could be easily and accurately taken out and listed according to the order of merit :
 - (a) First thirty candidates.
 - (b) First fifteen female candidates.
- (4) List of candidates ranking highest in *each* subject.
- (5) List of candidates arranged according to the merit in each district.

4. **Tabulator** (i) To print the required information from the cards on the stationary in any desired form. 4800 to 12000 cards per hour.
- (ii) To add, cross-add or subtract on the counters the numerical information and print the totals of each sub-group, group and the whole lot of cards.
- (iii) To select information of particular category of cards or distribute one kind of information according to different categories of cards, to accumulate the same in different counters and print their totals separately.
- (iv) To have an arithmetical check on the cards being run on the Tabulators or on the information being accumulated on the counter.

The machine can do the following main functions for the examination jobs :

(i) Agreement of Marks

This is an additional check on the marks punched in the cards. Subject-wise marks are accumulated and for each block of 1000 candidates the totals are agreed with the totals taken by the comptists on the respective mark-lists. This serves a good check in order to obtain maximum accuracy of the data punched in the cards.

(ii) Rolling marks for Grand Total

The machine can read from the card of each candidate the marks of all subjects punched therein, take the Grand Total automatically and print it on the sheet of paper. The machine performs all these operations for each candidate in about 6 seconds.

(iii) Printing

The machine can print the required information from cards in respect of the following documents in the desired form :

- (a) Centre-wise list of candidates.
- (b) School-wise list of candidates.
- (c) Result Analysis sheets.
- (d) Manuscript of Final Results.
- (e) Individual Statement of Marks.
- (f) Certificates.
- (g) Office Registers, etc., etc.

(iv) The machine can do all the statistical analysis and computation required for various Tabulations and print this in the desired Tabular forms. The main tabulations are Batch tabulations, Centre tabulations, Language Statistics, School Register, the various Result Statistics, Frequency tabulations, etc., etc.

5. **Reproducer** (i) To reproduce already punched cards as they are, or with modifications.
 (ii) To punch on a set of cards some common information. 4800 cards per hour.
 (iii) To compare the information in 2 sets of cards.
 (iv) To do the "Allotment of Seat Nos." on the cards.
6. **Interpreter** To interpret on the top of the card the information punched on the cards. 1500 to 2000 cards per hour.
7. The other main machines, viz., Collator, Multiplier and Calculator which are not used in the Board's Office also form part of the "Punched-card equipment" and used by large installations that are required to do on a very large scale mathematical calculations and collation of figures and facts.
8. **Computer** It is the latest electronic machine doing not only almost all the functions of Sorter, Tabulator and Reproducer but many other computational jobs. It is a very flexible and versatile machine. It is as good as a giant brain capable of storing a huge amount of information and answering all the problems arising out of information fed into it. Its input and output capacity is terrific. It can read the cards at about 300-600 cards per minute and it can print the information from the cards at 300 to 1000 lines per minute. It is available in different models. The monthly rental of this machine is about Rs. 15000/-.

(2. 3) How much load can one set of Hollerith Machines take

One set of machines that is generally needed in the Punched-Card System consists of about 6 Punchers, 6 Verifiers, 1 Sorter, 1 Tabulator and 1 Reproducer. In terms of examination jobs one set can deal with 30 to 40 thousand candidates.

If the number of candidates of an examining body like the S.S.C. Examination Board is below 30,000, it may not be economical to do the jobs with the Punched-Card System.

(2. 4) Different Equipments in use in INDIA

'Hollerith' is not the only equipment in India. There are others also dealing in the business. The following are the main equipments of the Data Processing or the Punched-Card System being used in India :

| Equipment | Company |
|-----------------|---|
| 1. Hollerith | International Computers and Tabulators (India), Private Ltd., Liberty Building, New Marine Lines, Bombay-1. (BR). |
| 2. Powers-Sames | |
| 3. I. B. M. | I. B. M. World Trade Corporation, Vulcan Insurance Building, Veer Nariman Road, P. O. Box No. 1071, Bombay-1. |
| 4. Aritma | Statistical & Accounting Mechanics, Private Ltd., 2E/s Zandewalan Extension, New Link Road, P. O. Box No. 537, NEW DELHI-1. |

3. The "Hollerith Section" of the Board's Office & its Equipments

(3.1) When and how the Section came into being ?

The "Hollerith" or 'H' Section of the Board's office which has been named after the type of equipment it is using, has been functioning in the Board's office since August 1951 when the "Hollerith" machines were first installed. In the beginning, the Section was controlled and manned by the staff of the "Hollerith (India) Private Ltd." The company's staff was gradually replaced by the office staff as and when the office members were trained and they gained the necessary experience. The replacement was complete by the end of June 1956 and with effect from 30th June 1956, the "Hollerith" Section is being completely and independently managed and controlled by the office staff only.

(3.2) How the Section is Functioning ?

The 'Hollerith Section' is a very important branch of the office shouldering heavy responsibilities and discharging onerous duties in order to carry out and complete the various important pre-examination and post-examination jobs according to a very rigid time-schedule in spite of the serious and genuine difficulties such as machine break-downs, dislocation of power supply, shortage of machines and trained and experienced operating staff. The section is always required to work in 2 shifts throughout the year and in 3 or even 4 shifts during the time-schedule period which extends to about 8 out of 12 months during every year. During the time-schedule period, the Section has actually to race with the time and is required to work almost round the clock under a great tension and pressure.

(3.3) Importance of Supplying correct data in the "Hollerith" Section.

As the punched card serves as the basic document for the Hollerith Section for all the subsequent operations and jobs, it is of utmost importance that the data supplied

to the Hollerith Section for punching into the cards are absolutely neat and correct. It will be realised that certain data have to be codified so as to adapt to the needs of mechanization and if due and proper care is not taken by the persons concerned to write the codes correctly and neatly, the card, the basic document, will be punched with wrong data and it would naturally be repeated throughout all the subsequent operations and jobs. For instance, if, for 'Sanskrit' the classical language offered, code in the candidates application is shown wrongly as 2 instead of 1, the candidate would be shown to have offered 'Pali' instead of "Sanskrit" in all the office records that the Hollerith Section is preparing, and apart from the office records and the candidate's certificate going wrong, the candidate, if he is fortunately a scholar, might, lose his "Shanker Sheth Scholarship". The importance of taking utmost care in filling in the candidate's application with the required information, with every letter and figure being written boldly, clearly and correctly cannot, therefore, be over-emphasised.

The Hollerith Section, on its part, does its best to establish various checks at every stage in order to ensure that the cards contain at all stages the correct original data supplied for punching and that they are up-to-date with all the corrections intimated through Regular Correction slips from time to time. The Section always tries whenever it can, to detect the obvious discrepancies or errors in the data supplied and helps in getting the wrong data corrected.

(3.4) Checks and Precautions taken to ensure maximum accuracy.

Whenever there is a possibility of mistakes creeping in, either manual or mechanical, checks have been introduced by the office with a view to attaining the maximum accuracy. Although the schools or the Moderators are supposed to give to the office their original documents, viz., candidates' applications or the final mark-lists quite correctly duly checked, the office, before handing over the original documents to the 'H' Section for punching, carries out a scrutiny of these documents and makes sure that the mistakes detected therein are corrected. Similarly, in the 'H' Section, also, after almost every operation there is always a further checking operation, e. g., verification of cards is a checking operation on the operation of punching. The operation of Agreement, Final Agreement, the comptist's check on Result Analysis sheets, the Statement of Marks or Office Registers, are mainly and solely intended for checks established with a view to eliminating the remotest possible mistakes and ensure maximum accuracy in the final documents sent outside. Moreover, the 'H' Section maintains various Control Registers and charts which serve as the basis for controlling the figures for each of the subsequent operations or jobs.

(3.5.) Working Procedure and the Main Jobs carried out in the Hollerith Section.

As the 'H' Section has to be fed with the required data to be punched in the cards by

Branches A, B, C, D and I which have to supply to the 'H' Section the original documents, viz., candidates' applications, final mark-lists, Examiners' applications, etc., for punching and verification of cards, the 'H' Section has always to depend upon these Branches for the correctness of the data. The Branches, in turn, have to depend upon the 'H' Section for all the various lists, statements, certificates, statistics, etc., which are produced on the Hollerith machines and which are required by the Branches according to the time-schedule laid down for them. Thus, the 'H' Section and the general Branches have to work always with co-ordination and co-operation throughout the entire cycle of each examination, i. e., right from the receipt of candidates' applications to the issue of S. S. Certificates to the schools. For every examination there are 2 phases of the jobs—(1) Pre-examination jobs and (2) Post-examination jobs.

Two separate cards, viz., (1) Name card and (2) Mark-card are prepared for each candidate for the jobs for each of the above two phases. The data in the 'Name card' are to be punched from the candidate's application and the data in the 'Mark-card' from the Moderator's Mark-list. The operations for each of these two phases start from the receipt of the original documents, viz., candidates' applications or Mark-lists. The feeding of original documents to the 'H' Section by the Branches and the punching and verification of cards go on for about 8 to 10 days. Once the cards are punched and verified the cards are then taken in the Machine Room for further processing them on the major machines, viz., Sorters, Reproducers and Tabulators. The detailed statement showing the main jobs carried out in the 'H' Section after Punching and Verification of cards along with the purpose for which the jobs are required to be done is given in Appendix 'A'. *

The Specimens of the main jobs are shown in Appendix 'B'. *

* These will be displayed in the conference.

(7.6) The Equipment in the Section and the monthly recurring expenditure thereon.

| MACHINE | TYPE | QTY | RENTAL Rs. | MAINTENANCE Rs. | TOTAL MONTHLY EXPENDITURE. Rs. |
|--------------------|---------|-----|---------------|--------------------|--------------------------------------|
| 1. Punches | 1/5 | 13 | | 52-00 | 52-00 |
| 2. " | 1/7 | 9 | 216-00 | — | 216-00 |
| 3. Verifier | 103/0 | 8 | — | 48-00 | 48-00 |
| 4. " | 7/103/1 | 7 | 252-00 | — | 252-00 |
| 5. Reproducer | 202 | 1 | — | 56-00 | 56-00 |
| 6. " | 202 | 1 | 555-00 | — | 555-00 |
| 7. Sorters | 300 | 4 | 1276-00 | — | 1276-00 |
| 8. Tabulator | 854 | 1 | 2592-00 | — | 2592-00 |
| 9. " | 902 | 2 | 7094-00 | — | 7094-00 |
| 10. Control Panels | | 12 | 252-00 | — | 252-00 |
| | | | 12237-00 | 156-00 | 12393-00 |
| | | | | Less Discount | 756-94 |
| | | | | | Rs. 11636-06 |

(3.7) Present Staff of the Section

| | | | |
|-------------------|-----|-----|---|
| Superintendent | ... | ... | 1 |
| Asstt. Supdt. | ... | ... | 1 |
| Supervisor | ... | ... | 1 |
| Senior Operators | ... | ... | 2 |
| Junior Operators | ... | ... | 8 |
| Operator Trainees | ... | ... | 7 |
| Junior Clerk | ... | ... | 1 |
| Peons | ... | ... | 3 |

It is very necessary that a pool of trained and experienced staff is always maintained lest there should be shortage of staff at the eleventh hour on account of certain members leaving the service for better prospects outside. For the same reason it is also essential that the Hollerith Staff being skilled and specialised are given sound scales of pay so that they are not easily attracted by the outside private or government installations where they are in great demand.

4. Main Advantages Derived from Mechanization

By the use of machines and the punched-card System it has been possible :

1. To gain the highest degree of accuracy.

2. To send the Schoolwise List of candidates to schools about 15 days prior to the Date of Examination.
3. To send the Individual Statements of Marks to the various schools concerned in the State, almost on the date of the Declaration of Results. (This would be impossible without the use of machines).
4. To send the certificates within 2–3 months to all schools.
5. To print the Statements of Marks and Certificates in decently and neatly printed manner.
6. To declare along with the results the centre Statistics showing No. registered, No. appeared, No. passed and percentages separate for private and regular candidates for each centre.
7. To declare along with the Results, with 100% accuracy, the first 30 candidates, first 15 female candidates and the names and seat Nos. of candidates getting the various important awards and scholarships based on aggregate marks, marks in individual subjects and territorial merit.
8. To provide the Chief Conductors of the various centres with the requirement of question papers in various subjects and languages sufficiently in advance.
9. To prepare subject statistics showing seat Nos. of candidates registered and exempted for each subject.
10. To compile sheets of Result Analysis giving all the detailed marks and Grand Totals of all the candidates arranged in various suitable classifications in order to facilitate the work of condonation, e. g.,
 - (i) Candidates passing in all subjects.
 - (ii) Candidates failing in one subject, 2 subjects and so on.
 - (iii) Candidates failing the examination and eligible for grace marks., etc., etc.
11. To prepare in comparatively short time various statistical information such as “District-wise statistics” regarding schedule and non-schedule candidates, School-wise statement showing No. registered, No. passed, Gradewise statistics, statistics regarding Oriental Languages, No. of candidates getting the benefit of combined passing in language—Higher Level and language—Lower Level, etc., etc.
12. To prepare in considerably short time the frequency tabulations and statistical information required for the various research projects undertaken by the Research and Investigation Unit of this office.
13. To prepare the required lists and panels of the names of the applicants for the appointments of examiners, moderators and paper-setters.

5. Scope of the Punched-Card Equipment in the Board’s Office

The Board’s Office has conducted so far 26 Examinations with the use of the

machines, the last one being of March 1964 and the biggest one being that of March 1960 at which the total No. of candidates (for both the S. S. C. and the H. S. C. Examinations) was as large as 1,41,369.

It has now established beyond doubt that the Punched-Card or the Data Processing System can be very usefully and effectively exploited for the various examination jobs of any examining body, no matter how complicated or voluminous its jobs are. In fact, the more the volume, the more economical it becomes. This system, like others, is not, however, without its problems. While the office of this Board is fully convinced of the efficacy of this system, it is at present facing the problems of the frequent break-downs of the present machines. The acute problem of obtaining the necessary Import Licence and foreign exchange for the replacement of and addition to the present machines has been eased a little by the recent installation of the I. C. T. Factory at A'nagar Road and the assurance given by the I. C. T. Factory without the involvement of foreign exchange. The question of replacing the present equipment by more advanced "Computer System" either from I. C. T. or I. B. M. Co. is also under active consideration and this Board is likely to switch over to the "Electronic Data Processing System" of the Computer within one or two years.

APPENDIX J

ITEM X : To receive the report of the analysis of results of Boards' examinations held in March 1962, 1963 and 1964, along with a comparative data of examinations held in March 1960 and 1961.

In the light of the suggestions made in the Conference the data given under this item have been sent to individual Boards for checking. A full report on the results of the different Boards will be published separately when the final figures duly checked are received back from the Boards.

APPENDIX K

ITEM XI : To suggest studies and investigations that may be undertaken by the Boards.

The soundness of any programme of reform in examination or in any other aspect of education depends upon the extent to which the reform is based on research findings. As the programme of examination reform advances, the need for research is more keenly felt because it is through studies and investigations that the results of the changes introduced from time to time are found out.

The Central Examination Unit (CEU) has, therefore, attached great importance to research in the field of examination reform. Besides conducting a number of studies and investigations on its own, the CEU has also been providing technical guidance to a number of agencies all over the country that are working on different projects on examinations. From time to time it compiles, reviews, edits and disseminates information relating to research on examinations. It has also brought a number of fundamental and applied problems to the notice of research workers and other agencies.

The CEU has located certain problems of research of a practical nature which every examination Board should undertake individually. A list of such problems has been prepared to which the Boards may add some more according to their specific needs.

The members of the Conference may consider the list of problems given below.

1. Analysis of question papers set at Board examinations with respect to coverage of objectives, i.e., number of objectives covered, weightage given to objectives, and consistency in coverage of and weightage to objectives over a period of time.

2. Analysis of question papers set at Board examinations with respect to coverage of content, i. e., number of topics covered, weightage given to different topics, and consistency in coverage of and weightage to different topics over a period of time.

3. Analysis of question papers set at Board examinations with respect to difficulty and discrimination value of questions.

4. Analysis of question papers set at Board examinations with respect to length of question paper.

5. Analysis of question papers set at Board examinations with respect to specificity of questions and answers.

6. A study of cases of verification at Board examination with special reference to the number and kinds of errors committed.

7. Analysis of errors made by pupils in answer scripts in subjects like mother tongue, English and mathematics.

8. A study of the effectiveness of existing scoring procedures and measures to improve them.

9. Prediction of college success on the basis of Board examination marks.

10. A follow-up study of high achievers at Board examinations.

11. An intensive study of the administration and organization of Board examinations to locate the strengths and weaknesses of the entire mechanics of conducting examination and to improve upon them.

While making suggestions to the Boards for undertaking the studies, the following may be considered by the Conference :

1. The problems of practical nature such as those listed above may be given priority by the Boards.

2. Those Boards which have Research Units attached to them may undertake these studies through their Units. The Research Units of the Boards may develop the programme of studies and investigations in consultation with the State Evaluation Units, wherever they are established, to avoid duplication of effort.

3. The Boards which have not yet established Research Units may undertake the studies in collaboration with agencies like training colleges and Evaluation Units in their States.

4. Some of these investigations will have to be repeated every year or every two years to study the extent of desired improvement. The Boards should decide which studies are of a recurring nature and should plan the research programme accordingly.

5. The findings of the studies should be fully utilized to bring about improvement in the system as immediately as possible and should be brought to the notice of the personnel concerned, such as paper setters, examiners, etc.

6. The findings should also be circulated to other Boards of Secondary Education and similar other agencies.

APPENDIX L

ITEM XII : To discuss ways and means for the introduction of objective-based questions in Board examinations with special reference to the introduction of objective type questions.

In the total programme of examination reform, improvement of questions and question papers occupies a key position and therefore, the Boards of Secondary Education rightly have taken up this aspect as the first step forward towards the envisaged reform. When better question papers are introduced at the Board examinations, the desired change is bound to take place in class room examinations, instructional procedures and study habits of pupils. Further, the impact could also be felt within a reasonably short period.

Present Position

Boards of Secondary Education are concerned mostly with the conduct of written Examinations. An analysis of the question papers set at these examinations reveals the following :

(i) Almost 95% of the questions in most papers require mere recall of information on the part of the candidates.

(ii) Many questions are defective in wording so that ambiguity in answering is introduced. This results in subjectivity in scoring, and the examination becomes less reliable.

(iii) The length of the expected answer in essay type and short answer type of questions is often not specified.

(iv) Most often content coverage is such that a candidate can attempt 100% worth of questions even if he omits a major section of the prescribed syllabus.

(v) The effectiveness of the content coverage is also very much reduced by the way in

which the options are provided in a paper.

These are only some of the major deficiencies generally found in the question papers of the examinations of many Boards.

Work Done

So far 15 workshops have been organised for paper-setters and moderators of the Boards of Gujarat, Maharashtra, Mysore, Punjab, Rajasthan, and Vidarbha by the Central Examination Unit in co-operation with the Boards. Among these Boards, Rajasthan has decided to implement the change by introducing the improved question papers in the Board Examination of 1965 in the subjects of General Science, Social Studies and Elementary Mathematics in the first instance. Rajasthan Board has now selected four elective subjects, viz., Mathematics, Physics, Chemistry and Biology for a similar reform and a preparation programme to this end is under way in collaboration with the Central Examination Unit. Other Boards are at different stages in the initiation, implementation and expansion programmes. Some more boards are planning to hold training programmes for their paper-setters so that they may acquire proficiency in writing better question papers.

In addition to the above, workshops have also been organised for teachers and training college lecturers with a view to providing training in writing better questions and preparing unit tests which may be administered in home examinations.

In this phase of the programme of examination reform, efforts should be made in the direction of improving

- (i) individual questions,
- (ii) complete question-papers and
- (iii) scoring procedure.

Characteristics of Good Questions

Some of the important general characteristics of good questions are given below :

- (i) They should be based on pre-determined instructional objectives.
- (ii) They should be based on specific content area.
- (iii) The wording should be clear, precise and within the comprehension of the pupils.
- (iv) The length and scope of the expected answer should be definite.
- (v) The appropriate form of the item, essay, short answer or objective-type, should be used to test a specific objective through a restricted content area.
- (vi) The difficulty level of the questions should be such as poor, average and good pupils could answer them.
- (vii) The items should have good discriminative value.

Characteristics of a Good Question Paper

To prepare a paper consisting of questions the setter has to think of certain other dimensions which are not considered while writing individual items. Some of the important characteristics are given below.

(i) The different examinable instructional objectives should be given proper weightages. (At present an analysis of a paper reveals that about 95% of the questions are designed to test the ability to recall mere crammed up information.)

(ii) Adequate effective coverage of content matter should be made possible.

(iii) Appropriate forms of items should be included in the paper to test specific objectives through the selected areas of content matter.

(iv) If at all options are given, only internal options should be given to the minimum and optional questions should be given as far as possible on comparable content matter with equitable difficulty level.

(v) The objective type tests should be grouped under a separate section with a provision for separate administration within a fixed time-limit.

(vi) Clear general instructions as well as special section-wise instructions should also be given in the paper.

Characteristics of a Good Scoring Procedure

The fixed response type of items do not require an elaborate scheme outlining in detail the scoring procedure. A scoring key and allotment of marks would be sufficient. On the other hand, the free-response items necessitate the development of a detailed scoring procedure indicating the expected answer and the corresponding number of marks for different value points in the answers.

Some of the characteristics of a good scoring procedure are given below :

(i) There should be a very high degree of reliability in scoring answers by an examiner.

(ii) When many examiners value answer scripts there should be a great deal of uniformity in scoring.

Objective Type Questions

This is a fixed response type wherein the candidate has to select or supply the correct answer. There are many forms of objective type tests, the well known being the Multiple Choice type and Matching exercise.

All questions are based on an objective and objective type tests are no exception. It may be mentioned here that the Multiple Choice form of item could very well be used to advantage for testing a variety of specific objectives of teaching. It is a very sensitive instrument and therefore its preparation and administration require technical knowledge and skill.

Introduction of quality items of the above type to ensure greater effective coverage of objectives and content matter in the question paper is a welcome feature. But this is only one aspect of the total improvement of questions and question papers.

There are other aspects which need attention. It is, therefore, necessary to develop a comprehensive programme of action which should include the introduction of objective type questions in the Boards' examinations in addition to the improvement of various other aspects of improving questions, question papers, and scoring procedures.

Suggested Action plan to Introduce the Reform

The plan is envisaged in three stages—Preparation, Implementation and Expansion programmes. Under each programme, the major tasks to be accomplished are also indicated.

(a) Preparation Programme :

(i) A decision about the introduction of the change in the form of improved question papers should be taken with reference to the subjects and the year of examination.

(ii) Paper-setters and senior moderators should first be given initiation into the concept and then, intensive training in preparing questions and question papers.

(iii) Training should also be given to other resource persons drawn from various educational institutions like schools and training colleges.

(iv) Pools of questions, unit tests, sample question papers and sample instructional material should be developed for circulation to schools.

(v) Preparation of handbooks for teachers, revised instructions to paper-setters and other similar material should also be undertaken to provide guidance to teachers and paper-setters and others.

(b) Implementation Programme

(i) The sample question papers developed in workshops of paper-setters should be circulated to schools with necessary reading material indicating also the introduction of the change.

(ii) Unit tests in different subjects should also be circulated to schools.

(iii) District level seminars of heads of institutions and teachers may be convened at suitable centres to give opportunities to them for further clarification and understanding of the implications involved therein.

(iv) Sample instructional material should be developed to provide guidance to teachers to attempt objective-centred teaching.

(v) It is also necessary to plan and carry out certain studies and investigations to throw light on problems related to the introduction of the change in the question papers.

(vi) Measures should be taken to enlighten the parents, press and public regarding the merits of the reform.

(c) *Expansion Programme :*

More subjects should be selected to afford facilities for training personnel in them. The preparation and implementation programmes may also be repeated with modifications in the light of the experiences gained during the introduction of change in other subjects.

Recommendations

(i) The percentage of mere information questions in papers should be decreased and an increase be made in the percentage of thought provoking questions. The thought provoking questions should be based on pre-determined objectives higher than mere "Acquisition of Information".

ii) The paper-setters should be instructed to frame questions in such an unambiguous manner that the length and scope of answer to each question are definite.

(iii) Overall options as a rule should not be given; instead internal options may be given. The internal options should be comparable in all respects.

(iv) Whenever objective type items are introduced, they should be administered as a separate section of the paper with a separate time limit.

(v) At the initial stage, sample question papers may be prepared in selected subjects like General Science, Elementary Mathematics, Social Studies, English and the mother tongue.

(vi) It has been observed that most of the deficiencies in the question papers are common in practically all the Boards. In the light of this observation, the Board may decide to undertake a common programme of reform in selected subjects, e.g., core subjects. Even these subjects may be common in all Boards so that a concerted effort can be made cumulatively by the Boards, the Central Examination Unit and the State Evaluation Units to bring about a definite change in the present system of examination.

In the preceding pages an attempt has been made to discuss problems connected with the introduction of objective-based questions in Board examinations. A general outline of the action-plan to introduce the reform has also been suggested. The Boards may seek further assistance from the Central Examination Unit in developing specific plans. They may also decide to introduce certain changes that are immediately needed and for which no elaborate preparation is necessary.

APPENDIX M

ITEM XIII : To discuss the ways and means of implementing internal assessment effectively.

External examinations as they are conducted by Boards in India are criticized because (i) they evaluate the pupil achievement at one point only at the end of the course and they do not consider his day to day work and (ii) the teacher's opinion about the child is not given consideration at all.

This comment on external examination is quite valid. This type of external examinations encourage wrong teaching-learning procedures like selective study or undue emphasis on rote memory.

To remedy this it is suggested that external examinations should give some consideration to internal assessment including pupil's class-work and his school examination results in the last two or three years of his high school.

It is envisaged that internal assessment will take care of the following :

1. It can assess those objectives more conveniently which are very difficult to assess in the external examinations.
2. It will help in developing regular and right study habits among the pupils.
3. Pupils can compare their present achievements with the past ones and make improvements.
4. Comparison of achievements of different pupils in a school can be made more scientific and reliable and hence it will provide opportunities for healthy competition and growth.
5. Teachers can examine their own work and improve upon their own methods of teaching so as to make them more effective.

Some Boards have already introduced internal assessment in their examinations, but the practices differ from Board to Board. Some significant features of these practices are given below.

- (i) Eight Boards have introduced internal assessment in some form or other. But the weightage given to the internal assessment differs from subject to subject and Board to Board. In some subjects in some Boards it is 10% while in some other subjects in some other Boards it is 100%.
- (ii) Criteria of internal assessment vary from Board to Board. In some Boards internal assessment is based on written tests. In some other Boards in addition to the written tests other criteria such as attendance and co-curricular activities are also included for this purpose.
- (iii) Some Boards have laid down separate passing in internal assessment while some others have accepted combined passing. Some Boards do not consider it for the award of grades.
- (iv) Punjab University has a scaling procedure in case of those whose averages of internal awards and external examination results differ by more than 10%. Other Boards do not follow such scaling procedures.
- (v) Some Boards have expressed the opinion that the internal assessments are not reliable and hence should be discontinued. Some Boards are silent on the points while some other Boards have expressed the views that the internal assessment has improved school discipline and it should continue.
- (vi) Bihar Board has discontinued it since 1963.

The group may discuss the whole question of internal assessment and clarify the objectives of internal assessment; and taking into account the experience of the Boards who have introduced internal assessment offer their suggestions on the following problems in relation to internal assessment.

1. Should internal assessment be made an integral part of external examinations ?
If so, what should be its weightage ?
2. Which objectives should be assessed through internal assessment ?
3. How to develop evaluation tools for those objectives ?
4. How to get reliable unbiased awards from schools ?
5. Can marks be replaced by "Rating Scales" ?
6. How to educate the teachers to effectively use internal assessment procedures ?
7. What should be the position of internal assessment in the external examination results ? Should they be combined or shown separate ?
8. What should be its position in the certificates issued ?

A paper entitled "Internal Assessment and External Examinations" by Dr. Walker H. Hill, U. S. A. I. D. consultant is enclosed for reference.

ANNEXURE XIII A

INTERNAL ASSESSMENT AND EXTERNAL EXAMINATIONS

Walker H. Hill*

For evaluation of student achievement in secondary schools and universities, we depend heavily upon external examination. Almost all of the academic activity of students and teachers is aimed at passing these examinations. Very little is done to measure students' status or progress within the school. Examinations are used as a basis for promotion in schools, but they are often only minor hurdles. The external examination is what really counts, and the attention of everyone is directed toward it.

This system has been severely criticised. Apart from the quality of examinations which surely needs improvement, it is argued that one examination cannot adequately assess a student's achievement of the objectives of education or his ability to pursue his education further. The certification of students, according to this argument, should be based at least in part upon periodic internal assessment of their work.

Combination of the results of internal and external assessment was proposed by the Radhakrishnan and Mudaliar Commissions.¹ It has been widely advocated, and in some States it has been tried. It is still practised by some S.S.C. Boards and some universities, but the results have often been discouraging. One reason is that the quality of internal assessment has not been adequate. Another is that there is lack of agreement about how the results of the two types of appraisal should be combined—what weightage should be given to each, and by what formula should the combination be made ?

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1. *Report of the University Education Commission*, Vol. I. Delhi : Government of India Press, 1949; *Report of the Secondary Education Commission*, New Delhi : Ministry of Education, Government of India, 1953.

The problems are similar at the secondary and university levels. While they are discussed in this paper with specific reference to the secondary stage, I believe what is said here is applicable also to evaluation in universities.

There are those in India who believe external examinations should be abolished. They can make an appealing case for their belief. They can show that the examination system has seriously detrimental effects on all aspects of secondary education: testing memorised information almost exclusively and discouraging attempts to develop other types of competence in students, inhibiting the development of new materials and methods of teaching, encouraging cramming and selective study of only parts of a syllabus. They point out that the papers are technically defective in many respects and the marking of scripts far below an acceptable level of objectivity. They deplore the fear and tension created in students by the over-riding importance of an occasion which resembles the Christian conception of Judgement Day. And they see the whole system as one designed to judge successful completion of one stage of education solely in terms of qualification for a higher stage.

The charges are all familiar, and they are all true. Perhaps the most universally agreed-upon proposition about Indian education is that the external examination system needs to be changed. It is easy, therefore, to reach the conclusion that we should be better off without it. To free the schools from this straight jacket, to develop useful programmes of secondary education that will fit people for life and not just for universities, to enable school to teach young people to understand, apply, and think about what they learn, to promote improvement of instruction and evaluation through all the high school years—all this we could do, it is said, if we would eliminate the force which holds us back.

Attractive as this argument may be, I believe it is wrong—as do most responsible people in Indian education. Improve external examinations—yes. Eliminate them—no. They can serve an important purpose. They can meet a need which would not be met without them. They influence education profoundly; let us make that influence a good one.

But we do need to develop internal assessment. It is weak, but it is important. It can and must be strengthened. My first thesis, then, is that *both external examinations and internal assessment are necessary, and both are in need of major measures of improvement.*

Internal assessment is important because both teachers and students need to know, during the years in schools, how well the goals of instruction are being achieved. This knowledge helps the teacher do his job better. When he tests his students periodically, he finds out what they are learning well and what they are failing to learn. This gives direction to his teaching, enabling him to emphasise the materials and the objectives which are shown to need more emphasis.

This knowledge is needed by the students also. As they develop interest in evaluation of their own work—and this interest does develop with a good assessment programme—it can give them a sense of purpose in their learning. The objectives of education become *their* objectives, as well as being those of the school. A test can itself be a learning

experience. A wise teacher makes it so by noting and correcting the mistakes it reveals, and by getting students to think about the answers they have given and the better answers they might have given.

Good periodical testing, in which students take an interest, and which seems to them to serve a useful purpose, can do much to reduce the fear with which they so often face the formal examination. They will have become more accustomed to tests and understand them better. And they will have a more realistic sense of their own abilities.

A good programme of tests and examinations in a school can also be used as a legitimate means of selecting students for further work—not beyond the secondary stage but within it. Most students who enter a secondary school should be able, and should be encouraged to complete the secondary grades. But this is not true of all of them. Even with diversified programmes, some students either cannot or will not do successful work in school. Testing can help identify these students. To retain in school those who have no hope of success is no favour to them or to the hard-pressed educational system.

My second thesis, therefore, is that *tests should be used at periodic intervals in every class in the secondary school*. How can good tests be made available for this purpose? First of all, it is necessary for teachers to understand the construction and use of tests and the relation of evaluation to teaching. They can develop this understanding by attending seminars and workshops on evaluation which will become increasingly available to them. This experience will not be enough, however, to make them producers of good tests. At times they may use standardised tests of achievement in various subjects. There are not, of course, enough of these in India at present, but they are being developed. Teachers will always have to rely, for the most part, on tests which they make themselves. For this they will need help, and that help is forthcoming.

A teacher need not be an expert in test construction in order to make good tests, if a set of good questions is available for him to use. Under the leadership of the Central Evaluation Unit of DEPSE, a large collection of tried and refined test questions has been gathered. Sets of questions in each subject will soon be distributed to secondary schools, with the help of Secondary Education Boards, State Evaluation Units, and Extension Centres. Since the questions will be classified by subjects and by the objectives they are designed to test, teachers should have little difficulty in selecting questions which fit their instructional purposes.

Internal assessment makes use of a variety of other evaluation devices, besides a regular programme of tests and examinations. More than strictly academic achievement should be assessed if more is included in the goals of the school. In modern secondary schools a good deal more is usually included. They are concerned with the development of character and personality. They wish to influence the attitudes, interests, and habits of their students as well as their knowledge and intellectual competence. If there are really significant objectives of education, they cannot be ignored in evaluation. Such devices as

rating scales, inventories, anecdotal records, and others may be used for their assessment.²

It is most important that the information obtained about students be recorded and preserved. Much potential material for evaluation is lost because it does not become part of a record. Record-keeping is a time-consuming task. When its value is not realised, it can be very annoying to a busy teacher. But a good system of student-records is an indispensable tool of evaluation. It enables a school not only to secure information about the achievement of students at a particular time, but to accumulate information over a period of time. The cumulative feature is important. Each item of evaluative information may gain significance when viewed in the context of a collection of items—items of different kinds, obtained by various means from a variety of occasions. Cumulative records may give a total picture of each student's progress and status which cannot be reproduced from the memory even of teachers who know the students well. This leads to my third thesis: that *an adequate system of cumulative records is essential for internal assessment, and well worth the trouble involved in maintaining it.*

Internal assessment has a two-fold purpose. It is used for judging the achievement of each individual student, and it is used as a basis for judging how well the school is accomplishing its goals. Evaluation of learning is also evaluation of teaching. Evaluation of the development of students is evaluation of the whole activity of the school. The evidence to be used for both purposes must be found in what happens to the students, for the goals of the entire school programme are concerned with its effects on students.

Internal assessment, or evaluation, is, as we have noticed, broader in scope than testing or examining. Tests and examinations are part of the assessment procedure, but not the whole of it. And the purposes of tests and examinations are part, but not all, of the purposes of assessment. If this distinction is fully comprehended, we can see that *all* aspects of the students' development should be evaluated, but *not all* aspects of it need be used as a basis for awarding marks.

With tests we measure the types of achievement for which students may be held accountable. To these we may attach reward or punishment, in the form of high or low marks, promotion or failure. This we can do successfully and legitimately; if we do it well—if our assessments are accurate—we do nobody an injustice. But what about such objectives as attitudes, interests, or beliefs? We should evaluate them as best we can, for it is an aim of our educational programme to influence them. To influence, however, does not necessarily mean to prescribe.

I dwell on this point because it is often a difficult one for teachers and school authorities to understand. If we are educating students for life in a secular democracy, they may say, should we not teach them democratic values, and should we not insist that they adopt

2. These devices are described in many standard books on evaluation. A brief account of them may be found in W. H. Hill, "Tools of Evaluation," *Progress of Education*, June 1964.

those values? To the first part of the question I say yes. To the second part I say no. This is the vital distinction to be made.

It is incumbent on the school to do all it can to find out in what ways and to what extent the attitudes, beliefs, and interests of its students are developing. But let this be for the purpose of judging the school's own success. To insist on the development of prescribed values is self-defeating. Because we believe in democratic values, we wish, for example, to teach students to be tolerant of people of different religions, different communities. But to tell them they *must* have an attitude of tolerance is an authoritarian prescription which contradicts our belief in democracy. An authoritarian school will not produce democratic citizens.

Prescription in these areas is self-defeating in another way. We cannot evaluate the attitudes of students unless students are willing to let us know what they are. To create this willingness, we must convince them that evaluation is in their interest as well as ours, that nothing they say will in any way be held against them.

Thus my fourth thesis is that *"evaluation" and "examination" are not to be taken as equivalent terms: Evaluation is a broader concept, and not all kinds of evaluation are to be used for marking students.*

How shall the results of internal assessment be related to the results of external examinations? The procedure that is usually advocated is that they be combined in some specified proportion—that a portion (say 20%) of the final marks awarded to students be based on internal assessment. There has been some dissent from this proposal; some educationists have suggested that students be required to achieve passing marks in the two types of assessment separately.

When combining results is upheld on the ground that the external examination is not sufficiently accurate as a measure of students' achievement, and it is therefore safer to use another measure along with it, we must ask whether internal assessment provides a more accurate measure. Some would argue that it does, because it is an assessment made by teachers who know the students and is based on evidence collected over a period of time. It is possible that this might be true under certain conditions, but I know of no evidence that it is actually true in any schools today. What evidence we have, seems to indicate that the contrary is the case. And this seems to be the prevailing opinion, as attested by the relatively low weightage proposed for internal assessment.

When we add results of a less accurate measure to the results of a more accurate measure, this can in no way increase the accuracy of the latter.

It is argued also that internal assessment covers more aspects of student development than does the external examination. We have already noted that some of these aspects should be ruled out of any scheme of marking. It is true, however, that the range of objectives covered by the external examination is extremely narrow. It leaves untested many kinds of intellectual competence which ought to be tested. But these are not being tested

internally either. Improvement of examinations in this respect is urgently needed. It is needed in both internal and external examining. Such improvement will almost certainly be made in the external examinations first.

It is possible to combine the results of internal and external evaluation if we choose to do so. Some technical problems arise in the combination of marks, but these are not insuperable. We should have to decide whether both sets of marks are, or are not, supposed to measure the same thing and, if they measure different things, what is the relative importance of each. Both sets of marks would have to be converted to a scale of standard scores so that they would be comparable, as they are not at present.

I am unable, however, to see any advantage to be gained by combining marks. I do not accept the view that it is unsound or unfair to make a single examination the ultimate test of a student's qualification to receive a secondary school certificate. Provided that the external examination is a good examination—and we must work to make it so—I believe it is entirely legitimate to use it as a final test, in which students are required to demonstrate their achievement of a reasonable standard of secondary school completion.

It is possible, of course, that some students at a particular time are unable to do justice to themselves on an examination. They may be ill, or other circumstances may prevent their performing up to the level of their ability. These students, and perhaps all students who fail, should be given an opportunity to try again.

What I would suggest is that internal assessment be related to the external examination as a prerequisite, as a means of selection. Students should first have to complete their secondary education to the satisfaction of the school, and internal assessment is the means of determining whether they have done so. Only then should a student be admitted to the external examination. The school should be the first judge of the students' success, and only those judged to be successful should be permitted to appear for the external examination. The external examination should serve as a validation of that judgement—a validation that is needed because of the great variety of standards in the secondary schools. (If external examinations are to serve this purpose, a distinction must be made between those used to certify completion of secondary education and those used to qualify students for universities. This distinction is sure to come, and it is with the former—the school-leaving examination—that we are concerned here.) Under such a scheme, a large majority of those who appear for the external examinations should pass them.

This is my fifth and final thesis : that *internal and external marks should not be combined : but only after demonstrating an acceptable level of proficiency, as measured by internal assessment, should students be admitted to the external examination.*

SUMMARY

This paper has discussed the importance of both internal assessment and external examinations, the relationship between them, and some of the problems involved in internal

assessment in particular. It has argued in favour of five basic propositions, or theses :

1. Both external examinations and internal assessment are necessary, and both need to be improved.
2. Tests should be used at periodic intervals in every class in the secondary school.
3. An adequate system of cumulative records is essential for internal assessment.
4. *Evaluation* and *examination* are not equivalent terms. Some kinds of evaluation should not be used for marking students.
5. Internal and external marks should not be combined but internal assessment should qualify students for admission to external examinations.

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APPENDIX N

ITEM XIV : To suggest ways and means of improving the pupil performance in English and and Mathematics at Boards' examinations.

There is a general belief that English and Mathematics contribute most to the high percentage of failures at the Secondary School Certificate Examination and that something must be done to improve pupils' performance in these two subjects. The fourth conference of Chairmen and Secretaries of the Boards of Secondary Education had made valuable recommendations to promote the standard of teaching and learning in these two subjects. The Central Examination Unit conducted two studies, one in English and the other in Mathematics on the basis of samples of answer scripts of the candidates of the Delhi Board of Higher Secondary Examination to analyse the common errors in the two subjects and to suggest ways and means of reducing them. The findings of these studies were presented at the fifth conference last year. To underline the need for immediate action on the lines suggested in these above studies and the fourth conference, below are listed some suggestions for the consideration of the delegates.

Suggestions pertaining to English

1. Duration and Periodicity of English Course

For the learning of fundamental skills in the language and their effective re-inforcement, it is desirable that the length of the course in English may be at least six years for the secondary school and at least seven years for the higher secondary school. It is also felt that minimum eight periods per week of at least 40 minutes' duration will be essential if the desired proficiency is to be attained.

State Departments of Education may be requested to look into the matter and consider

the feasibility of introducing an agreed upon, uniform pattern in respect of the length of the course and periodicity per week.

2. Materials necessary for the English Course

(a) An integrated syllabus with a continuous, logical progression for the entire period should be developed keeping in view that the emphasis is to be laid on the development of language skills and not the knowledge of literature.

- (b) Teachers' guide-books should be prepared to include exhaustively the material to be taught in a particular lesson, an analysis of the vocabulary and structures to be taught and also reference to those structures which pose linguistic problems.
- (c) Suitable work-books should be developed as a supplementation to conventional instruction.
- (d) Supplementary readers should be carefully selected to help reinforcement of language skills.
- (e) Wherever possible audio-visual aids such as charts, film-strips, records, tape-recorders, etc., should form an integral part of teaching English and should be looked upon as extensions of the text-book.

University Departments of Education and Training Colleges can make an effective contribution in this area. State Departments of Education may extend the necessary facilities for the development of this material. It will go a long way in compensating for the dearth of trained teachers.

3. Considerations for schools

- (a) The teaching of English in the lower classes should be entrusted to teachers who have a good command over the language, both oral and written, and have a sound knowledge of the modern methods of teaching a foreign language. Again, the approach to the teaching of English should be oral, i.e., through speech related to situations to hold independent units together, since facility in speaking will lead to facility in reading and writing.
- (b) Extensive drilling in applied grammar should be undertaken. Grammar should be taught in actual language situations.
- (c) Written work should receive primacy of attention, the themes chosen for written work may be closely related to the pupil's experience, surroundings and activities.
- (b) Steps may be taken to stimulate students to extensive reading which will serve to improve the pupils' ability to write well.
- (e) Diagnostic tests should be used extensively to locate weaknesses of students in specific areas of the subject.

(f) Tutorials and sessionals should be undertaken on an intensive scale.

Principals of individual schools may take steps in this direction. They may also seek the help and guidance of Training Colleges and State Evaluation Units.

4. *Training of Teachers*

The teaching of English should be entrusted to trained teachers, if better performance in English is to be achieved. For this many more, and far better trained, teachers of English as a second language will be required. As a step towards it, short-term training courses may be organized.

To improve the language competency of teachers the initial training of teachers should be supplemented by inservice training course on specific, pin-pointed class-room problems. In-service training course will also help teachers keep abreast of new ideas and thus make them up-to-date.

Method-masters in Training Colleges should be actively associated with teachers in their areas and provide expert guidance to them.

B.T./B.Ed. curriculum should be suitably reorganised to focus more attention to the fundamentals of teaching English as foreign language and also to class-room problems, teachers' ability to construct tests and appraise school syllabuses, to analyse texts and formulate objectives, etc., etc.

To meet the needs of secondary school language teachers in general and of teachers of English in particular, linguistics may be included as an elective subject at the graduate level.

In-service training course should be organized at periodic intervals, and it should be the joint responsibility of universities, training colleges and inspectorate.

5. *Inspecting and Supervisory Service*

Subject inspectors of English with specialised knowledge of the teaching of English as a foreign language may be appointed to assist and guide English teachers.

6. *Evaluation*

No effective examination in English can be set unless the examiner has a clear idea of what he is testing. Questions, as they are set at present, are just stereotyped, with no planning beforehand and with no pre-determined objectives in view.

So questions should be based on instructional objectives and carefully framed with reference to pupils' level of attainment. They should be set on free composition, comprehension, vocabulary in context, fundamentals of the language like articles, concord, interrogatives, tenses, etc.

Again, questions on testing comprehension should not be asked on trivial but on the essential points of the passage.

This puts emphasis on the fact that paper-setters and examiners should consist mainly of practising teachers who are in direct touch with the subject. They should also be professionally trained.

Scoring procedures may be suitably revised. Students' lack of expression should not be seriously penalized in case of answers where comprehension of the content is tested.

Examiners may be requested to send a detailed report, bearing on areas in which students commit lapses. They should also make specific suggestions as to what should be done to rectify these lapses.

In the internal examination, there should be an oral examination in English comprising reading and comprehension. The test should be one of communication. The feasibility of providing an oral examination at the public examination may be explored.

There may be a pool of carefully evaluated items and techniques, from which tests could be assembled with reference to special needs of particular areas.

Question papers, results and scripts should be periodically analysed by experts to see what is in fact being tested, and how various types of question are affecting teaching and learning. This information should be made available to all those concerned with teaching and examining.

State Boards of Secondary Education are the competent authorities to bring about effective changes as envisaged above. Oral examination in English may be introduced at different levels. (Vide Item VIII).

7. Research

Contemporary teaching methods are making increasing use of the results of scientific analysis of the contrasts between the learner's language and English, because to a considerable extent, the typical learner's difficulties can be identified and predicted in advance on the basis of this contrastive structure analysis.

So the State Institutes of English spearheaded by Central Institute of English, Hyderabad, may take up the linguistic analysis of Indian Languages to find out native structures as different from English and make them available to framers of syllabuses in English, teachers and examiners.

They may also undertake the study of common errors of students at all stages to see how far the influence of structures of Indian languages are accountable for them.

Problems of grammar and vocabulary in the text-books are also well worth consideration.

8. General

English being the language of our former rulers, there was a strong reaction against its continuance soon after the independence. Now the initial zeal to replace it by the

National Language overnight having been sobered and it being increasingly realized that it is not possible to dispense with it so easily without creating a void in the national life, it is suggested that its teaching and learning should be pursued with the same educational outlook as of any other subject. Proper attitude in keeping with the reality must be formed among the students and every effort should be put in to make its teaching realistic and effective till such period as we have to study this language in the interest of national progress and solidarity.

Suggestions pertaining to Mathematics

Some of the suggestions made above for English such as development of instructional material and work-books, improvement of teaching in schools, appointment of subject inspectors, and undertaking of research are applicable to mathematics also.

Referring to some of the weaknesses specific to the area of mathematics it may be suggested that.

- (a) Emphasis in the teaching of mathematics should shift from mechanical routine teaching of stereotyped formulae and processes to the development of an understanding of the fundamental principles and the logic of mathematics.
- (b) More emphasis need be laid on systematic work than is being done at present.
- (c) Teaching of mathematics at the secondary stage should in no case be left to the charge of undergraduates or under-qualified teachers.
- (d) Mental mathematics should be made a regular part of the instruction in mathematics.
- (e) Syllabi in mathematics must be reorganized to lay adequate emphasis on the realization of higher objectives such as understanding of mathematical concepts and principles, inductive and deductive reasoning and application of principles to life situations.
- (f) Diagnostic testing and remedial teaching should be integrated closely with the teaching of this subject at all the stages.
- (g) The policy of giving lenient promotions in home examinations should be discouraged particularly in case of mathematics where the weakness in fundamentals seriously hampers further learning at higher levels.
- (h) Method-master's courses in mathematics should be re-organized to fall in line with the actual requirements of the real situation obtaining in schools.
- (i) Some content courses may also be run by the training colleges to assist the inservice as well as preservice teachers in acquiring the minimum competence in the subject-matter for effective teaching.

In the light of these suggestions the working group may make concrete recommendations to various agencies concerned in order to improve pass percentage in these two subjects without sacrificing quality. The working group may also indicate priorities in the total programme of reform.

APPENDIX O

ITEM XV : To discuss the present practices of deciding results at Board examinations and to suggest improvements.

Secondary School Examinations in India are a potent force in the educational system of the country. They are supposed to be the custodians of educational standards. They are the only external criteria to judge individual proficiency in a subject or a group of subjects separately or collectively, and they make possible comparisons between candidates, institutions and teachers, and are indirectly supposed to certify individual suitability for higher education or for entering into life.

The bases for all the above judgments and comparisons are the marks that individual candidates are allotted in different subjects and also the rules that the authorities adopt to declare pass or fail. The above decisions are vital for individuals and have far-reaching social repercussions. Reasonably enough the marks on which they are based and the rules by which they are governed should, therefore, be above reproach as far as possible.

The marks that a candidate gets in a question paper at the external examination are supposed to reflect the level of his or her proficiency in the subject. A little deeper probing will indicate that they reflect many more things and quite often than not what is reflected is not solely his or her proficiency in the subject but how carefully the question paper is set, how well the candidate is able to guess and prepare the questions that appear in the paper, how objectively the examiner examines the answer books, and how other chance factors operate in influencing the scores. All these factors tend to reduce the reliability of the marks and therefore, it does not appear fair to adhere rigidly to any absolute cutting score for declaring pass or fail on the basis of these marks. Efforts are made to overcome this deficiency by granting grace marks in case of marginal candidates

but again the decision regarding the number of grace marks to be allowed is an adhoc one.

Heterogeneity of Student Population

Looking to the nature of the population of candidates appearing at the external examinations another important point to be considered is the desirability of applying the same yardstick to judge attainments of students at different levels and of varied aptitudes.

During the last twenty years or so the student population in our schools has increased manifold. The range of pupils' abilities has considerably extended downward. Their interests and aptitudes are also far more varied than they used to be formerly. Some are fit for higher academic education, others for higher technical or professional education, yet others for lower technical jobs and the rest for unskilled, routine, clerical or other similar jobs. It is unfair to declare the suitability of all these for later pursuits of such a varied nature on the basis of a single yardstick.

Problems

The above discussion raises the following questions :

- (1) What measures be adopted so that the present S. S. C. Examination may certify suitability for a variety of future pursuits ?
- (2) How to make this certification more valid and reliable ?
- (3) What changes may be introduced in the existing system of certification so as to base it on a more scientific footing ?

Measures to cater to varied needs

Two measures are generally suggested :

- (i) Introduction of diversified courses at the Secondary stage.
- (ii) Introduction of syllabi at different levels in the same subject.

The first measure takes care of differences in aptitudes and interests while the other is meant to cater to the needs of pupils at different levels of abilities. Most of the States have already introduced varied courses at the secondary stage. Provision has also been made in many States to have lower level and higher level courses in subjects like English and Mathematics. In the absence of adequate guidance facilities and also because of certain socio-economic factors the scheme of diversified courses at the secondary stage is not working very satisfactorily. Moreover there is no system of distributing students into higher and lower groups for studying any subject at two different levels on any scientific lines. Some of the core subjects such as General Science, Social Studies, Elementary Mathematics which are at a level lower than the electives are required to be studied by all the students, preparing for the S. S. C. Examination irrespective of their levels of abilities. More thought need be given to these problems. They need a multi-pronged attack involving

various agencies in a well-coordinated way. Some of the necessary actions to reduce the load on academic courses are :

- (i) Enhanced facilities for various streams within the easy reach of students.
- (ii) Better guidance and vocational information facilities.
- (iii) Apprenticeship or continuation courses after the completion of the secondary stage.
- (iv) Increased employment opportunities at the lower levels.
- (v) Allocation of a large number of scholarships to non-academic courses.
- (vi) Provision for courses at different levels to cater to the varying needs of students.

Measures to increase reliability and validity of the certificate

The following measures are suggested to increase the reliability and validity of the certificate :

- (i) Questions and question papers may be improved so as to ensure better coverage of objectives and content .
- (ii) Objective and short answer questions may be introduced for testing those aspects of the student's achievement for which essay type questions are not absolutely necessary.
- (iii) Better procedures in the form of detailed model answers and marking schemes, meetings of all the examiners in advance, detailed checking of examined answer books etc., need be adopted to reduce examiner variability.
- (iv) The tradition of adhering to fixed cutting scores may be given up in favour of better statistical procedures to reduce hardships to candidates due to factors beyond their control.
- (v) Instead of treating the external examinations as the criteria for judging and also the tool for maintaining standards other objectively determinable quality indices in the form of teacher qualifications, pupil-teacher ratio, physical facilities, supervisors opinions, etc., may be adopted.
- (vi) Different examinations may be held for different purposes.
- (vii) Mechanical aids may be used to reduce gross computational and tabulation errors
- (viii) Due credit may be given to educational growth in school both in the academic and non-academic areas.

Immediate possible changes to be introduced in the certification procedures

It will be clear from the above discussion that to base external examination on a sound scientific footing many changes shall have to be introduced in other spheres of secon-

dary education as well. Improvement in external examination has implications of far-reaching significance and has therefore to be thought of in the wider context of educational planning. Still there are certain areas in which changes for the better can be introduced without depending much upon concurrent changes in other areas. One such area is the system of certification. There is much talk about mass failures at public examinations but the percentage of passes at the examinations has never been very high even in the past. What is it then that is causing anxiety now? Probably in former days the attitude towards failure was different. It was considered to be more an individual failure. It was presumed, directly or indirectly, that the schools were doing their job pretty satisfactorily and if a student failed it was due to individual rather than institutional weakness. Now conditions have changed. Pupils sometimes do not receive enough attention in schools. The Boards are also looked upon by some with an eye of suspicion. Now failure is no longer considered an individual affair but a social malady. Educational institutions as well as Boards are considered responsible for this state of affairs.

In view of the public anxiety, present weakness in examining and marking practices and heterogeneity of the student population it is high time the Boards may give serious thought to the existing rules of declaration of results. There is no uniformity in these rules all over the country and there is hardly any justification to declare one practice better than any other. Some of the existing practices are :

- (i) All the Boards have adopted minimum pass percentage for individual subjects and the aggregate. These percentages vary from Board to Board and sometimes among the subjects within the same Board. There is no scientific reason to treat any one as the standard in preference to others.
- (ii) The minimum number of subjects in which a candidate has to qualify in one attempt for being eligible to get the certificate also varies from Board to Board. Again there is no valid reason to consider that six and not ten subjects should be the minimum in which a candidate must qualify in a single attempt to get a clear pass.
- (iii) The maximum number of grace marks to be granted also varies from Board to Board. Again the decision regarding this number has no scientific rationale behind it.
- (iv) Some Boards in some selected subjects set papers only and leave the examining part to schools and accept the decision of the school as final in respect of those subjects while they keep other subjects completely under their charge and hold the examination themselves. There are other Boards that accept the internal assessment as final in some subjects and do not hold any examination in them. In other subjects they depend entirely upon their own examinations.
- (v) Some Boards allow a percentage of marks in each subject for internal assessment and combine them with marks obtained in the external examination to declare

the results. The internal assessment marks cover a wide range of areas from results of home examinations to assessment of home assignments and some personality traits like regularity, punctuality, etc.

(vi) Some Boards stagger their examinations while others do not.

(vii) The depth of the syllabus in the same subject often differs from Board to Board.

Practices being so varied and equally defensible or indefensible, some thought may be given to the following suggestions also :

(i) Pass or fail in a subject may not be declared on an ad hoc basis. Some statistical procedures may be developed to base them on a more scientific footing.

(ii) Certificates for individual subjects may be issued. Passing in the aggregate as an essential condition for being declared eligible for the certificate may be dispensed with.

(iii) Facility for clearing the examination in parts may be granted.

(iv) Two level certificates may be introduced for the same examination with different pass percentages.

(v) Two level examinations may be introduced in important subjects.

(vi) Boards may even consider to issue certificates reporting marks and grades without declaring pass or fail.

APPENDIX P

THE FUTURE OF EXAMINATION REFORM

*Walker H. Hill**

The work that has been done by some of the Boards in the last year and a half—the training of paper setters in the art of writing better questions and planning better question papers—seems to me to mark a turning point in the effort to improve examinations for secondary education in India. This is a very significant advance, for it is a kind of activity which leads directly to improved question papers. It means that the examinations conducted by these Boards in the next few years will be better examinations than those of the past.

Certainly this is a long step forward, and I hope it will be taken up by additional Boards very soon. But there are many steps still ahead. What you have been doing is good, but we cannot consider that in the long run it will be enough. We cannot train paper setters fast enough or well enough to make our examination papers what they really ought to be. Though I am confident that we may now expect to see improved examinations, I am not satisfied that they will be good enough. And, at our present rate of progress, they will not be good enough for a great many years to come.

So I ask myself, and I want to ask you, what should we do next, where do we go from here? I shall soon be leaving India, and it is perhaps natural that I should be wondering what the future holds in store for you. Not that my going has any significant effect on your future—I do not mean to imply that it does—but I am interested; and I dream of how the programme of examination reform in India might develop in the years ahead.

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I have no doubt that your programme of improvement will continue to advance. Eventually you will have an examination system of which any country could be proud. How long will it take to reach that goal ? Perhaps it will take a long time. But possibly it can be reached more quickly.

Yes, I have a dream of what your future progress might be. And I want to share my dream with you. I want to share it, not because I know my dream will come true for nobody can know that yet but because the likelihood of its coming true depends in part on whether you want it to. So I ask you to think with me about the possibilities that lie ahead of us.

How could we bring about an accelerated programme of examination reform ? We could do it if we could put together three requisite factors. The first of these is *organisation*. The second is *funds*. The third is the *will* to move ahead.

I am thinking of a centrally sponsored programme in which all the Boards could participate if they wish to do so—a programme in which for five years we would undertake to make basic improvements in our examinations and to study the results. We would improve the external examinations and we would extend the scope of evaluation in the schools. The improvements would be of the kind that are already widely agreed to be desirable.

What would the Boards have to do, to participate in such a programme ? Each Board would have to plan its five-year programme of examination development and research. It would have to establish an Academic Unit within its own organization, employing a director and his necessary assistants. It would have to encourage and assist the development of better testing programmes in the secondary schools. Its Academic Unit would conduct studies to determine how well the plans are working to improve examinations and what impact the improvements have on teaching and learning in the schools.

What assistance would have to be given to the Boards ? A central agency would have to provide supervision and coordination. It would have to provide funds to meet the cost of the added personnel for five years. It would have to train the directors, and pay the cost of the training.

I think we already have the interest of most of the Boards. If we could have the organization and the funds, we could make a real impact on examinations all over the country in a five-year period.

This is what appears in my dream as one level of progress. I also see another possible level. This is for Boards that are really venturesome, that have the spirit of pioneers. I hope there may be one or two Boards that are willing to jump ahead over a large span of years and experiment now with the examination of the future so that such an examination may not be so far in the future as it would otherwise be.

We do not know exactly what the Indian examination of the future will be, or should be. That is why I want a few Boards to try out new ideas, to see how they work, and to appraise their impact on Secondary Education.

This much I think I know :

1. That the examination of the future will test students' achievement of a wider range of educational objectives. It will test much more than memorised information. It will require students to apply their knowledge, to interpret material in the subjects they have studied, and to solve problems that have not already been solved for them. It will be an examination which cannot be passed by cramming, for it will test abilities which can be developed only by competent teaching and persistent study throughout the years in school.

2. That it will make extensive use of objective questions, and they will be good questions. They will serve better than essay questions to test and test accurately the wider range of intellectual abilities I have mentioned.

3. That the external examination will be relatively less important to students and their teachers. It will not dominate the whole life of the school to the extent that it does now. Overemphasis will be changed, not by weakening the external examination, but by strengthening internal evaluation in the schools.

For this kind of examination programme, a participating Board would need to do a number of things :

It would agree to commit itself to a planned programme of research and development for a period of five years.

It would employ for its Academic Unit a full-time professional staff, which would include three sections :

1. An Examination Section, which would prepare the Board's examinations.
2. An Instructional Materials Section, which would work with schools in the production of new teaching materials to help teachers develop in their students the kinds of ability which will be stressed in the examinations.
3. A Research and Statistical Section, which would study the technical qualities of each examination and the effect of improved examinations on secondary education.

The personnel of these sections would be given intensive training, to qualify them as specialists in their respective areas.

Note that the work of setting question papers would go on throughout the year. It would be a full time job, and it would be shifted from an amateur to a professional job. This is very important; we have too long depended on amateurs to write our examination questions. I would not, however, wish to eliminate the contribution of teachers of the kind who now serve as paper setters. From large numbers of such teachers the Board should procure (and should pay for) ideas for questions and the initial drafts of questions. The influence of their ideas should be retained. But the final form of each question, and the pattern of each question paper, should be determined by the professional staff. This is the job of editing, refining, selecting, and assembling the questions.

The Board would make a distinction between school leaving examinations, used for certification to enter a university. Then it could concentrate on the determination of a proper standard for secondary school completion and the development of valid examinations for measuring achievement of its standard.

A plan for evaluating the results of the programme would be established from the beginning. Data on the present examinations and data on the new examinations would provide a basis for judging how well the new system seems to work. At the end of the five-year period, we would be in a much better position to judge what the future direction of examination improvement for the whole country ought to be. The experience of the pioneering Boards would give us evidence on which we could base recommendations to be made to all the States.

This programme also would require organisation and funds. An agency like DEPSE would have to guide it and to train the staff. Some central agency would pay the cost of employing the staff and would finance their training. During the developmental period—five years, I am suggesting the programme should not involve an additional financial burden to the Board.

So you see I am visualising two programmes. One is a general programme of examination improvement, and would include improvements of modest proportions. It would be available to all Boards which wish to participate. The other is an intensive programme, which would try out innovations of which some are controversial. It also would be open to voluntary participation, but the number of Boards selecting it would not be, and should not be, large. A few Boards could serve as the testing ground for far reaching advances.

Such is my dream. The National Council of Educational Research and Training has considered such a scheme, and has considered it favourably. Beyond that the Council has not gone. This is not a plan. It is not a proposal. I do not know whether anything like it will materialise. You must understand, therefore, that I am making you no promise; DEPSE is making no promise; the Council is making no promise. But we thought you ought to know what is in our minds, and so I have given you this glimpse of the future as it might be.

I told you that the fate of my dream depends partly on you. Even if it should come to you with the full support of the Government of India, and with all the rupees that such a programmes would need, still it would amount to nothing unless you want to do your part. That, too, is why I have given you my projection of what might lie before us, to invite your thinking about it before it becomes a matter for decision. You wish to go, and how you propose to get there.

Gentlemen, you have shared my dream. What will your dream be ?

APPENDIX Q

Minutes of the meeting of the Central Examination Unit and State Evaluation Units held on 11-11-64 in the S. S. C. Examination Board, Maharashtra, Poona.

Members present

Central Examination Unit

1. Dr. R. H. Dave
2. Dr. R. G. Misra
3. Shri H. S. Srivastava
4. Shri S. N. Saha
5. Shri P. M. Patel
6. Kumari J. Kaur

State Evaluation Units

1. Shri R. S. Sinha, Director, Examination Research Bureau, Bihar.
2. Shri S. R. Rohidekar, Director, State Evaluation Unit, Bangalore.
3. Shri P. Singh, Evaluation Officer, Himachal Pradesh, Solan.
4. Km. J. Venkubai, Evaluation Officer, State Evaluation Unit, Hyderabad.
5. Shri P. G. Jacob, Evaluation Officer, Office of the D.P.I., Kerala State, Trivandrum.
6. Shri B. L. Shah, Evaluation Officer, State Evaluation Unit, Ahmedabad.
7. Shri H. S. Dave, Evaluation Officer, State Evaluation Unit, Bhopal
8. Shri S. S. Jolly, Evaluation Officer, State Evaluation Unit, Chandigarh.
9. Shri V. B. Sule, Evaluation Officer, State Evaluation Unit, Poona.
10. Shri C. B. Misra, Evaluation Officer, State Evaluation Unit, Allahabad.
11. Shri C. M. Hada, Technical Assistant, State Evaluation Unit, Bikaner.
12. Shri M. S. Patel, Research Officer, Gujarat S. S. C. E. Board, Baroda.
13. Shri S. R. Bokil, Investigation Officer, Maharashtra S. S. C. E. Board, Poona.

A joint meeting of the officers of the Central Examination Unit and those of the State

Evaluation Units was held at Poona on 11.11.64 during the session of the Sixth Conference of Chairmen and Secretaries of the Boards of Secondary Education. Various issues of common interest were discussed in the meeting and the following suggestions and recommendations were made :

1. There being a great need for creating a body of trained personnel in evaluation, the Central Examination Unit may organize an intensive training course on evaluation.

2. Persons newly recruited to State Evaluation Units may be associated with the Central Examination Unit for a period of 10 to 15 days soon after joining the State Unit. During this period they may be initiated into the theory and techniques of evaluation, discuss problems related to examination reform, collect first-hand information about the work of the Unit, plan out their activities and programmes in consultation with the officers of the Central Unit, see the library, the item-pool, etc. Such a visit may be helpful to the State Evaluation Officers as an intermediary measure to acquaint them with the plan and programme of examination reform in India. The State Units of Punjab, U. P., Maharashtra and Madhya Pradesh have sought to avail themselves of this association.

3. If some tangible and positive work is to be achieved in the direction of examination reform, State Evaluation Officers should be retained in their posts at least for a period of three years. It is also to be seen that persons recruited for these posts are willing and enthusiastic.

4. Since State Evaluation Units deal with the work of a technical nature, it is intrinsically desirable that persons recruited to these Units are technically qualified.

5. The posts of the State Evaluation Officers and Directors may be treated as selection posts with specific grades of pay. These posts may carry a special pay, befitting the status and responsibilities, and State Governments may select suitably qualified departmental persons willing to be considered and transfer them without prejudice to their legitimate prospects of promotion from their substantive posts. A representative from the Union Ministry of Education and/or the Directorate of Extension Programmes for Secondary Education may be co-opted as an expert member on the Selection Committee to recruit persons for such posts.

6. In view of the increasingly important role of State Evaluation Units in the field of examination reform, the staff of the State Units may be commensurately strengthened. A copy of the resolution calling upon the State Governments to augment suitably the staff of State Evaluation Units may be sent to the Education Ministries at the Centre and in the States.

7. The supply of an electric calculator may be considered as necessary for the efficient development of research activities in the Units.

8. The work of the Units may be checked from time to time by the State Education authorities against the yearly programmes developed by the Units in consultation with the

Central Examination Unit at the Joint Annual Conference. It should be seen that the staff of the State Evaluation Units is not utilized for any other work so long as they have their own programmes to implement as developed in the above Conference.

9. The funds allotted by the Central Government to the State Units for the programmes and activities may be sent direct to them in order to facilitate smooth and rapid functioning and implementation of programmes.

APPENDIX R

Publications of the Central Examination Unit

(a) *Brochures on Evaluation :*

- | | |
|--|----------|
| 1. Concept of Evaluation in Education, 2nd edition, 1963 | 25 P. |
| 2. Evaluation in General Science, 2nd edition, 1963 | 50 P. |
| 3. Evaluation in Social Studies, 2nd edition, 1963 | 35 P. |
| 4. Evaluation in Physics, 1962 | Unpriced |
| 5. Evaluation in Mathematics, 2nd edition, 1964 | „ |
| 6. Evaluation in Geography, 1962 | „ |

(b) *Specimen Test Items for Secondary Schools*

- | | |
|--|----------|
| 1. Specimen Test Items for Secondary Schools—English, 1961 | „ |
| 2. Specimen Test Items for Secondary Schools—Mathematics, 1961 | „ |
| 3. Specimen Test Items for Secondary Schools—General Science, 1961 | „ |
| 4. Specimen Test Items for Secondary Schools—Social Studies, 1961 | „ |
| 5. Specimen Test Items for Secondary Schools—Geography, 1961 | „ |
| 6. Evaluation in Secondary Schools | Rs. 2.50 |
| 7. Specimen Unit Tests in English, Mathematics, Science and Social Studies, 1964 | Unpriced |
| 8. Specimen Test Items for Secondary Schools of Delhi—English, 1964 | „ |
| 9. Specimen Test Items for Secondary Schools of Delhi—Mathematics, 1964 | „ |
| 10. Specimen Test Items for Secondary Schools of Delhi—Physics & Chemistry, 1964 | „ |
| 11. Specimen Test Items for Secondary Schools of Delhi—Biology, 1964 | Unpriced |
| 12. Specimen Test Items for Secondary Schools of Delhi—Social Studies, 1964 | „ |

(c) Other Brochures on Examination Reform

- | | |
|--|----------|
| 1. Progress of Examination Reform in India, 1962 | Unpriced |
| 2. Improving Examinations (Evaluation and Examination Series, No. 2) 1963 | „ |
| 3. Research in Educational Evaluation (A consolidated report of four seminars), 1961 | „ |
| 4. Pupil's Cumulative Record, Manual of Instructions, 1962 | „ |
| 5. Evaluating Practice Teaching (Discussion Series No. 1) | „ |
| 6. Optional Questions in Tests and Examinations (Discussion Series No. 2), 1963 | 50 P. |
| 7. Training Colleges and Examination Reform, 1963 | Unpriced |

(d) Studies and Investigations

- | | |
|--|----------|
| 1. Internal Assessment Procedures and Promotion Policies of some Secondary Schools, 2nd edition, 1963 | Unpriced |
| 2. Studies in Internal Assessment | „ |
| 3. A Study of Failures in Secondary Schools, 1961 | „ |
| 4. Instructions to Paper Setters by Boards of Secondary Education (Evaluation and Examination Series, No. 3) | „ |
| 5. Moderation Procedures at Secondary School Examinations (for official use only, 1962) | „ |
| 6. Private Candidates and Secondary School Examinations | „ |
| 7. Analysis of Results of Secondary School Examinations (1961) | „ |

(e) Reports of Conferences, Seminars and Training Courses

- | | |
|--|----------|
| 1. Report of the Seminar on Examinations (held at Bhopal 1956) | Unpriced |
| 2. Proceedings of the First Conference of Chairmen and the Secretaries of the State Boards of Secondary Education | „ |
| 3. Proceedings of the Second Conference of Chairmen and the Secretaries of the State Boards of Secondary Education | „ |
| 4. Proceedings of the Third Conference of Chairmen and the Secretaries of the State Boards of Secondary Education | „ |
| 5. Proceedings of the Fourth Conference of Chairmen and the Secretaries of the State Boards of Secondary Education | „ |
| 6. Proceedings of the Fifth Conference of Chairmen and the Secretaries of the State Boards of Secondary Education | „ |
| 7. Report of the Training Course on Evaluation (Sep. 16 to Oct. 18, 1960) | „ |

(f) Miscellaneous Publications

- | | |
|---|---|
| 1. Annotated Bibliography on Evaluation and Measurement, 1962 | „ |
|---|---|

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|--|----------|
| 2. Bibliography of Research in Examination (in press) | Unpriced |
| 3. Research on Mathematics Education in India : An overview (in press) | „ |

(g) *Periodical Publications*

- | | |
|---|---|
| 1. Examination Abstracts, No. I, June, 1963 | „ |
| No. 2, October, 1964 | „ |
| 2. Evaluation Newsletter, | „ |
| No. 1, August, 1964 | „ |

(h) *Reports of Workshops of Training College Lecturers*

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|--|---|
| 1. Lecturers of Training Colleges of Assam, Bihar and West Bengal held at Shantiniketan, 1961 | „ |
| 2. Lecturers of Training Colleges of Madhya Pradesh held at Panchmarhi, May 1962 | „ |
| 3. Lecturers of Training Colleges of Punjab State held at Jullunder, June 1962 | „ |
| 4. Lecturers of Training Colleges of Punjab held at Chandigarh, July 1962 | „ |
| 5. Lecturers of Training Colleges of Gujarat held at Surat | „ |
| 6. Lecturers of Training Colleges of Rajasthan held at Udaipur | „ |
| 7. Teachers' College Lecturers in Mysore State held at the R. V. Multipurpose Higher Secondary School, T. Narsipur, 1963 | „ |
| 8. Evaluation Workshop for Lecturers of the Teachers' Training Colleges of Bihar and Orissa held at Patna Training College, Patna, 1964 | „ |
| 9. Evaluation Workshop for Method Masters of Training Colleges affiliated to Agra University, Agra held at P. B. Municipal Intermediate College, Hardwar, 1964 | „ |
| 10. Evaluation Workshop for Lecturers of Secondary Teachers' Colleges, held at Allahabad, 1964 | „ |

Reports of Workshops of Paper-setters

- | | |
|--|---|
| 1. Board of Secondary Education, Rajasthan. Workshop for Paper Setters and Senior Moderators (31st July to 7th August, 1963, Ajmer) | „ |
| 2. Maharashtra S. S. C. Examination Board, Poona. Workshop for Paper-setters held at Panchgani, Karad & Aurangabad in 1963 | „ |
| 3. Gujarat S. S. C. Examination Board, Baroda. Setting Better Question Papers—Workshop of Paper-setters (Sept. 23 to Oct. 2, 1963) Vallabh Vidyanagar, 1963. | „ |
| 4. Gujarat S. S. C. Examination Board, Baroda. Setting Better Question Papers—Workshop of Paper setters (Supplementary) (23rd to 28th Dec. 1963) Surat, 1963 | „ |

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|-----|---|----------|
| 5. | Secondary Education Board, Mysore State, Bangalore. Setting Better Question Papers—Workshop for Paper Setters (19th to 28th Jauuary, 1964) Bangalore, 1964 | Unpriced |
| 6. | Gujarat S. S. C. Examination Board, Baroda, Setting Better Question Papers—Second Workshop of Paper Setters (20th to 25th Feb. 1964), Vallabh Vidyanagar, 1964 | ” |
| 7. | Secondary Education Board, Mysore State, Bangalore. Setting Better Question Papers—Continuation Workshop of Paper Setters (11th to 20th May, 1964) Belgaum, 1964 | ” |
| 8. | Board of Secondary Education Rajasthan, Ajmer. Workshop for Paper Setters, (July 13 to 22, 1964) Udaipur, 1964 | ” |
| 9. | Gujarat S. S. C. Examination Board, Baroda. Setting Better Question Papers. Workshop for Paper Setters (August 5 to 11, 1964) Vallabh Vidyanagar. | ” |
| 10. | The Vidarbha Board of Secondary Education, Nagpur. Report of the First Workshop for Paper Setters (2nd to 11th September, 1964) Nagpur, 1964 | ” |
| 11. | Punjab University & Punjab Education Department, Chandigarh. Report of the Workshop of Paper Setters, (23rd to 30th September, 1964) | ” |
| 12. | Board of Secondary Education Rajasthan, Ajmer. Second Workshop of Paper Setters in Elective Subjects of Physics, Chemistry, Biology and Mathematics (21st to 30th November, 1964) Ajmer | ” |

APPENDIX S

SUMMARIES OF REPORTS FROM THE BOARDS

(i) ANDHRA PRADESH

With regard to reforms introduced recently, the Board of Secondary Education, Andhra Pradesh, has reported that, with effect from the Examination held in March 1958, objective type of questions to the extent of 20% in language question papers and 30% in non-language papers have been introduced in H. S. C. Examination. In respect of H. S. & M. P. S. L. C. (Andhra Curriculum) Examination, objective type of questions have been set in General Mathematics, Composite Mathematics, History, Civics, Natural Sciences and Physical Science since March 1960. With effect from March 1964, objective type of questions have been introduced in second language—English Paper I.

The Board has not reported anything with regard to changes in scoring procedures, grace marks and condonation rules, declaration of results, etc.

As regards reforms to be introduced in the near future, the Board has reported that Class Record marks of classes X to XII are to be taken into account instead of IX to XII in H. S. & M. P. S. L. C. Examination (Andhra Curriculum).

(ii) ASSAM

The Board of Secondary Education, Assam, Gauhati, has not so far introduced any changes in the direction towards examination reform except introducing 2 papers on Modern Indian Languages from 1965 in the Higher Secondary School Leaving Certificate Examination.

However, the programme of examination reform is under active consideration of the Board.

(iii) BIHAR

The Bihar School Examination Board, Patna, has not so far introduced any changes towards examination reform and other related aspects.

As regards the reforms to be introduced in the near future, the Board reported the following :

1. To provide instructional material and test tools to enable students to take advantage of these in making up their general deficiencies.
2. To direct all schools for increasing the coverage of the content as well objectives of teaching in all the subjects of studies.
3. To circulate errors to all schools.
4. To hold a seminar of paper setters and teachers in some selected subjects where incidence of failure is markedly high in comparison to others.

(iv) DELHI

Reforms Introduced Recently

1. With effect from the year 1964, the Board has introduced objective type questions in different subjects, carrying 10% to 15% marks.

2. The question papers for 1964 examinations were set in English and Hindi in those subjects where Hindi was a permitted medium of instruction and examination. Prior to 1964, all question papers were printed in English only.

3. No change has recently been introduced in scoring procedures.

4. Formerly the grace marks were not added to the total marks obtained by a candidate, but now the grace marks are added to the marks already earned by him.

5. There has been no change in the pattern of declaration of results.

6. The Board has prepared and circulated a comprehensive note for the guidance of paper setters of English. It contains objectives of teaching the subject and also gives model questions covering different topics of the syllabus in English for the Higher Secondary classes.

7. Due action is taken on the important suggestions given by the examiners in their reports.

8. The Board has introduced from the academic session 1963-64, an All India Higher Secondary Examination. The Scheme of Studies for this examination was newly drawn up after careful consideration. Under this Scheme of Studies, core and elective subjects have been provided. Under core subjects, provision has been made for a craft and the three-language formula. Students offering Science subjects are required to study 'Social Studies and Indian Culture and Civilization' also in order to give them some basic knowledge of Social Sciences and students offering Humanities are required to

offer 'General Science and Elementary Mathematics'. With effect from the current academic session, however, a further change has been introduced, namely, students who do not offer Mathematics in Science Group will now be required to qualify in a special paper of Mathematics also as it is considered absolutely necessary for them to have workable knowledge of Mathematics.

Provision of 25% marks for sessional work has also been made in the internal examination in respect of the aforesaid core subjects. The papers will be set by the Board for these internal examinations.

It has been decided to permit certain categories of students to take the All-India Higher Secondary Examination as private candidates.

Reforms proposed to be introduced in the near future

1. The Board is proposing to incorporate the objectives of teaching different subjects in the syllabi and also to reshape the curriculum contents to make them more understandable to the teachers and the pupils.

2. The Board also proposes to hold seminars, workshops and symposia for the secondary school teachers.

3. In order to disseminate information about secondary education and its problems, the Board is proposing to bring out a quarterly journal.

4. A few studies have been undertaken by the Board and on the basis of the findings of these studies the Board may bring in, if necessary, further reforms in the examination system.

5. The Board is proposing to bring out a pamphlet on 'Objective Questions.' It will discuss their needs, kinds, difficulties in their framing and the different purposes for which they can be used. Another pamphlet is also being planned for giving guidance to teachers in framing better essay type questions and short answer questions.

6. A general note for the paper setters in different subjects is being prepared. It gives indications in respect of dimensions for paper setting. It is expected to result in better framed questions at the coming examinations.

7. A note is being prepared for the guidance of examiners and sub-examiners. The purpose of this note is to provide a better technique for marking the answer books and reducing the subjective element therein.

(v) KERALA

Reforms Introduced Recently

Changes have been introduced in the light of the suggestions made in the revised syllabus. Accordingly 40% questions in the core subjects have been made objective. Similar changes have been effected in language papers also by introducing objective and comprehension tests.

The number of papers in core subjects has been doubled without demarcating the areas under Paper I and II. This ensures entire coverage of the portions.

Paper setters have been asked to submit a detailed valuation scale.

Moderation is effected in consultation with the Examination Board. This varies from time to time.

Examiners' reports, consolidated and edited by the Evaluation Unit, are printed and circulated to all schools for the guidance of teachers.

| Reform proposed to be introduced. | Year from which the reform is to be introduced. |
|---|---|
| 1. Training of paper setters. | 1965 |
| 2. Training for teachers at the rate of 1 graduate teacher from every school. | To be achieved by the end of 1966. |

(vi) MYSORE

Reforms introduced recently

Greater emphasis is gradually laid on the questions involving application of skills in all subjects. The question papers of May, 1963, September, 1963 and March, 1964 were analysed at the workshops for paper setters held in January, 1964 and May, 1964.

New type questions covering 10% to 15% of a question paper are introduced in the question papers of English, General Mathematics, General Science, Social Studies and History (Elective in Part IV).

The examination is divided into four parts.

Part I (a) Language (Mother-tongue).

„ (b) Hindi Compulsory

Part II English Compulsory

Part III (a) Social Studies

(b) General Science

(c) General Mathematics

Part IV Three subjects in one of the following groups.

I. Humanities

II. Science

III. Technical

IV. Agricultural

V. Commercial

VI. Home Science

VII. Fine Arts.

Gracing is done on a definite procedure at not more than 2% in each Part except in English in which it is 5%.

Results are declared in Parts. Exemptions are granted to those who earn 50% and more in any subject.

Instructions are issued to paper setters duly indicating the dimensions for setting questions papers.

Reports received from the Examiners are summarised and sent to all the schools.

It is intended to give more weightage to the questions of objective type which require application and skill. Better type of essay and short answer questions based on well defined objectives and with definite answers to ensure objectivity in scoring will be introduced gradually. At present the question paper with new type questions is set along with essay type paper. It is proposed to increase the percentage of new type questions from 10% to 20% in gradual stages and to set the new type paper separately in due course.

It is proposed to conduct 24 workshops for about 1500 Heads of High Schools in the State with a view to orienting them to the evaluation technique.

(vii) ORISSA

The Board of Secondary Education, Orissa, Cuttack, has reported that objective type of questions are being set upto 10% of the total marks in the subjects of Social Studies and General Science with effect from 1964.

The Examiner's report is utilised by the experts of the Board who visit schools for the improvement in the method of teaching different subjects where the performance of the candidates is not upto the standard.

As regards the reforms to be introduced in the near future, the Board has reported the following :

- (i) A training course in setting question papers will be organised.
- (ii) The syllabus committee will be asked to fix up the relative weightage to be given on different topics on each subject of study.
- (iii) Objective questions will be introduced in all subjects upto the extent of 20% marks.
- (iv) The number of long essay questions will be reduced and that of short answer questions increased.
- (v) Questions will be objective based.

(viii) PUNJAB

Reforms introduced recently

The Punjab university introduced the system of internal assessment in Matriculation and Higher Secondary Examinations in respect of school candidates only. 20% marks in Matriculation and 25% marks in core subjects and 20% marks in Elective Groups Examination, were reserved in each subject. Previously, separate objective type and essay type question papers were set for these examinations. But on account of large scale copying in the examination hall and a marked fall in academic standards, the university discontinued the objective type question papers with effect from 1963 examinations.

The university has not introduced any change in scoring procedures. As regards grace marks, the university has modified the previous practice making provision for 5 grace marks in the Matriculation Examination by allowing grace marks at the rate of 1% of the total aggregate marks. Thus a candidate failing in one or more subjects and the total deficiency in these subjects being not more than nine marks (maximum marks for the examination being 900), is given upto nine marks in all the subjects in order to be declared to have passed the examination.

The pattern of awarding grace marks also holds true of Higher Secondary Part I and Higher Secondary part II with the difference that the total number of grace marks is determined by the maximum marks in these two examinations.

The university has also introduced the system of granting exemption from appearing in a subject(s) and re-appearing in a subject(s) in the Higher Secondary (Elective groups) Examination with effect from the examinations of 1964.

As regards the instructions to paper setters, the university has requested all paper setters to keep in view the following instructions while setting question papers.

- (i) To distribute the questions with some uniformity over the whole range of

subject contained in the syllabus.

- (ii) The paper setters are requested not to repeat the questions they have set for examination of another university.
- (iii) While translating the questions in Modern Indian Languages in subjects such as Mathematics, Science, Social Studies, etc., the paper setters are requested to give English terms in brackets.

The university sends the Examiner's reports to the Board. In the light of these reports, the Board makes some suggestions for improvement and these are communicated to the paper setters and, if necessary, to the the institutions.

Reforms proposed to be introduced in the near future.

The workshop of paper setters held in September 1964 discussed at length various aspects of paper setting such as accepted objectives of teaching different subjects, weightage to objectives, weightage to content, scoring procedures, language of questions, etc., and in the light of these, made detailed suggestions for different subjects.

The Punjab University is giving thought to these suggestions and hopes that some solid and fruitful results would emerge as a result of implementation of these suggestions.

(ix) UTTAR PRADESH

Reforms introduced recently

The Board of High School and Intermediate Education, U. P. Allahabad, has of late introduced some changes in the questions in English Paper II. Part 'A' of the paper will now consist of questions relating to translation and composition (30 marks) and will be of two hours' duration and Part 'B' will be of one hour's duration and will consist of short answer type questions on grammar, spelling, and punctuation, etc. (30 marks).

There will be a gap of 15 minutes between parts 'A' and 'B'. Part 'B' containing short answer type questions will be given to the candidates after the first two hours. The candidates will be required to answer questions in the space provided for the purpose in the question paper itself and attach the same to the answer book containing answers to part 'A'.

The Board has not reported anything on changes in scoring procedures, grace marks and condonation, etc., The examiner's report is circulated to the heads of institutions for information and necessary action.

Reforms proposed to be introduced in the near future

As regards the reforms to be introduced, the Board has reported the following :

1. Reform in the question papers of various other subjects in a phased manner.
2. Introduction of better balanced syllabi suiting the needs of the time.
3. Introduction of practical examination in Science at the High School stage.

(x) VIDARBHA

Vidarbha Board of Secondary Education has introduced the following reforms in the examinations :

1. Changes introduced in examination questions

- (a) One objective type of question is included in almost all the papers except languages.
- (b) Each part of the question carries marks independently and the same is indicated against the part concerned.
- (c) In the translated question papers, English equivalents of technical terms are given against them in order to avoid confusion on the part of the students.

2. Changes introduced in question papers.

- (a) If the nature of the subject is such that it could be divided into the different sections, the setter of the paper sets one or two questions from each section. This sectionisation is done lest the examinees may avoid the study of any portion of the prescribed course.
- (b) The setter takes into consideration the requirement regarding distribution of marks to certain topics, if provided for in the prospectus.
- (c) In general 50% choice is given in the question paper of each subject.

3. Changes introduced in scoring procedures.

Each question paper set is accompanied by a memorandum of instructions for the guidance of valuers. It gives precisely as to what exactly is expected from the candidates as a reply to each question and how the answers are to be assessed by the valuers. The memorandum of instructions indicates model answers in brief so that

the valuers at different places may be able to assess the answers uniformly.

4. Changes introduced in grace marks, condonation marks, etc.

If an examinee fails at the Secondary School Certificate Examination but succeeds in getting 40 per cent or more marks in one or more subjects or groups in which passing separately is compulsory, he/she may appear at a subsequent examination or examinations only in such subjects or groups in which he/she has obtained less than 40 per cent marks provided that if he/she fails to pass the examination by parts in three successive and consecutive attempts he/she will be required to appear at the whole examination.

Candidates passing the examination by parts shall be declared to have passed the examination in the 'Pass Division'.

5. Instructions to Setters, Moderators and Translators.

(a) While setting the question paper, it is absolutely necessary for a setter and a moderator to study the necessary syllabus. Sometimes, a setter of a language paper has to set a paper from two alternative text books or from two or three text books prescribed for the previous two examinations.

The courses and instructions regarding examination are sometimes modified and as such it will be extremely risky if the setter depends on his previous experience or the knowledge of courses prescribed in the previous years.

The time allotted for each question paper, total marks for the same, distribution of the topics of the subject in two papers, and the distribution of marks to the subtopic should be carefully studied by the setter and moderator.

(b) It is the duty of the moderator to see that the paper set by the setter is according to the prescribed syllabus and is suitable for the standard for which it is meant and that the time and the total marks allotted to the paper are mentioned in the paper and that they are according to the syllabus.

(c) English equivalents of the Technical terms in the Hindi, Marathi and Urdu versions of the question paper should be given against them in order to avoid confusion on the part of the students.

6. Other modifications introduced

(a) **Scheme of Internal Assessment** :— In every subject, 20% marks are reserved for school work and 80% marks are meant for the Board's examination.

(b) **Practical Examination** :—

Practical examinations are held in the subjects noted against each type of examination.

| S. No. | Name of the Exam. | Subjects of Practical examination |
|--------|-------------------|--|
| 1 | S.S.C. | Science Group—Physics, Chemistry, Biology. Agriculture Group—Agriculture, Physics, Chemistry. Technical Group—Physics, Chemistry, Electrical Engineering, Civil Engineering. Humanities Group—Indian Music. |
| 2 | Higher S.S.C. | Humanities Group—Geography, Indian Music. Science Group—Physics, Chemistry Biology, Geography. Agriculture Group—Agronomy, Physics, Chemistry, Botany. Technical Group—Physics, Chemistry, Electrical Engineering, Civil Engineering. |

Higher S.S.C. Examination Technical (Kala Niketan).

1. Physics.
2. Chemistry.
3. Engineering Mathematics.
4. Engineering Science.
5. Engineering Drawing.
6. Workshop Practice.

Vocational High School Certificate Examination.

1. Tailoring.
2. Carpentry.
3. Leather work.
4. Metal work.
5. Electrician.

As regards reforms to be introduced in the near future, the Board has reported that the paper setters will be trained in the setting of better type of questions in English, Physics, Chemistry, Mathematics, History and Geography and that it has proposed to introduce new type of question papers in 1967 for S.S.C. Examination and in 1968 for Higher Secondary Examination.

(xi) WEST BENGAL

Examination Reforms Introduced

In 1958 the Board directed all recognised schools to introduce Objective Type Tests and Short Answer Type Questions in school examinations. This was done with a view to introducing fully in future this system in public examinations conducted by the Board. In 1959 the Board issued booklets to all recognised schools containing samples of Objective Test materials in seven subjects, viz., Bengali, English, History, Geography, Mathematics, General Science and Social Studies. The purpose was to train the school students in this novel method in order to effect reforms in examination pattern of the State.

The Board in its examinations has introduced some changes in setting questions on several subjects, viz., English, Bengali, Geography, General Science, Physics, Chemistry, etc., by increasing the number of short answer type questions and introducing a few objective type questions, and minimizing the number of essay type questions.

The questions are direct, simple and clearly worded so that the candidates find no difficulty in understanding what they are required to answer. The distribution of marks to different parts of a question are also indicated in the question paper in order to help the candidates in ascertaining correctly the scope and extent of answers to be given. This also serves as a direction to the examiners in scoring answers properly.

The examiners submit the examined scripts to the Head Examiners who check 5 per cent of the scripts as well as borderline cases to maintain uniformity of standard. If it is found that the proper standard has not been maintained by an examiner, the scripts allotted to him are re-examined *de novo*. The examined scripts are scrutinised by scrutinisers under the control of Head Examiners before the marks are sent for tabulation.

Award of grace marks in a subject is not a regular feature. The question of awarding grace marks in a subject is considered only when the percentage of passes in it is found to be very poor.

Changes in the Pattern of Declaring Results

- (i) A candidate who is absent at or fails in an elective subject offered as compulsory, but passes in one offered as optional, the score in the latter is accepted if he passes straightway.
- (ii) A candidate who passes in all compulsory subjects but is short of the minimum aggregate for a pass by not more than 4 marks, is given such award as will bring the aggregate to the minimum for a pass.
- (iii) If a candidate fails in only one compulsory subject by not more than 5 per cent of the full marks in the subject, and shows merit by gaining first division marks in the aggregate or by securing at least 75 per cent of the full marks in a subject, compulsory or optional, is allowed to pass, and his division is determined by deducting from his aggregate the number of marks by which he has so failed.
- (iv) A candidate failing in one subject by one mark only, even after re-examination, is awarded one mark to help him for a pass.
- (v) A candidate who misses the next higher division by one mark only, is given this mark and allowed to pass in the next higher division.
- (vi) If a candidate fails in one subject only, offered as compulsory or optional, his script in the subject is re-examined before declaring his result.

Use of Examiner's Report

When there is a large failure in a subject in spite of the questions being properly set, the Head Examiner's Report in the subject is circulated to schools for their guidance with a view to stopping recurrence of such failures.

C. Reforms proposed to be introduced in the near future :

The Board proposes to set up as soon as possible an Evaluation Unit in collaboration with the State Department of Education and Teachers' Training Colleges for effecting further reforms in the examination pattern in the light of the suggestions and recommendations forwarded by the Directorate of Extension Programmes for Secondary Education from time to time.

APPENDIX I

Summaries of the Reports from the State Evaluation Units.

(i) GUJARAT

The State Evaluation Unit, Gujarat, conducted four workshops in the third week of November 1964, and has proposed to organise a few more.

The Unit is at present conducting an experimental study on the evaluation and teaching of English in standard VIII, and it is expected to be completed by April, 1965. Besides, the Unit has undertaken a study on failures in secondary schools and hopes to complete it by March 1965.

The Unit has also provided guidance to schools which have taken projects in Social Studies, Geography, Science and Mathematics. Articles in Gujarati on examination reform have been contributed to educational journals from time to time.

(ii) MADHYA PRADESH

A workshop of paper setters of 10 day's duration was organized in January under the joint auspices of the Board of Secondary Education, the State Evaluation Unit and the Central Examination Unit, to train paper setters in the technique of setting improved questions and question papers in Hindi, English, General Science and Social Studies.

The Unit has taken in hand preparation of about 100 test items each in English, Physics and Civics, which are proposed to be tried out in the Experimental School of the Board.

The specimen test items in General Science published by the Central Examination Unit will be translated into Hindi in order that schools might prepare well in advance for the improved type of evaluation procedure and also for the modified question paper proposed to be set at the Board's examination, 1965.

The unit has undertaken a comprehensive analysis of the syllabus in Physics for Higher Secondary 'A' course Examination keeping in view the following :

1. Analysis of the syllabus in relation to the availability of time for teaching the subject.
2. Suggestions for demonstrations, laboratory work, field work and other allied activities for children in the various topics of the syllabus.
3. Determination of weightage to be given to the different topics.
4. Determination of objectives of teaching different topics.
5. Drawing up of the list of minimum equipment required for teaching the subject.

The unit has also completed the following studies and investigations :

1. Investigation into the causes of the high incidence of failure in Secondary schools of Madhya Pradesh.
2. Study of the impact of internal assessment on the total programme of assessment.

3. Analysis and interpretation of the results of Higher Secondary Certificate Examination for the last five years.

The Unit has published the report, 'A study of the causes of failure in Secondary Schools of M. P.' Two other publications—'Impact of internal assessment on the total programme of assessment' and 'Analysed syllabus of Physics for schools of Madhya Pradesh' are proposed to be brought out some time in 1965.

The unit has proposed to undertake the following activities :

1. Preparation of a scheme for internal marking in the light of the study on the present system of internal marking.
2. A critical study of the question papers of General Science with special reference to the inclusion of objective type questions.
3. Preparation of an exhaustive battery of objective tests in General science for use in Schools.
4. Construction of specimen test items for guidance of examiners in different subjects especially in core subjects.
5. Translation of specimen test items in different subjects prepared by the Central Examination Unit into regional languages.

(iii) MAHARASHTRA

The State Evaluation Unit, Maharashtra, conducted 15 workshops of 3 days' duration each for orientating headmasters and assistant teachers to the concept and technique of evaluation in the subjects of Social Studies, General Science, Marathi, Hindi, English, Mathematics, Geography, History and Sanskrit.

The unit has undertaken the following studies which are expected to be completed by March 1965.

1. The study of the prevailing practices regarding the conduct of oral and practical examination in this state.
2. The study of the reasons for less than 20% of passes at the S. S. C. Examination, March 1964.

The unit also proposes to render into the regional language the following publications from D.E.P.S.E.

1. Evaluation in General Science.
2. Evaluation in Social Studies.

The preparation of the Directory of resource personnel is under way.

(iv) MYSORE

The State Evaluation Unit, Mysore, associated itself with the first and second workshops of paper setters organised under the joint auspices of the Board and the Central Examination Unit for orientating them to the techniques of constructing good questions and question papers.

The unit undertook two studies—Analysis of the SSLC Examination results of May 1963 of the New Mysore State and Investigation into poor performance in the SSLC Examination of March 1963 and completed them. The unit has also undertaken a study on the scheme of internal assessment.

'Wastage of Man-power—pupil performance in our secondary schools'—written by Dr. K. P. Nayak, Evaluation Officer, is awaiting publication.

The Unit has chalked out its future plans as follows :

1. Evaluation workshops to train Headmasters in evaluation techniques in the subjects of English, Kannada, General Science, General Mathematics and Social Studies, each of 5 days' duration and with 50 participants at a time.
2. Follow-up workshops at selected centres to train teachers of secondary schools in the technique of evaluation, each of 5 days' duration and with 50 participants at a time.
3. Trying out of internal assessment scheme in twelve selected schools to study the impact of the scheme in realistic situations to be spread over one year.
4. Introduction of the concept of evaluation in Training Colleges to initiate the teachers under training in Evaluation Methods. These workshops will be of 2 days' duration each and will involve pupil teachers and staff of 10 Training Colleges.
5. Evaluation of Evaluation Techniques in 12 selected schools to study the worth-

whileness of Evaluation Method employed, to be spread over one year.

6. Development of test items in Kannada, English, General Science, Social Studies and General Mathematics.
7. Translation of test items from English into Kannada.
8. Preparation of instructional material with the help of selected resource personnel.
9. Research investigation into the problem arising out of the reform in Evaluation.
10. Publication of pamphlets on different aspects of Evaluation.
11. Publication of rest items in different subjects in English and Kannada.

(v) ORISSA

The State Evaluation Unit, Orissa, organised an Evaluation Seminar of 8 days' duration to enlighten headmasters and senior teachers (36 in all) on the concept and techniques of evaluation. The unit got prepared about 110 test items in General Science and some tests for class X based on the following topics of General Science—(i) Water we use, (2) Our food and digestion, (3) Disease and prevention and (4) How we see and hear. The Unit also completed the following studies :

1. A comparative study of marks in essay examination and objective tests in Social Studies.
2. A content-wise analysis of the Board's question paper in General Science.

The Unit chalked out its future programme as follows :

1. A follow-up Evaluation Seminar of 10 days' duration involving the same participants for analysis of question papers and test construction.
2. Development of test items, 200 each in General Science, Social Studies and Mathematics for class X.
3. Development of achievement tests based on the topic in General Science : The Earth we live in and use of energy, for class XI, containing about 120 objective type items.
4. An analysis of answer papers of Mathematics and General Science.

(vi) PUNJAB

The State Evaluation Unit, Punjab, conducted two workshops of 6 days duration each in collaboration with Extension Services Department—one to acquaint about 40 teachers with the evaluation techniques in English, Social Studies, and General Science and the others to get prepared objective based tests of different forms in Mathematics. The Unit has also conducted two workshops of 6 days' duration each in collaboration with Extension Services Departments to initiate about 200 teacher trainees in the evaluation approach.

The Unit has undertaken preparation of test items in the following subjects :

| | | |
|-----------------|---|-----|
| English | — | 100 |
| Social Studies | — | 50 |
| General Science | — | 100 |
| Mathematics | — | 100 |

It has also proposed to get prepared some unit tests with 15 items in each test in Mathematics, General Science and Social Studies.

The unit has taken in hand the following studies and investigations :

1. Analysis of question papers, High/Higher Secondary, 1964.
2. Analysis of results of Higher Secondary Part I Examination, 1964.
3. Analysis of results of the Punjab University Higher Secondary Examination, 1964 as per proforma supplied by the Central Examination Unit.

The unit has proposed to translate into Hindi and Punjabi the publication of the Central Examination Unit—The Concept of Evaluation.

(vii) RAJASTHAN

The State Evaluation Unit, Rajasthan, conducted eight Evaluation Workshops for orientation of headmasters and teachers in Social Studies and English and in five compulsory subjects of High Schools and Higher Secondary schools. In two of these workshops the participants prepared model papers in English for class VIII and model papers in English, Hindi and Mathematics for High and Higher Secondary Schools.

The Unit also got prepared by teachers who attended the orientation workshops test items in English, Social Studies, General Science, Elementary Mathematics and Hindi. Some of the items were tried out and some recommended for try out in class tests.

The unit has completed the following studies and investigations :

- (1) Promotion rules
- (2) Conduct of class tests
- (3) Conduct of Annual Examination
- (4) Study of failures in Secondary Schools
- (5) Student's Cumulative Record
- (6) Cases of disparity of marks obtained in different examinations.

The unit has brought out two issues of Newsletter for Higher Secondary Schools and Middle schools. The third issue is underway. The unit has also prepared a Directory of resource personnel.

As regards the future programme, the Unit will organise four workshops involving about 100 middle school teachers of English, Hindi and Social Studies and will get prepared about 500 items. The Unit will also undertake translation of pamphlet on Social Studies published by D.E.P.S.E. from English into Hindi.

Besides, the Unit will conduct research and investigations into the following :

- (1) Study of failure of students in High and Higher Secondary Schools with results below 30%.
- (2) Cases of disparity in marks obtained in the half yearly and yearly examinations.

(viii) UTTAR PRADESH

The State Evaluation Unit, Uttar Pradesh associated itself with the Evaluation workshops organised in July 1964 under the joint auspices of the Department of Extension Services, Govt. Central Pedagogical Institute, Allahabad and the Central Examination Unit for orientating Training College lecturers to new trends in Evaluation and thereby ensuring proper teacher preparation.

The Unit has made some efforts in preparing teacher made test items on various school subjects, e.g., English, Science, Mathematics and Social Studies.

The Unit undertook three studies, (1) An investigation into the problem of unevenness in the standard of achievement under different papers of Mathematics at the Intermediate stage, 1963, (2) An investigation into the causes of failures at the High School Examination, 1963 of the U. P. Board and (3) Analysis of various question papers at the Board's H. S. Examination 1964 and completed them. The reports of these studies have been published.

The Unit has prepared a directory of resource personnel for item writing, evaluation and instructional material.

The Unit has chalked out its future plans as follows :

- (1) Evaluation workshops for teachers of Secondary Schools of the state in the subjects of English, Social Studies, Mathematics and Science to orient them to new trends in evaluation and its technique, each of five days' duration and with 20 participants at a time.
- (2) workshops for getting prepared test items in Science, Mathematics and English, which will be tried out in six selected schools.
- (3) Preparation of about 100 Achievement tests of different types—essay, short answer and objective—in Mathematics and Science.
- (4) Analysis of question papers of the Board and home examinations.
- (5) Analysis of content areas.
- (6) Analysis of results of Board and home examinations.
- (7) Analysis of objectives of teaching.

APPENDIX U

Constitution of the Standing Committee of the Chairmen and Secretaries of the Boards of Secondary Education in India.

(As Amended by the Sixth Conference)

1. Composition :

The Standing Committee, will consist of nine members from amongst the Chairmen and Secretaries of the Boards of Secondary Education and two officers of the Directorate of Extension Programmes for Secondary Education. They will be members in their official and not individual capacities.

The Director of the Directorate of Extension Programmes for Secondary Education will be the Chairman of the Committee and an officer of the DEPSE will act as its Secretary.

2. Nomination to the Committee :

The Chairman will constitute the committee by nominating nine members from amongst the Chairmen and Secretaries of the Boards of Secondary Education and two from among the officers of the Directorate of Extension Programmes for Secondary Education.

He will also be empowered to co-opt additional members, not exceeding three, over and above this specified number to work on the Committee, at his discretion.

3. The Term of office of the Members :

Out of the representatives of the Board one third of the members will retire every year. The term of office of the members from the Boards will normally be three years. However, in the first instance one third members will retire at the end of the first and another one

third at the end of the second year of the constitution of the Committee. Their names will be decided upon by the Chairman. A retiring member, will be eligible for renomination, only after a year of his retirement from the Committee.

The term of office of the representatives from the DEPSE will be decided upon by the Chairman of the Committee.

4. Periodicity of meeting.

The Committee will normally meet at least twice a year.

5. Functions of the Committee.

- (a) To review the work done by the Boards towards the reform of examinations.
- (b) To plan the steps for the programme of examination reform by the Boards.
- (c) To make necessary suggestions for expediting the implementation of the programme of reform in public examinations.
- (d) To co-ordinate the activities of the Boards related to the reform of examinations.
- (e) To discuss about the problems related to the conduct of examinations.
- (f) To suggest research studies to be taken up by the Boards.
- (g) To plan a programme of publications for the Boards.
- (h) To plan a programme of co-ordination of the work of the Boards with the work of the Central and State Evaluation Units.
- (i) To convene the annual Conference of Chairmen and Secretaries of the Boards of Secondary Education.

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