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ABSTRACT

This annotated bibliography on Indian educational material covers articles appearing in newspapers and periodicals during the period January to March 1972. One hundred sixty seven citations which cover subjects including basic education, higher education, history, special education, student selection, and teaching methods are included. Entries are arranged first by topic, then alphabetically by author. A list of the periodicals and newspapers abstracted is included as well as a special section of 26 citations on technical education. SO 005 474 is a related document. (OPH)

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CONTENTS

INDIAN EDUCATIONAL MATERIAL

Vol 7 No 1 March 1972

ACADEMIC ACHIEVEMENT

1 CHATTERJI C, MUKERJEE M: Factorial composition of the NLTVI along with the school examination marks. Journal of Education and Psychology 1972, 29(4), 244-50. 7 ref.

The sample consisted of 1305 high school students (807 boys and 498 girls) of class VIII. The non-language test of verbal intelligence (NLTVI) consisting of four parts viz., Analogy, Classification, Opposites, and Picture Arrangement was administered to the sample and the means, standard deviations of the score distributions and the intercorrelations among the four parts were obtained. The factor analysis of the intercorrelation matrix by complete centroid method gave two common factors identified as Verbal Reasoning and Verbal Relation. The factor analysis of the NLTVI parts and school examination marks in different subjects revealed that - 1) Verbal Reasoning ability of the students did not play an important part in obtaining high marks in school examination; 2) only history was not so closely related with the factor, Scholastic Achievement as were other subjects like Bengali, English, Sanskrit, etc.; 3) history, Sanskrit, and mathematics had a common factor, identified as Memory.

2 DINKAR RAO H, SHIVAPPA D, PATTED G M: Multiple prediction of college graduation from secondary school certificate marks. Journal of the College of Education, Karnatak University, 1971, 8(2), 37-51. 14 ref.

One hundred and sixty four students, including both sexes, of the age group 20-22 years were selected from the colleges of Dharwar, Hubli and Belgaum for the study. These students had passed their SSC examinations in the month of April 1965 and appeared for final year B.Sc. examination in the month of April 1969 without any break in the middle. The final year B.Sc. marks and the SSC marks of these pupils were obtained from their respective colleges and schools. This sample was again divided into two groups namely, first class B.Sc. students (29 students) and pass class and failed B.Sc. students (52 students).

The [illegible] data [illegible] were [illegible] statistically analysed using Pearson's product moment correlation, multiple correlation and regression equation. The findings are: 1) significant relationship exists between SSC marks and final year B.Sc. marks; 2) significant relationship also exists between performance of first class B.Sc. pupils and their SSC marks; 3) negative relationship exists between the final year B.Sc. marks of the third class and failed students and their SSC marks; 4) Kannada, English, general science, optional chemistry and optional physics are selected as the best predictors of graduation; 5) an assessment of general performance in a group of subjects might be more useful than any single subject assessment; 6) an overall assessment of performance at the SSC examination is most useful indicator. However, the performance in Kannada, English, general science, optional chemistry, and optional physics subjects are more valuable than the performance in other subjects; 7) the school marks are of predictive value altnough it is low. One of the best instruments for prediction of college graduation is marks from the secondary school.

3 HUNDAL P S, AGGARWAL V: Prediction of academic achievement of the higher secondary students using measures of intellectual and non-intellectual variables. Indian Journal of Applied Psychology 1972, 9(1), 32-7. 24 ref.

One hundred and fifteen girls of XI class were randomly divided into two groups of 80 and 35 subjects. The former sample was used for developing the regression equations for predicting performance in chemistry, physics and overall achievement. The latter sample was used for the cross-validation study. The Verbal Group Test of General Mental Ability (Hundal), the Culture Fair Intelligence Test Scale 2 Form A (Cattell), the Indian Version of Allport's A-S Reaction Study (Sharma), and two essay type achievement tests, one each for chemistry and physics, were used. The scores of early academic achievement in chemistry, physics and overall grade were noted from the school record. The intercorrelations between predictors and the predicted variables were computed. The findings are: 1) the best single predictor in all the three cases was early academic achievement, and the second best was the verbal test of General Mental Ability; 2) the verbal and non-verbal tests of intelligence as also all the achievement variables were significantly correlated with each other; 3 the intercorrelations among the predictors were low but their correlations with the predicted achievement in various subjects were moderate or

moderately high; 4) the prediction of performance in chemistry and physics improved considerably by combining the various predictors, while in the case of overall achievement, only early academic achievement was used as independent variable because addition of other predictors did not improve the prediction any futher; 5) the cross validating coefficients were not only significant statistically but were considerably higher than usual; 6) other things being equal, subjects scoring low on the A-S Reaction Study tended to do well, except in physics and chemistry.

4 KALANIDHI M S: Distribution of sociometric choices in terms of overall acceptance, rejection and achievement. Manas 1971, 18(2), 105-9. 2 ref.

The present paper based on the data collected from 79 graduate teacher trainees in a training college at Madras attempts to find out if there is any special trend in the relation between acceptance and achievement, and between rejection and achievement. The students under study had to answer a sociometric questionnaire and after a week select from their class three students for acceptance and three for rejection in order of preference. The subjects were then classified into three categories in terms of achievement, acceptance and rejection. Irrespective of the levels of acceptance, the total sociometric choices of the Most Achievers (105) was the highest in comparison to that of the Moderate Achievers (102) and the Least Achievers (30). Thus, there was a definite positive relation between Acceptance and Achievement. However, no such trend was observed in the case of Rejection, the greatest number of Rejection choices being received by the Moderate Achievers and the lowest by the Least Achievers.

5 VIDU MOHAN : . Academic achievement - a review of its determiners. Journal of Education and Psychology 1972, 29(4), 251-7. 34 ref.

The determiners of academic achievement have been broadly classified as psychological factors and environmental factors. The psychological factors have been grouped under four heads - a) aptitude, b) interest, c) motivation, and d) personality. The environmental factors have been grouped under three heads - a) reaction to school, b) home and family background, and c) socio-economic status. The experimental studies reporting the relationship between academic achievement and the above mentioned factors have been extensively quoted.

6 NARAYANA RAO S: Prognostic study of achievement in relation to academic adjustment. Indian Educational Review 1971, 6(2), 196-213. 27 ref.

Employing four predictor variables, achievement at graduation for each of 1642 randomly chosen degree class students was predicted. Subjects achieving above the predicted level plus one standard error of estimate were identified as overachievers and those achieving below the predicted level less one standard error of estimate were designated as underachievers. The patterns of academic adjustment of the students thus selected, some personality variables, and some of the factors affecting the academic adjustment patterns of overachievers and underachievers were studied employing relevant instruments. The results indicated that academic achievement is significantly related to academic adjustment, that the academic adjustment of overachievers is significantly related to the aspects of personality which were studied and that the academic adjustmental patterns of overachievers and underachievers differ significantly. The study highlights the importance of the need for counselling and guidance for students found to be inappropriately adjusted to the academic situation.

7 PADMANABHAN NAIR P: Relation between critical thinking ability and school performance. Kerala Journal of Education 1970, September, 44-8. 6 ref.

The sample for the present study consisted of 441 students (231 boys and 210 girls) of class X belonging to 13 secondary schools in Trivandrum city and its surrounding rural areas. The average school marks at the two terminal examinations in the respective school subjects and the average of the total marks of all the subjects were taken as a rough measure of school performance. An adapted version of the Watson-Glaser Critical Thinking Appraisal Test was administered to the sample. Critical thinking Ability correlated significantly with the marks in all the six school subjects and with the average percentage of the total marks of all these six subjects. The correlation was significant only for Malayalam and science in the case of boys and for English, Hindi, mathematics, science, social studies and the average percentage of total marks in the case of girls. It has been concluded that as critical thinking ability is found to be an important determinant of school performance it should be emphasized in the teaching of all subjects.

8 PADMANABHAN NAIR P: Role of spatial ability on science achievement. Journal of Educational Research and Extension 1971, 8(2), 95-101. 6 ref.

A sample of 660 tenth standard students (345 boys and 315 girls) from rural and urban secondary schools of Trivandrum District was administered the Revised Minnesota Paper Form Board Test, Form A A, to study their spatial ability (FB). The average science marks obtained by the students in the three terminal examinations constituted the measure of science achievement (SA). The performance of two extreme groups on FB was compared on their science achievement. Similarly two extreme groups on SA were compared on their spatial ability. Analysis of the data has led to the following conclusions: 1) spatial ability is an important determinant of science achievement at the secondary school stage; 2) no difference is evident in the performance of boys and girls and rural and urban students; 3) the differences between the means on SA of the two extreme groups on FB are significant; there are also significant differences between the mean scores on FB of the two extreme groups on SA for the total students, boys, girls, rural, and urban students.

9 RAMADHAR SINGH: Academic motivation as a determinant of school attendance and attainment. Indian Educational Review 1971, 6(2), 233-7. 8 ref.

The study was undertaken to test the two hypotheses: 1) academic motivation is an important determinant of examination performance, independent of school attendance, and 2) school attendance may itself be a function of the academic motivation of a pupil, and so a high association between the two cannot guarantee that school attendance is instrumental in school attainment. One hundred and sixty students (53 suburban and 107 rural) from VIII through XI classes with age range 12 to 17 were selected for the study. The 20-item Hindi version of Aberdeen Academic Motivation Inventory (De and Singh [illegible]) was used. The percentage of marks obtained by the students in the examinations were taken as measures of academic achievement. The results confirmed the two hypotheses. There was significant positive correlation between academic motivation and attainment even when the influence of school attendance is controlled. While academic motivation exhibits a tendency to correlate significantly with school attendance, the latter does not show a parallel relationship with school marks. Hence attendance by itself is a negligible factor in the examination performance of the subjects.

10 VASANTA RAMKUMAR: Self concept and achievement. Journal of Educational Research and Extension 1971, 8(2), 91-4. 8 ref.

The study was undertaken to find the relation between self-concept and achievement in academic subjects for college students. The self concept of 692 students (364 boys and 328 girls) offering Pre-Degree Course in urban and rural colleges of Trivandrum District was measured by adopting Q-sort method based on Q technique formulated by Stephenson and Thomson. The average of total marks obtained by the students in two terminal examinations formed the index of achievement. Analysis of the data revealed that the relationship between self-concept and achievement in academic subjects is positive and significant, high self-concept being accompanied by high achievement and low self-concept by low achievement.

11 VILASINI M, VISVESVARAN H: Study of the achievement in English of the pupils entering standard VI. Journal of Educational Research and Extension 1971, 8(2), 124-8.

A sample of 167 boys and 131 girls studying in standard VI and belonging to upper primary and secondary schools of rural and urban areas was administered a test based on the teaching items prescribed for standards III-V. Information regarding the pupils' educational and socio-economic background, etc. was also collected. Information regarding the pupils' general intelligence, attendance, power of speech, behaviour etc., was rated by 90 teachers on the basis of their personal knowledge about the students. The factors that facilitated the achievement in English were also elicited by teachers by means of a questionnaire. Major findings are: 1) there is significant difference in achievement between boys and girls; 2) the urban pupils achieve more marks in the test than the rural; 3) there is a high relationship between the factors like interest in learning English, liking of the subject and the achievement score; 4) a significant correlation exists between power of speech and achievement; and 5) there is a high percentage of omission, spelling errors and use of inappropriate words indicating that the required habit of using structures has not been achieved by the students. Based on these findings a few recommendations have been made.

12 APTE . B P: College and postgraduate teaching. University News 1972, 10(3), 16, 17.

The need for involving affiliated colleges also in the task of postgraduate instruction has been stressed in view of the rapidly rising enrolment in the colleges and the rise in the number of successful candidates at the first degree examination. It has been suggested that postgraduate instruction by papers which cover the general aspects of a subject discipline can be allocated to affiliated colleges having qualified staff and other facilities; 2) special developments in a subject discipline which are regarded by the university as its special feature should be the main concern of its department, and 3) the major responsibility of a university department should be to conduct and guide postgraduate and post-doctoral research, teaching for examination by papers being regarded as secondary. The recently created postgraduate centres serve the purpose of providing postgraduate instruction in places outside university towns. However, these centres could not possibly meet the need in the town itself where well-established colleges and qualified teachers are available. In such places applying the same norms for recognition as in the case of university departments, the qualified colleges may be allowed postgraduate instruction both by papers and research. Financial commitment on the part of the university would be mainly limited to a minimum grant and an additional per capita grant as in the case of postgraduate centres. The additional cost to be borne by the colleges would be fractional compared to the high standard of teaching and education that is ensured.

13 Chasing the semester hare. Economic and Political Weekly 1972, 7(8), 438.

An expert committee of the University Grants Commission has advocated switch-over to the semester system by universities. Two factors have been pointed out against such a switch-over: 1) the semester system can be effective only if the majority of colleges and universities are able to teach at least the basic courses twice a year, once every semester; but it requires a huge outlay for the provision of physical facilities and staff; 2) at present, an average university spends about three months every year in conducting various examinations; if this is to be done twice a year, there will be hardly any time left for anything else including teaching.

It is observed that the most important reform which requires to be implemented immediately is to abolish payment of remuneration to examiners for evaluation of answer books.

14 Higher education, a central subject? [Editorial]. National Herald 9 March 1972, p. 5, cols. 1, 2. 800 words.

A plea has been made for considering the issue of placing higher education under the Central Ministry, with the functions of the UGC merged in it. The education and training of the vast student population can be more effectively coordinated with national manpower needs if there is Central control and direction, and also national approach is vitally important for research in science, technology, agriculture and other subjects. Moreover, the States should have no objection to Central control because the States would be in a better position to devote resources and energy to primary and secondary education, the regional languages can continue to be the media of instruction, the cultural and other related interests of each region need not suffer, the innovations and experiments of State authorities and their educational personnel would not be interrupted, university autonomy and academic freedom would not be disturbed, and the obligations connected with academic freedom can be discharged by the universities equally well in a centrally directed and controlled system of higher education.

13 JOHN V V: University administration. Times of India 17 March 1972, p.10, cols. 3-5. 1400 words.

It is regretted that the universities often devote a good part of time to conflicts within the academic and administrative bodies and do not advance the cause of higher education. The governance of universities pose a problem as they have become complex organisations. The Gajendragadkar Committee on the governance of universities suggested the right size and composition of university bodies and the ways of ensuring the participation of teachers and students in decision making. However, the committee does not indicate the method of achieving the spirit of learning and of intellectual cooperation. The quality of the governance of a university could be adjudged by i) the seriousness with which a new idea on administrative reforms is entertained, and ii) the time taken to implement the reforms. The proposals on reforms of education should be accepted and practised in the right spirit. The contemplated changes in the organisation and governance of universities, particularly of affiliating universities should be radically modified.

16 JOSHI K L: Colleges and post-graduate teaching. University News 1972, 10(3), 20, 21.

The Delhi University pattern of provision of university scales of pay to all the college teachers and the Bombay university pattern of recognition of its teachers as postgraduate teachers have been recommended for emulation by all the universities. The following suggestions have also been made: 1) no single college at any place outside the headquarters of the university should have postgraduate classes; 2) in a place where there are more than 2 or 3 colleges, the postgraduate work should be co-ordinated with special assistance from the U.G.C. in one centre situated outside the headquarters of the university; 3) at the headquarters of the university all postgraduate education should be controlled and guided by the university with the assistance of a Board of Postgraduate Studies; and 4) there should be no distinction between the salary of teachers of postgraduate colleges and degree colleges.

17 PAWAR A G: Affiliation and disaffiliation. University News 1972, 10(1), 21.

The importance of ensuring the need and suitability of a college prior to its affiliation has been stressed. In view of the indiscriminate growth of colleges in recent times, it has been suggested that the Inspection Committee and the various university authorities should make a careful and unbiassed assessment of the colleges to guide the State government which is in most cases the ultimate authority in granting affiliation. The procedure prescribed for disaffiliation being stiff, care should be taken to prevent such a contingency. However, if disaffiliation becomes necessary in the interests of education, it should be resorted to.

18 SHARMA M L: School organizational climate - an overview. Indian Educational Review 1971, 6(2), 281-92. 33 ref.

A survey is made of the significant researches done in the area of school organizational climate. On the basis of the research findings, the concept of organizational climate, its measurement and its relationship with other variables have been discussed.

19 TUKOL T K: Colleges run by minorities. University News 1972, 10(1), 13, 14.

Constitutional protection to minorities is ensured through Articles 29 and 30, the former granting special protection to minorities to conserve their language, script or culture, and the latter recognising the special right of minorities to establish institutions of their choice to preserve their language or religion. Certain court verdicts supporting these constitutional provisions have been quoted. It has been underlined that a) the right of minorities to establish and administer educational institutions of their choice would include the right to have a choice of the medium of instruction also, b) the curricula of a minority institution need not necessarily conform to the teaching of its religion only or be in its language, and c) the State cannot discriminate ordinary institutions against minority institutions in the fixation or grant of its aid.

20 WEAVER F H: Educational administration - considering the "is"; defining the "ought". University News 1972, 10(3), 14, 15.

The main roles of educational administrator are - forming a nexus between the human components of his institution as also between the institution and its environment; protecting the faculty and the students in their privilege of objectivity, of their right to criticize; undertaking, without fear, investigations whose consequences may be unpopular; playing a vital part in shaping the lessons that his institution has to impart; protecting against dehumanising or mechanistic tendencies in his institution. It has been stressed that the training of educational administrators should not be concerned merely with training in administration or management as such but with the concept of the educator as administrator - someone, whose administrative style and creed are grounded in an informed commitment to learning as an instrument of social good.

Student Participation

21 AHLUWALIA S S: Students' say in university administration. National Herald 17 February 1972, p. iv, cols. 1-5. 750 words.

Student participation in the U.P. Agricultural University has been facilitated through the constitution of a Campus Council with membership being barred to the students who are

on 'Academic Probation' or on 'Conduct Probation'. This Campus Council representing the complete cross-section of the students including all counsellors, food secretaries, captains, NCC Under-officers, chairmen of all the societies and clubs, top-most student of each class and staff members including all key-officers of the university with Vice-Chancellor as Chairman and Dean of Student Welfare as Secretary, meets almost every month to consider all academic and non-academic activities. Decisions are taken on the spot, the policy matters being referred to the respective policy-making bodies with the participation of concerned students in the discussions. The system of Campus Council thus has all the innate benefits of the Students' Union without its attendant violence that erupts mostly due to factional fights and undesirable leadership.

22 CHAITANYA: Student participation - is it the answer? Times of India 2 January 1972, p.8, cols. 6,7. 1200 words.

The universities of Bihar, Rajasthan, Bombay and Cochin have given representation to students in the university administration as a solution to student indiscipline in the campus. However, this is not the only solution to the problem. As Gajendragadkar report suggests the students should not be given any voting power in the academic matters or in the selection or confirmation of the teaching staff. There ought to be regular established procedures for consultation between teachers and students, which result in genuine improvement in methods of teaching and in curriculum. Students could also be consulted for enhancing teacher effectiveness, but their representation on the governing bodies is not desirable. As the idea of student participation is motivated by political parties, if allowed, the students would be exploited for serving the political ends of the parties and the character of the university would be changed to provide a ground for politics.

23 SURAJ BHAN: Students and management of colleges. University News 1972, 10(1), 15-17.

The need for abolishing the depersonalized authoritarian type of educational system has been underlined to prepare students for their future social responsibility. Students should be closely associated with administration so that many misconceptions and misunderstandings arising due to lack of communication could be avoided. A 'mutual means approach' that involves both students and teachers has been

recommended as the best alternative to an exclusively student-centred approach which is beset with many practical difficulties. This mutual cooperation and assistance would establish the much needed academic freedom. At the same time students should also be imbued with a sense of responsibility towards the results and direction of their action. The consultative student-staff committee can be an appropriate forum for mutual discussions on problems like curriculum planning and improvement in the techniques of classroom instruction. Students' residential conditions and social rules is another area which should have student concurrence. Students should also be encouraged to express themselves freely on academic issues in a student newspaper and through student council discussions. However, student control is not practical and the power of final decision can only be with the senior members of the college community.

ADULT EDUCATION

24 ASIAN INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION: Life-long education - report of the meeting of experts held at New Delhi from 10th to 18th August 1970. New Delhi, the Institute, 1970. 265p.

Considering the importance of evolving a concept of life-long education as a creative process continuing throughout life, which aims at integrating all kinds of learning experiences for the development of the total personality of a human being, recognizing the need to coordinate all agencies, both governmental and non-governmental, which are engaged in activities related to the achievement of the objectives of life-long education, and observing that the cooperation of international agencies and national institutions is essential, the meeting resolved 1) to invite the Unesco a) to organize, sponsor and support international, regional and national seminars, conferences, etc., to study the concept, b) to assist member-States in formulating and implementing pilot projects; 2) to recommend to the Asian Institute of Educational Planning and Administration a) to undertake studies relating to the concept and strategies of life-long education, b) to train a nucleus of administrators, educators, etc., c) to disseminate such documentation as will be useful in the region; 3) to request member-States a) to undertake studies into the concept and strategies, b) to organize training programmes for the leaders who will be responsible for the programme, c) to reorientate the national system of education to be in keeping with the objectives of life-long education, d) to explore possibilities of expanding existing programmes of functional literacy, adult education, out-of-school vocational training, and

utilizing existing resources in the various institutions as well as the mass media for a concerted effort in evolving a system of life-long education.

25 DUBEY V K, SRIVASTAVA O N, SRIVASTAVA A K: Critical study of the different methods used for finding motives in the process of adult education. Allahabad, Farmer 1971, 45(2), 167-71.

There are numerous categories of motivations which singly or in combination induce adults to receive education. The present study was aimed to find out which method would be more suitable to find out the motivations which induce adults to receive education. The two methods employed in the present study are 1) multiple choice questions (check list) schedule, 2) open-end questions schedule. All the adults above 21 years of age in the Karchhara development block of Allahabad District were selected for the study. The following are the results of the study: 1) according to the check list schedule the motivating factors are a) home dealing (100%), b) social dealing (72%), c) increased income (72%), d) social status and prestige (54%), e) opportunity of service (41.6%) and business (27.1%); 2) according to the open-end questions schedule the motivating factors are a) home dealing (89.58%), b) social status and prestige (64.5%), and social dealing (45.8%); 3) open-end questions schedule is more effective in finding out the motives in the process of adult education.

26 INDIA. MINISTRY OF EDUCATION AND SOCIAL WELFARE: Handbook on farmers functional literacy project (Kisan saksharta yojana). New Delhi, the Ministry, 1971. iv, 70p.

The following aspects of farmers' functional literacy programme (Kisan Saksharta Yojana) have been discussed: 1) coordination and integration at Centre, State, District, Block and village levels; 2) outlays and targets; 3) roll of international agencies; 4) organisation and administration; 5) material, media and methods; 6) training and orientation; 7) finance; 8) evaluation; 9) linking functional literacy with mass literacy movement; 10) follow up of programme; 11) plan of operation Annexures at the end contain the following: 1) distribution of 60 Functional Literacy Projects among various States upto 1970-71; 2) proforma for initial survey of the area and adults engaged in farming; 3) village level survey; 4) duration of functional literacy classes phase I and II;

5) courses for the functional literacy classes; 6) reading materials for functional literacy classes; 7) content of orientation and training courses; 8) list of indicators for evaluation; 9) proforma for quarterly progress report of functional literacy programme under farmers' training and functional literacy project; 10) tentative draft plan of operation for the implementation of farmers functional literacy programme (Kisan Saksharta Yojana) in the new districts.

27 KRIPALANI G B, MAITRA P, BOSE T: Education and its relation to family planning. Jounral of Family Welfare 1971, 18(2), 3-8. 6 ref.

A programme for promoting family planning at the clinic level at the Urban Health Centre, Chetla was carried out among a group of slum dwellers. An analysis of the educational status of 76 couples who participated in the programme showed that acceptance of family planning was higher when one or both partners are educated. Further, the educational level was also observed to be related to the level of parity and choice of contraceptive method.

28 MISHRA A P: Look into national demonstration programme. Indian Journal of Adult Education 1972, 33(2), 13-16.

A total of 120 respondents from the Special Extension Block, Sabour in Bihar formed the sample to study the effect of National Demonstration Programme, which was started in 1965 with a view to minimising the time-lag between the research findings and their application in the farmers' fields. While neighbours and other farmers were considered as the most important personal source of information about improved methods of agriculture, demonstration was considered as the most impersonal source of information. Unfortunately, only the 60 respondents from the villages where National Demonstration Programme was conducted knew about it, and even among the 60 farmers who knew about the scheme, 24 did not adopt the practices demonstrated mainly due to non-availability of seeds fertilizers, etc., in time. It is, therefore, important that farmers are provided with all the necessary facilities for adopting the new practices.

29 Over 13% of adults read papers, periodicals in India [News item]. Tribune 2 March 1972, p.5, cols.1,2. 700 words.

A national readership survey conducted by the Operations Research Group of a Baroda-based consultancy organisation, through interviews shows that 13.2% of the adults read newspapers and other periodicals. The survey was sponsored by the Indian Society of Advertisers and the Advertising Agencies' Association of India. The other findings of the survey are as follows: 1) there are 9.1 % readers for each copy of newspapers sold; 2) lack of adequate communication links with the interior region and shortage of newsprint contribute to newspaper circulation lagging behind readership; 3) there is a wide gap between the number of adult literates, and readers of newspapers and periodicals; 4) literacy plays a major factor in affecting the exposure to press; 5) exposure to the press is highest in Kerala and is lowest in Madhya Pradesh, Uttar Pradesh and Rajasthan; 6) urban exposure to the press is more than 5 times that of the rural at the All-India level, though literacy in urban India is slightly over twice that of rural India; 7) exposure to the press is mostly through language publications; and 8) exposure to press is maximum among the younger age group (15-24 years) and is least among the age group of 45 years and over.

30 VAIDYA L R: Adult education in Himachal Pradesh. Indian Journal of Adult Education 1972, 33(3), 11,12.

A statistical account has been given of the adults made literate with the help of District Education Officers, Vidya Dan Aandolan (mobilisation of students), teacher-trainees, and social centres during the period 1961-62 to 1969-70. The percentage of literacy in 1951 was only 7.7 which increased to 21.26 in 1961 and further increased to 31.32 in 1971. Mobilisation of adults to attend the classes regularly was found to be a major hurdle. The need for furthering the adult education programme has been stressed in view of its impact on development programmes.

31 WORKSHOP ON UNIVERSITY CONTINUING EDUCATION, UDAIPUR, 14-15, FEBRUARY, 1972. Recommendations. Indian Journal of Adult Education 1972, 33(3), 13.

The following suggestions have been made: 1) setting up a proper Department of Continuing Education in the university under the direction of a senior professor, till a full-time salaried head of the department is recruited; 2) giving the proposed department the same status and consideration as

any other major university department; 3) establishing two advisory committees, one consisting of faculty members and the other consisting of prominent citizens of the community for the guidance of the proposed department and for making its services progressively more beneficial to the community; 4) encouraging voluntary organizations interested in adult education to undertake the task; 5) extending university support to the literacy programmes preferably not by undertaking direct teaching responsibility but indirectly and yet effectively by training instructors, conducting research in teaching methods, evaluating different programmes, etc.; 6) for the realisation of these objectives and for related action, forming a small committee consisting of the following members: vice-chancellors of Rajasthan, Udaipur and Jodhpur universities, Director, Birla Institute of Science and Technology, Pilani, Dr. Mohan Sinha Mehta, Chairman, Indian University Association for Continuing Education, Education Commissioner, Government of Rajasthan.

BASIC EDUCATION

32 MATHUR V S: Mahātmāji kī buniyādi śikṣā mem punah niṣṭhā sthāpit karane kī avaśyakatā (= need to re-establish faith in basic education of Mahatma Gandhi). / Hindi /. Naya Shikshak (Teacher Today) 1971, 14(2), 90-100.

Basic education has national outlook and it is based on sound psychological, sociological and economic principles. It proposes to impart education through the medium of an activity. Thus, the child is orientated to productive activity. The aspect of self-sufficiency is limited to enabling the child to earn for his mid-day meal or school uniform. Besides craft, the social and cultural activities of the schools may also form the basis of correlation. Emphasis is laid on character formation by developing habits of self-imposed discipline, manual labour, intellectual and spiritual self-sufficiency. Basic education is not opposed to technological progress. The implementation of Basic education has been defective; dogmatism, emotional views and static approach have done much harm to it. It is pleaded that Basic education should be restarted by evoking faith in its fundamental concepts, by enlightening the masses, especially the upper strata of the society and by drawing out a phased programme for expansion. Teacher training should be given the needed importance. It is suggested that a national commission for Basic education should be constituted.

33 VERMA I B: Contemporary significance of Gandhiji's educational thought. Educational Miscellany 1969-70, 6(3 & 4), 43-8. 16 ref.

Gandhiji regarded education as: 1) the process of the harmonious development of the innate powers of the child; 2) a conservative and progressive force which represents the culture, civilization and genius of the country; 3) a means of social control or Sarvoday Samaj which would bring into existence a cooperative social order on the basis of truth, non-violence, justice, liberty, equality and fraternity. The main features of his educational thought were that: i) there should be universal education for children from 7 to 14 years of age; ii) the child's mothertongue be the medium of instruction; iii) education should centre round manual and productive work; and iv) education at this stage should be self-supporting. It has been underlined that Gandhiji's educational thought should be properly understood and implemented in order to create a new world.

CURRICULUM

34 ANAND C L, DAVE P N: Analytical study of some major objectives of teaching social studies and ways of attaining them. Indian Educational Review 1971, 6(2), 238-49. 13 ref.

The teaching of social studies at the secondary level in four Indian States - Andhra Pradesh, Kerala, Madras, and Mysore - was analysed to determine i) whether the teachers properly understood the integrated approach to social studies as envisaged by the experts; ii) whether the teaching was done in accordance with the principles of modern curriculum planning. Major objectives of teaching social studies found common among the syllabi in the four States were selected. These objectives were further analysed on the basis of a model curriculum plan, i.e. in terms of expected outcome, broad topics, learning experiences and evaluation devices. An exhaustive list of items under each head was prepared and this was converted into a rating scale. This rating scale was administered to 200 experts from all over the country, and teachers from 800 schools in the 4 States. The findings suggest that while there is a good deal of understanding of what should be done, the picture of what is being done in actual practice is not very encouraging.

35 BHASKARAN NAIR K: Science in education. Kerala Journal of Education 1970, September, 17-22.

The immense popularity and ready recognition that science enjoys among educated people has been attributed not so much to the body of knowledge that it has disclosed, but to the method by which it has done so and to the effect which that method has on the development of the human mind and personality. The function of science in education should be inculcation of this method of gaining knowledge and not the packing of infinite volume of knowledge that is being created. Even the very survival or annihilation of a nation sometimes depends on the training in science received by the decision-making leaders. This training can neither be obtained in adult life nor can the situations demanding such training be foreseen. Hence, the indisputable need for making science an integral part of education. Moreover, the richness of scientific knowledge and its influence on the present day life are such that science cannot be ignored.

36 CHAUDHURI S C: Curriculum plan in work experience for lower and upper primary classes. NIE Journal 1971, 5(5,6), 70-6.

Work-experience should include meaningful, educational physical work. The physical work performed should also have productive value. Problem-solving activities related to the basic needs of life, namely, food, shelter, clothing, health, and recreational and cultural activities are meaningful to the pupils. Work-experience will take the form of exploratory hand work in the lower primary classes, systematic construction work in the upper primary classes, and work shop training and experience on farms or in factories in the secondary classes. By way of detailing the objectives of the programme of work-experience, knowledge to be gained, abilities to be developed, attitudes to be cultivated, and interests to be created have been listed. Keeping in view the limitation of resources and the dearth of suitably trained teachers, a minimum courses of work-experience for classes I to VII have been given. Besides, some elective course may be included from class V onwards. Some general hints for organizing the programmes have been suggested.

37 KADAM L P, SONDHI V, RASTOGI M P: Learning outcomes at the primary stage. NIE Journal 1971, 5(5,6), 67-9.

Curriculum focuses attention upon the types of experiences children should have rather than upon the subjects they should study. Hence it is necessary to adopt an integrated approach to the primary school curriculum. While formulating the objectives of primary education, it is not merely essential to enumerate the statements of objectives but also necessary to work out the learning outcomes of those objectives. The process of working out learning outcomes requires first the spelling out of an objective into its minor objectives. Then the different aspects of each of the minor objectives are to be detailed. Finally each aspect is to be taken separately and the learning outcomes worked out. Learning outcome is a change in behaviour, and behaviour can be classified into six aspects: knowledge, understanding, skills, habits, attitudes and values. This approach to curriculum development is a difficult task and needs team work.

38 SADASIVAN T S: Teaching of science and the need for a dynamic curriculum. Monthly Bulletin, Madras Institute of Development Studies 1971, 1(10), 25-37.

The need for evolving a science curriculum commensurate with the social needs has been stressed. This would require - 1) an emphasis on the teaching of biology reflecting the problems of biology and society; 2) the teaching of biology to be integrated in such a way as to involve a learning of related disciplines of science as also to lead to an understanding of the problems of society based on the knowledge of biology and science as a whole; 3) the process of curriculum development to be a continuous, self-generating and self-evaluating process; 4) new processes of teaching and learning to create motivation due to which students start to learn by a process of self-discrimination and the teacher has a clear managerial role; 5) evolving of meaningful kits for demonstrating basic biological phenomena at all levels of school education; 6) individual instruction to become the ultimate objective. An autonomous Consortium of Scientists consisting of university, college and school teachers has been recommended to run the much needed in-service teacher training institutes for making curricular reform a success.

39 DEVE GOWDA A C: Pursuit of quality in education. Journal of the Mysore State Education Federation 1972, 25(9), 3-9; 25(10), 3-6; 25(11), 3-5.

The following steps have been suggested to improve the standards of school education in Mysore State: 1) the salary scales and service conditions of school teachers should be improved to attract best persons to the profession; only qualified persons should be recruited for secondary schools; the recruitment of teachers for government high schools should be made by Divisional Level Recruitment Committee, instead of Public Service Commission; a short test should be administered to weed out obviously unfit persons entering teaching profession and only those who pass the test should be interviewed for the teachers posts; 2) efforts should be made to increase the percentage of trained teachers; 3) gradually the four year integrated course should be implemented; 4) the State Council for Teacher Education should lay down and enforce precise norms for Teachers Training Institutes (TTIs) so as to improve the training of primary teachers. The TTIs should be under the control of the proposed Board of Pre-university Education and given a collegiate status; the grant-in-aid to TTIs should be on a 100% basis and no fees be charged and only best students be selected; 5) inservice education be made available to all secondary teachers; 6) the State Government should set up a State Council of Educational Research, Extension and Training in the State on the lines of the NCERT, to undertake the programmes of research, extension and training.

40 PACHAURY A C: Empirical validation of taxonomy of educational objectives using McQuitty's hierarchical syndrome analysis. Indian Educational Review 1971, 6(2), 156-64. 14 ref.

In this study intercorrelations obtained on eight sub-tests and a total test on a population of fourth, fifth and sixth grade children were subjected to McQuitty's hierarchical syndrome analysis to verify the hierarchical and cumulative character of taxonomy of educational objectives: cognitive domain. The data analysed in this study are taken from Dr. Helgeson's work ('The relationships between concepts of force attained and maturity as indicated by grade levels'. Centre for Cognitive Learning, the University of Wisconsin, Technical Report No.43 March 1968, Lesson Plans and Tests

of knowledge, comprehension and application for instruction in concepts of force, grades-26. Practical Paper No.4, March 1968). The results in general support the cumulative hierchical structure of the taxonomy but not unanimously as in some earlier studies.

41 RAMACHANDRAN P: Public opinion on education. Indian Journal of Social Work 1971, 31(4), 355-65.

The following observations have been made on interviewing 500 respondents with different characteristics: 1) with a few exceptions, the personal and psychological goals were placed at the top of the list of goals of education, and economic goals were ranked second; 2) the view that the goals were not being fulfilled increased in percentage with a rise in age, education, income, and socio-economic status of the interviewer; however, men were more negative than women, and there was no trend in respect of occupational sub-groups; 3) negative and neutral views regarding utility of education increased in percentage with rise in education, income and socio-economic status and with decrease in age; men were again more neutral or negative as compared to women; no clear pattern emerged in respect of occupation.

42 SRINIVASACHARI G: School instruction is standardised - goals must be fixed and methods left to teachers. Mail 22 February 1972, p.4, cols.5-7. 1550 words.

The following suggestions have been made: 1) the Government of India in collaboration with State Governments should fix the duration of each of the three conventional stages of education and persuade the non-Hindi States to adopt the three-language formula; 2) the Government of India in collaboration with State Education Departments should only formulate a policy indicating the goals to be reached at each of the three stages of education, the competence and skills expected of those who pass out of professional and technical institutions, and leave the methods to be adopted for reaching the goals to the teaching faculty of every institution; 3) a compact coordinating body of experts representing important departments of education should be formed and the administrators should take its advice and counselling. A real social and economic uplift can be achieved only when a system of education based on the following principles is evolved - a) that every child can become potentially good at something, b) that it is the business of the educational institution to help every child make in time his or her maximum contribution to the government , cultural and material welfare of the people.

43 AGYA JIT SINGH: Comparative study of the anxiety level among the postgraduate teachers and postgraduate students of the university. Manas 1971, 18(2), 81-4. 6 ref.

It was hypothesized that the students are more anxiety ridden as compared to the teachers who are in service. The sample for the present study consisted of 200 postgraduate teachers (91 male and 109 female) working in the high/higher secondary schools in the city of Patiala and 200 postgraduate students of Panjabi University. Cattell's anxiety scale questionnaire was used in its original form to measure anxiety. The results showed that the teachers were more heavily loaded with anxiety than the students of the same age and of equivalent qualifications, thus, rejecting the proposed hypothesis. The low social status and the responsibility in life have been cited as the possible reasons for the greater anxiety among the teachers.

44 BAYATI J: Factors determining occupational choices of secondary school leavers. Indian Educational Review 1971, 6(2), 304.

A questionnaire study was undertaken to find out i) the pattern of factors determining the occupational choices of secondary school leavers; ii) whether there exist sex and socio-economic differences in this pattern of factors. The sample comprised 1978 class X students (age 14-18 years) in Rajasthan. There were 1728 boys and 250 girls. The boys had offered either the humanities, science, or commerce groups, while the girls had taken up the home science course. Findings indicate that the most preferred factors, in the order of preference, were: i) opportunity for social service, ii) defence of the country, iii) better future prospects, iv) interesting work, v) possession of the ability to acquire competence in the vocation, vi) full qualification for the job, vii) healthy environment, viii) government service, ix) recommended by the relatives, x) fair treatment, xi) a job involving no heavy expenditure in training for it. There was no difference in the preferred factors between subjects coming from two different cultural settings. The girls preferred the same factor as the boys did, but included some additional factors also as being important.

45 BHAN R: Social factors in creative potentiality. Journal of Education and Psychology 1972, 29(4), 263-7.

Sixty postgraduate students of Kurukshetra University were randomly selected for the study. Rorschach Psychodiagnostic test was used to identify subjects with high and low creative potentiality, and a Non-Directive Interview Schedule developed by the author himself was used to collect the data regarding the different social factors likely to affect the creative potential variable. None of the social factors was significantly related to creative potentiality. Further, creative potentiality was insignificantly affected by adverse, unhealthy and uncongenial environment. Thus, the findings substantiate the view that heredity is the chief determinant of the creative potentiality among individuals.

46 BHOGLE S: Role conflict in teachers. Indian Journal of Psychology 1971, 46(4), 399-404. 11 ref.

An attempt has been made to measure role conflict in teachers and to find the relationship of role conflict with some personal characteristics in teachers and headmasters. The role conflict in teachers and headmasters was studied with the help of a questionnaire which was finalised on the basis of a pilot test. Two different questionnaires were prepared for the headmasters and teachers. The conflict in teachers was measured as perceived discrepancies in expectations of self and the headmaster with respect to five activities - teaching, organizing games and sports, supervising the library, organizing celebrations, and organizing debates. The conflict in the role expectations in headmasters was studied with respect to the following role senders - a) students, b) fellow teachers, c) parents, d) management, e) fellow headmasters. Thirty headmasters and 320 teachers from 30 schools of Hyderabad were selected for the study. The results lead to the following conclusions: 1) headmasters with higher qualifications have higher role conflict; 2) headmasters with higher salary has low role conflict; 3) teachers with higher qualifications have low conflict; 4) older teachers are inclined to have higher role conflict.

47 CHANDA SIVANADAM: Study of frustration-reaction in delinquent and non-delinquent children. Indian Journal of Social Work 1971, 32(2), 151-4. 7 ref.

The objective of the investigation was to find out a) whether delinquents and non-delinquents differ in their pattern of reaction to frustration, b) whether there are significant differences in the trends of frustration reaction between the two groups. The subjects of the study comprised 20 inmates of the certified school for girls (age, 14-18 years). The control group consisted of 20 girls of the same age group and socio-economic background studying in a school. The Indian adaptation of the Rozenzweig P.F study (1968) was used. The responses were scored in accordance with Pareek's instructions. The findings revealed that there were differences in both direction of aggression and type of reaction to frustration between the two groups. The overall tendency was that the non-delinquents were more overtly agressive whereas the delinquent group was significantly less extrapunitive and more intropunitive.

48 CHATTERJEA R G, SAHA G B, CHATTERJEE K: Effects of motivation in learning. Indian Journal of Experimental Psychology 1972, 6(1), 21-5. 10 ref.

The findings of a learning situation under motivating condition undertaken in two experiments have been presented. In the first experiment 28 women and 2 men of senior post-graduate psychology courses and in the 2nd experiment 15 girls of a higher secondary school constituted the samples. In the first experiment the subjects were divided into three equal groups viz. control, incidental and intentional groups. In the second experiment the three groups were control, incidental and reward groups. By providing six sets of nonsense syllables, recall of learned nonsense material after 5 minutes, 24 hours, 1 week and 2 weeks time intervals by the subjects of all the groups was the measuring the criteria of the process of memorisation. The incidental group were neither informed about the techniques of the experiment nor motivated, the intentional group was informed, instructed to learn the material and motivated, and the control group had no specific instructions as such. However, in the 2nd experiment, the incidental and control groups were treated like the motivated group. The reward group were offered a reward of a book according to the order of merit of the performance. The learning between the groups were compared and the following conclusions drawn: 1) the incidental group was better with nonsense materials over a long interval of time; 2) the control and

intentional groups took less trials to recall materials immediately and after 5 minutes interval, whereas after 24 hours, 1 week and 2 week intervals the first two groups did not match the incidental group; 3) learning through reward was better than the incidental learning over all the periods.

49 DAS K K, SARKAR D R: Study on the expectation from the job of agriculture students. Allahabad Farmer 1971, 45(2), 173-8. 17 ref.

The study was onducted on 687 students studying in the College of Agriculture of Haringhata. Ten preference factors were selected for the determination of the expectation scale of the subjects and the method of paired comparison technique was used. Scaling value of expectation from the job of science and agriculture students and of rural and urban students was calculated. The findings reveal that while both agriculture and rural students have rated salary, good colleagues, good and sympathetic management etc. in the given order of preference, the science and urban students have rated salary, advancement of opportunity, good colleagues etc., in the descending order on the expectation scale.

50 GOYAL R P: Post-higher secondary school plans of pupils in relation to academic performance and curricular stream. Journal of Education and Psychology 1972, 29(4), 282-8. 12 ref.

Four hundred students of IX and XI classes, drawn from nine higher secondary schools of Punjab formed the sample for this study. The data were collected by means of a questionnaire which in addition to some personal information, called for educational and vocational plans of students after higher secondary school. The subjects were divided into three groups on the basis of their marks in the middle standard examination, and chi-quare test of independence was applied to find out the relationship of pupils' plans with their academic performance and curricular stream. The findings are: 1) there was a high positive correlation between college-going tendency and the academic performance of subjects; the higher the academic performance of subjects, the more the tendency to join the college; 2) the tendency to join a training course or a job increased with a fall in the academic achievement of the subjects; 3) the lower the performance, the greater the incidence of indecision and conversely, the higher the performance, the lesser the incidence of indecision; 4) a greater proportion of science students than that of humanities took a definite decision

about their future plans; 60.1% of the science group tended to join college whereas it was only 28.7% in the case of humanities group; taking up a job, was a plan more popular with the humanities group; self-employment stood almost completely rejected by both the groups. The causes underlying the observed trends have been explained.

51 JITENDRA MOHAN, ASHOK KUMAR: Effect of varying rest on reminiscence. Indian Journal of Experimental Psychology 1972, 6(1), 32-4. 15 ref.

The study was aimed at studying the effect of varying rest period on reminiscence in inverted alphabet writing. Based on the administration of Eysenck Personality Inventory 1964, thirty college students, average on extraversion and neuroticism were selected for the study. They were divided into three equal groups. The groups were given 5 pre-rest and 2 post-rest trials in writing inverted alphabets each trial lasting 120 seconds each. The rest period for three groups varied as 80, 45 and 60 seconds respectively. Comparison of the performances indicated a positive effect of rest on post-rest performance. However, the F-ratio of 1.48 failed to reach any level of significance among the different rest periods with regard to the post-rest performance.

52 JITENDRA MOHAN, SHASHI: Performance and reminiscence as functions of personality and drive. Indian Journal of Experimental Psychology 1972, 6(1), 15-20. 34 ref.

The study was aimed at evaluating the comparative effects of extraversion and neuroticism, drive and sex differences on psychomotor performance of inverted alphabet writing and substitution. On the basis of test scores on Eysenck Personality Inventory (1964), 80 students of Punjab University (40 of each sex) were selected and divided into 4 personality groups (20 in each group) viz. neurotic, stable, extrovert and introvert. For inverted alphabet writing, the subjects were supplied with lists of alphabets and were instructed to write the mirror image of the alphabets in the space provided beneath each letter. For substitution task, substitution lists were distributed and the subjects were asked to write the figure corresponding to each letter as provided in the key. High on motivation groups were given motivating instructions. The subjects were given two minutes rest for every minute work. The number of inverted alphabets written and figures substituted were counted for each minute at the pre-rest and post-rest performances.

Analysis of the data revealed the following results: 1) neuroticism was found to be a significant determiner in inverted alphabet writing, and personality was an insignificant determiner in substitution; 2) reminiscence in both inverted writing task and substitution was found to be a positive function of both extraversion and neuroticism; 3) drive was found to be significant as a determiner of performance in both the tasks; 4) in reminiscence males performed better under high drive and females under low drive; 5) sex as a determiner did not show any effect on performance or reminiscence.

53 KALRA R M: Generalizations regarding the learning process and their implications for science education. Indian Educational Review 1971, 6(2), 138-55. 37 ref.

The following generalisations regarding the learning process have been enumerated: 1) learning occurs effectively when the learner is provided with frequent knowledge of his progress in learning, and when the material to be learnt is geared to the level of learner's readiness; 2) repetition is necessary to ensure maximum retention of materials learned; 3) failure of recall may be due to interference coming from subsequent learning; 4) the greatest degree of transfer occurs in the learning of principles and generalizations that have many applications rather than isolated learning of facts; 5) the learning of principles and generalizations results in the emergence of a 'learning set' which permits the learner to go on to the next learning step and thus facilitates transfer. The implications of these generalizations for science education have been discussed. Certain suggestions have been given.

54 KATTI V V, BENNUR C S: Attitudes of secondary school teachers the teaching profession. Journal of the College of Education, Karnatak University, 1971, 8(2), 1-6.

An attempt has been made to study i) the attitudes of secondary school teachers towards the teaching profession and ii) the influence of the factors viz., age, experience, training, sex, qualifications, membership of teachers organisations, rural and urban environment on these attitudes. A null hypothesis was set up that these factors do not influence the attitudes of teachers towards the teaching profession. Thurston's technique of scaled values, Likert's technique of summated ratings and Guttman's method of scale analysis were used for measuring the attitudes - based on the

replies of 406 graduate and postgraduate teachers of high and higher secondary schools of Dharwar district, to the printed forms of the attitude scale containing 40 statements of high discriminative power selected after a preliminary try-out test, the data were collected and subjected to statistical analysis. The findings reveal that: 1) the majority of the teachers (88%) had favourable attitude towards teaching profession; 2) no significant difference was found between trained and untrained teachers in their attitudes towards teaching profession; 3) female teachers hold more favourable attitude towards teaching than the male; 4) the factors viz. age, membership of teachers organisation, experience, and qualifications had no influence on the attitudes of secondary teachers towards teaching profession; and 5) rural school teachers held more favourable attitude towards teaching than the urban teachers.

55 KHALAKDINA M: Punishment and childhood. Journal of Education and Psychology 1972, 29(4), 258-62. 11 ref.

The expert views on punishment and child behaviour have been quoted. It has been finally stressed that the environmental situations be modified in such a way that undesirable behaviour might not have an opportunity to occur and if it does, ready avenues be offered for need reduction, especially in critical areas of the growth period of childhood.

56 KRISHNA K P, PRASAD S C: Authoritarianism as a function of security-insecurity and anxiety. Manas 1971, 18(2), 85-9. 11 ref.

The study was made on 120 unselected postgraduate male students of the University of Patna. Their authoritarianism, security-insecurity and anxiety were measured with the help of an adapted form of F-Scale, a Hindi version of S-I inventory and Sinha W.A. Self-Analysis Form, respectively. The Mann-Whitney U-test was employed to assess whether authoritarians and non-authoritarians differed in terms of their security-insecurity and anxiety. The statistical findings revealed that the authoritarian group had comparatively lesser insecurity and anxiety than the non-authoritarian group. Besides, the authoritarian group's scores on F-Scale and S-I inventory were significantly correlated.

57 KRISHNA K P, VARMA C R: Rote serial learning in high and low anxious groups. Indian Journal of Experimental Psychology 1972, 6(1), 35-7. 13 ref.

The study was undertaken to find out the relationship between scores on the revised comprehensive test of Anxiety (CTA) and the ability of the subject to learn nonsense syllables. One hundred boys studying in XI grade constituted the sample. The level of anxiety of the subjects was measured through Revised Comprehensive Test of Anxiety (CTA) and the top and the bottom 25% scorers on this test comprised the two groups-high anxious (HA) and the low anxious (LA) groups respectively. Each group had 25 subjects. Each subject was presented individually with a test of 15 three-lettered nonsense syllables of low association value in a particular serial order, one by one through an electric drum and the subjects were asked to pronounce each of them as they appeared. After the entire list was exposed, they had to reproduce the words in the same serial order and the process was repeated till each subject was able to reproduce the entire list correctly. Comparison of the groups revealed that HA group took significantly greater number of trials and had significantly greater number of errors than the LA group in reaching the critorion of errorless serial reproduction.

58 PRAKASH J, KHAN N: Perceptual recognition speed as a function of age. Indian Journal of Experimental Psychology 1972, 6(1), 30, 31. 7 ref.

The study was aimed at finding out the relationship between the age and speed of perceptual recognition. One hundred and thirty four primary, 129 middle and 72 high school pupils and 75 college students of both sexes and of the age groups 5-9, 10-13, 14-17 and 18-24 years respectively constituted the sample for the experiment. The sample had more or less similar cultural, social and educational background. A set of six familiar and neutral pictures printed in six different foci ranging from blurred to clear was used to test recognition. Care was taken to see that all pictures were not only neutral and familiar but also homogeneous in effect. The mean recognition time of each picture was compared with each other and 't' test of significance was applied. The findings are as follows: 1) the middle school pupils were quicker in recognising the objects than the primary pupils; 2) the high school students were quickest in perceptual recognition; 3) the recognition time of college students was only slightly higher than that of the high school students indicating a decrease in

the speed of recognition with increase in age; 4) the speed of recognition varies with age; it is correlated with age upto 17 years and thereafter it tends to become static.

59 PRASAD M S, SINHA S N: Study of the relationship between failure avoidance motivation and vocational values. Indian Journal of Applied Psychology 1972, 9(1), 5-7. 4 ref.

Thirty unselected postgraduate students of Patna University served as subjects in this study. Debilitating Anxiety Scale developed by Alpert and Haber was used as a measure of motivation to avoid failure and on the basis of the scores 15 subjects were put in the High Failure Avoidance group (HFA) and the remaining 15 in the Low Failure Avoidance Group (LFA). The revised version of the vocational values Inventory of Stefflre consisting of 84 pairs of statements comparing seven occupational values - Altruism, Control, Jobfreedom, Money, Prestige, Security, and Self-realization was used as an instrument to explore the underlying occupational values which motivate people in their work-experience. There was a general agreement in the average ranks assigned to the seven vocational values by the high and low failure avoidance subjects. Further, in order to determine the difference between HFA and LFA groups for each value category separately, Man Whitney U was computed. Money and prestige are significantly more important for HFA subjects whereas altruism, Jobfreedom, security and self-realisation are of great significance as values for LFA.

60 RAI S N: Time estimation as a function of intelligence and practice. Indian Journal of Experimental Psychology 1972, 6(1), 1-4. 18 ref.

Ten highly intelligent subjects having an IQ above 120 (H-group), ten average intelligent (A-group) IQ between 90 and 110, and ten low intelligent (L group) below 80 IQ, were selected on the basis of Jalota's Intelligence test (Hindi). To estimate the effects of IQ and practice on time estimation, an apparatus was used which consisted of two flash bulbs, one for the examiner to present the stimulus interval and the other for the subject to estimate the duration. The subjects were asked to estimate 10, 20, 40 seconds stimulus intervals and to present the estimated time. Each subject had 3 stimulus intervals i.e. 10, 20, 40 seconds, five times each in random order to reproduce. In total 15 estimations were obtained from each subject on the test. On analysing

the data, the following conclusions were drawn: 1) all groups underestimate all the three stimulus intervals; 2) the highest magnitude of errors is found for L group and the least for H group; thus the intellectually superior subjects have an ability to reproduce the duration more correctly than the subjects of average and low intelligence; and 3) as for practice effect, the repeated trials had significant effects for all stimulus intervals.

61 RAINA M K: Research on creative functioning in India, a review. Indian Educational Review 1971, 6(2), 260-80. 69 ref.

The history of research on creativity and the work done in this field in India have been discussed. The focus is on the following subject areas: i) child and adolescent creativity, ii) teacher perception and teacher creativity, iii) artistic and creative musicality, iv) creativity in industry and v) adaptation of creativity instruments.

62 RAINA T N: Authoritarianism and the professional attitudes of Indian student-teachers. Indian Journal of Applied Psychology 1972, 9(1), 24, 25. 7 ref.

The hypothesis that the authoritarian trends in the personality of a teacher will have a significant relation with his attitudes regarding the pupil-teacher relationships in the classroom situations was tested. A Hindi version of the F-Scale and the Minnesota Teacher Attitude Inventory were administered to 140 student-teachers twice with an interval of 28 weeks. A significant negative relation was found between F-Scale and MTAI scores, thus, substantiating the stated hypothesis. Even an exposure of the student-teachers for twenty eight weeks in the teacher's college did not influence the authoritarian value judgements and attitudes towards pupil-teacher relationships in the classroom settings favourably.

63 RAJALAKSHMI MURALIDHARAN, SHARMA A: Manifest anxiety in Indian (Delhi) children. Indian Educational Review 1971, 6(2), 67-78. 17 ref.

A cross-cultural study on anxiety with the following as its principal objectives was undertaken: 1) to obtain anxiety test data for Indian (Delhi) children and

to examine sex and socio-economic status (SES) difference within this group; 2) to carry out a cross-cultural comparison in anxiety of children - Indian, American, French and Japanese - based on the data of Iwawaki et al. The sample consisted of 196 children studying in class IV and was drawn from two schools charging very high fees, and two charging no fees. The tool used was the children's manifest Anxiety Scale. The results showed that: 1) anxiety-scale differences between the two SES groups and between sexes were highly significant; 2) Indian girls and boys of high SES were very much like the Western boys and girls with respect to measured anxiety level, whereas the boys of low SES had significantly higher anxiety scores than American, French and Japanese boys. Indian girls of low SES had significantly higher anxiety scores than Japanese girls but significantly lower scores than American and French girls.

64 ROY B: On values - a social psychological analysis of the adolescent point of view. Quest in Education 1972, 9(1), 21-30.

The results of the following three research studies have been given: 1) individual counselling profile, by Dr V K Singh; 2) conformity and deviation among adolescents - a socio-psychological study, by L.J. Bhatt and K.R. Advani; 3) a cross-cultural survey of students; most pressing problems; their attitudes, opinions, values, motivations and personalities, by World Federation of Mental Health in collaboration with B. Roy and NCERT. The findings of these studies revealed that 1) there was an inclination towards that pattern of philosophy of life which is more or less ethical, moralistic and idealistic; 2) there was a self-conscious view in terms of self-protection against aggressive and unrestful tendencies, those which come up at times as part of social change; 3) boys and girls converged on the same points, giving little or no indication towards any difference; 4) the Indian adolescents generally felt much about their fate after education, specially in terms of employment; they would be happy if they could change in favour of a subject, known to be an employment producer; 5) Indians blamed politics, war, strict family disciplines and existing social forces in favour of conditional 'Teddy-Boy' ship. Some possible problems around religious, political, sexual, educational norms and economical values for research have been suggested. It has been stressed that there should not be a clash among the values, and that a full understanding between the individual and group values would diminish the conflict, leading to a non-radical formation and a smoother progress.

65 SANTHANAM S: Scope for research in the area of development of character and personality. Kerala Journal of Education 1970, September, 28-36.

Some of the vital issues and problems recommended for investigation are: 1) the extent to which temperamental and dispositional differences found among children condition the nature of their character development; 2) the influence of the home conditions of a child on the development of its personality and character; 3) evaluating the different subjects in the curriculum and the text books to determine their impact on the personality and character of a child; 4) the role of direct moral training vis-a-vis indirect methods of training in character development; 5) the manner in which teachers can plan and carry out various school activities which will not only help in socialising pupils but will also contribute to their moral development; 6) the extent to which a universal religion will be emotionally and spiritually satisfying to the individual and the extent to which such an eclectic religion can be used in class-room instruction to foster the development of personality and character in pupils; 7) the existing incompatibility between the psychological view of character and the sociological view of character; 8) constructing and standardizing tools of personality measurement; 9) the causes of problem behaviour of students and the effectiveness of various modes of treatment and prevention including punishment; 10) the effect of debates, dramatics, counselling, examinations, etc., on the personality and character development of children.

66 SHARMA M L: Teacher morale - its measurement. Quest in Education 1972, 9(1), 31-8. 30 ref.

The concept of morale, the factors affecting morale, its relationship with other factors, the different methods used for measuring morale, i.e., questionnaire, interview, attitude scale, 'tear ballot', 'pin-prick', 'use of face etc., have been discussed. In view of the importance of morale in creating 'open' climate which results in higher school effectiveness, it has been emphasized that extensive research should be conducted on the methods of raising morale and their effectiveness. The following tentative measures have been suggested: encouraging teachers to participate in decision-making and policy-making, democratizing communication procedures, grievance procedures, organizing debates, recreation programmes, suggestion programmes, etc.

67 SHARMA S: Self-acceptance and socio-economic status. Journal of Education and Psychology 1972, 29(4), 278-81. 8 ref.

A Self-Concept Inventory standardized by Sharma and a Socio-Economic Status Scale developed by Dee were administered to a sample of 115 post-graduate students (50 males and 65 females) studying in a College of Education. The results showed only non-significant trends towards higher self-acceptance scores with the increase in socio-economic status. Explanations for this have been put forth. Significant differences in self-acceptance scores may be obtained if the sample is comparatively more widely scattered on socio-economic status continuum. Moreover, socio-economic status of parents is only one of the various factors influencing self-acceptance.

68 SINGH B N, THAKUR R C: Effect of KR on line-drawing as a function of the length of the line to be drawn. Indian Journal of Experimental Psychology 1972, 6(1), 26-9, 7 ref.

The study was undertaken to investigate whether the effectiveness of knowledge of results (KR) on line drawing varied with the variation in the length of the line to be drawn. Forty male students of II degree class constituted the sample. A 2x4 factorial design was used for the experiment in which the KR variable was varied in two ways, no KR and with KR, while the length of the line was varied in 4 ways - 25mm, 50mm, 75mm and 100mm. Analysis of the data by analysis of variance supplemented by t-tests revealed that the effectiveness of KR was independent of the length of the line to be drawn, but in the absence of KR, the line drawing was significantly affected by the variation in the length of the line.

69 SINHA M: Draw-a-man test scores of British and non-British children. Indian Educational Review 1971, 6(2), 79-87. 5 ref.

In this study a comparison between the draw-a-man (DAM) and draw-a-woman (DAW) scores of 102 British and 41 non-British children of 7-9 years of age studying in 4 London schools is made to see the nature and extent of differences between the two cultural groups. The two groups of children though studying in the same schools were different from each other with regard to their school experiences and cultural background. The following are the findings: 1) Significantly low mean scores have been obtained by the non-British boys on the DAW and the non-British girls on the DAM. They do not differ

significantly from the boys and girls of the other group respectively, on the drawing of their own sex. This trend is present even in the woman scale, which is said to be more 'culture bound'. Thus it seems that the opposite-sex scores of the non-British children are affected by some sort of emotional involvement; 2) within one cultural group, both the boys and girls of the British sample have scored higher on the DAW than on the DAM. But among the non-British children, boys have a lower DAW mean score than their DAM mean score and the girls have a lower DAW mean score than their DAW mean score.

70 SMART M S: Self-esteem and social-personal orientation in pre-adolescence and adolescence related to parental behaviour. Delhi, Central Institute of Education, 1971. iv, 84p.

Self-esteem, social-personal orientation and parent-daughter relationships have been examined in Indian girls at two age levels, standard six/seven and second year of college. Self-esteem and social-personal orientation of Indian girls have been compared with those of Indian boys, American girls and boys of comparable ages and socio-economic status. Some of the important findings of the study are: 1) compared with all other groups, Indian younger girls scored significantly higher in self-esteem; the sex difference at the older age level was not significant with regard to self-esteem in Indian sample; 2) there were more Indian girls socially oriented than personally with little change in the proportion of orientation between 12 and 18 years of age; younger Indian girls exceeded younger Indian boys in social orientation; comparison of American and Indian younger boys shows more socially oriented American boys; American boys at 12 were more socially oriented than American girls; 3) girls with the highest self-esteem were those who felt that their mothers did not intrude upon them emotionally; mother's understanding of younger girls was significantly related to social orientation; father's acceptance of younger girls was significantly related to personal orientation; socio-economic status was negatively correlated with intrusive parental behaviour as perceived by older girls.

71 SRIVASTAVA D N: Performance as a function of drive in regressive and fixative girls with special reference to interactions. Indian Journal of Psychology 1971, 46(4), 385-93. 10 ref.

The study was undertaken to find out the extent to which experimentally induced drive affects performance in regressive

and fixative subjects, and the interactions between drive and regression, and drive and fixation. The subjects were undergraduate females (16–18 years of age). Twenty regressive subjects each from the first quartile and fourth quartile were selected randomly with the help of Sentence Appreciation Test (SAT) prepared by Dixit. Each group of 20 subjects were divided into two equal groups, high drive group and low drive group. Similarly fixative subjects were selected and classed into 4 groups. Different instructions were given to produce high and low level of drive. Analysis of variance revealed that: 1) two levels of drive led to significantly different performance on letter-digit substitution test; 2) there is no significant difference in performance of first and fourth quartile regression groups; so is the case with fixation groups; 3) there is an interaction between drive and fixation in performance on letter-digit substitution test.

72 SRIVASTAVA P K, SINHA S N, JAIN U C: Some correlates of alienation among Indian female students. Indian Journal of Psychology 1971, 46(4), 395–8. 6 ref.

Responses on Sacks Sentence completion test and alienation scale from 40 unselected Indian female students were obtained in order to find out the correlates of alienation. Of the 15 areas included in the test the findings of the present study suggest that the genesis of alienation can at best be located in the nebulous fears in the subjects' affective attitudinal relations.

73 SYED NEHAL AKHTAR, MOHAMMED SOWAID: Personality rigidity and incidental learning. Indian Journal of Experimental Psychology 1972, 6(1), 12–14. 12 ref.

The hypothesis that rigidity was negatively related with incidental learning was sought to be verified. Two groups, high rigidity (HR) and low rigidity (LR), of twenty subjects each were formed on the basis of rigidity scores of 150 postgraduate students on a Hindi version of Wesley Rigidity Scale. The groups were also given an incidental learning test containing 14 geometrical figures painted with seven different colours. The number of correct recognition of colours ascribed to different figures in a colour recognition chart with the instruction that the subject should recognise colours of geometrical figures given in the learning list, measured incidental learning. A comparison of the mean incidental learning scores of HR and LR groups, supported the hypothesis.

74 VARMA A K, SINHA D: Anxiety and perceptual constriction. Indian Journal of Psychology 1971, 46(4), 377-83. 12 ref.

The personality of the perceiver determines to a large extent what is perceived. Anxiety which is one of the most significant areas of investigation as a motivational factor in personality dynamics was considered for its influence on perception. The study aimed at finding out the effect of anxiety on the perceptual constriction. Sex was also one of the variables. A method of criterion analysis was adopted in the study. Sinha anxiety test was administered on 205 undergraduate students of Allahabad university. Criterion groups of anxiety consisted of 101 students in which 48 were high anxious and 53 low anxious. In the results, perceptual constriction did not show significant variation in the two levels of anxiety. But the difference presented a positive agreement with the proposed hypothesis. High anxious individuals displayed more constriction. Girls indicated lesser perceptual constriction as compared to boys though the result was insignificant.

EDUCATIONAL SOCIOLOGY

75 MOHAMMAD TOHA, SRIVASTAVA A L: Changing values among untouchables through education. Indian Educational Review 1971, 6(2), 250-9. 6 ref.

An attempt has been made to study how the untouchables in urban and rural areas perceive education in its role as an agent of social and economic change. The samples for the study were drawn from the urban, suburban and rural areas from Varanasi and the tool used was a structured interview schedule. The main findings are that 1) the impact of education on the value orientation of the untouchables is not very significant; their traditional social structure and life values are still a great impediment in the way of modernization of their attitudes; 2) rural ones are still very much conservative and dogmatic in their approach to education.

76 OAD K L: Impact of social stratification in the choice of electives at the secondary stage. Rajasthan Board Journal of Education 1971, 7(3), 1-14. 22 ref.

The sample consisted of 525 students of classes IX and X of the secondary and higher secondary schools of Udaipur City and its neighbourhood. The courses pursued by the students

were noted down from the school records and the data regarding the socio-economic status of the subjects' parents were collected by a questionnaire-cum-checklist sent to parents. It was found that whatever the criterion of social status, whether the income, occupation, caste or parental education, was considered, the students belonging to the upper and middle strata of the society, had an easier approach to science education, while the two lower strata of the society had to be contented with humanities; 2) there was a clear downward trend from upper through lower social class in respect of admission to science stream, while vice-versa was the case in respect of admission to humanities; 3) locality did not seem to be a significant factor in determining the social status of a person. Thus, there was a close relationship between social stratification and the choice of electives at the secondary stage, the upper class children and to a certain extent, the middle class children being influenced by their parents to select science subjects, and the lower class children being left uncared for.

EXAMINATION AND EVALUATION

77 BATRA N D: Revamping the examination system in India. Economic Times 19 March 1972, p.4, cols.1-5. 1600 words.

The academic community's reluctance to voluntarily reform the examination system has been attributed to the employers' blind faith in the credibility of university results and to the students' ignorance of the futility of the present system of educational measurement. The following suggestions have been made: 1) retaining public examinations, making proper use of the available tools of educational measurement to assess different abilities of students; 2) supplementing the present essay type questions which have their own utility with short answer questions (or structured questions) and objective tests; 3) introducing changes in the system of marking (e.g. from point to interval), ranking and scaling; 4) training teachers in the new techniques and familiarising students with the new methods; 5) adopting the semester system.

78 BOSE P K: Reform of examinations. Teachers' Journal 1972, 6(2), 417-22.

The following short-term changes in examinations have been proposed: 1) the examinations should be conducted by colleges themselves, securing greater involvement of teachers: this decentralisation of powers and functions of large public

examinations prevents malpractices in the examination hall; 2) the question paper should include short answer, objective type questions, and essay type questions; the structure of the questions should be properly designed; 3) steps should be taken to introduce continuous assessment of pupils in colleges; 4) the assessment should be made on the basis of written and oral tasks and of departmental class records; and 5) the present method of marking system by a fixed number of points should be replaced by interval scoring system. The proposed long term changes are as follows: 1) the major emphasis on the evaluation aspect should be changed and a greater stress be laid on diagnostic function of examination; 2) all the students should be given a certificate indicating their qualitative and quantitative attainments (without mentioning pass or fail) on the basis of continuous assessment; 3) for further courses of study and for employment, the universities or the potential employers could conduct special tests at the time of admission or recruitment.

79 GUPTA A K, MOZA B R: Traditional teaching and open-book examinations in social studies. Indian Educational Review 1971, 6(2), 88-105. 10 ref.

An attempt has been made to study the practicability and advantages of open-book examinations in social studies at class VIII level as compared to the traditional type examinations in the Indian school setting. Also comparison has been made of the effects of two different methods of teaching, followed by these two types of examinations on high achievers, average achievers and low achievers. The two methods of teaching are: 1) traditional method of teaching which aims predominantly at imparting mere information or facts and confines to the textbooks only; 2) new method of teaching according to which teaching is imparted in accordance with some predetermined objectives aimed at encouraging the understanding and application of the concepts underlying a particular piece of subject-matter. The study revealed that open-book examinations greatly reduce cheating and the use of unfair means and are better for the low and average achievers taught through the traditional method.

80 INTER-UNIVERSITY BOARD OF INDIA AND CEYLON, NEW DELHI: Examinations in higher education - report of a seminar. New Delhi, the Board 1971, 84, 266p. 43 ref.

The book is in two parts. Part I contains a record of discussions and the recommendations made by the seminar on examination organised by the Board in January 1971. Part II contains original papers and documents presented at the seminar.

The recommendations are as follows: a) there is need for re-designing of question-papers; the question papers should make only a partial use of essay type questions; other type of questions can also be introduced so that the course content examined is not patchy but comprehensive and cramming gets discouraged; b) the controversy regarding marks versus grades is unreal; the important thing for universities is to ensure the relative ranking of a given batch of students in a particular examination; c) to the extent that the universities are concerned, the problem of copying by the examinees on a large scale, ought and can be overcome by i) improving the tone and efficiency of teaching and ii) by strengthening university administration, d) universities should equip themselves with data processing machines to cope with the demands of examination work; size of a university should be restricted to enable it to function as an efficient unit; e) the administration of examination wings should be strengthened in the universities, f) semester system wherever possible and feasible should be introduced; g) University Grants Commission and the Inter-University Board should organise a well staffed unit at the national level for research into problems of examinations.

81 KAUSHIK S: Few suggestions to improve oral examination in English. Rajasthan Board Journal of Education 1971, 7(3), 22-5.

The Rajasthan Board of Secondary Education has been congratulated for its attempt to introduce oral examinations in Hindi and English at the secondary stage. The following suggestions have been made with examples for effecting improvement in the oral examination which has two sections, conversation and reading: 1) testing the ability of the examinee in the production of question forms, conversion of one pattern into another, making substitutions, action response, etc.; 2) presenting such exercises which not only test the ability of understanding foreign language sounds, but also the ability to distinguish between closely resembling sounds in the foreign language itself on the one hand and between the foreign language and the mother tongue sounds on the other; 3) selecting such passages for reading, which test the ability of production of distinguished sounds.

82 PATEL B V: Statistical analysis of marks obtained by first hundred students at pre-science examination of Sardar Patel University (1971). Journal of Education and Psychology 1972, 29(4), 272-7.

The following observations have been made: 1) the internal assessment in English, chemistry, biology and mathematics was more liberal than the external assessment, while the external assessment was more liberal in the case of Hindi; 2) there was consistency between the internal and external assessment in Gujarati and physics, neither being liberal; 3) the students were graded over a greater range in the internal assessment of chemistry than in other subjects; 3) the marking in the external practical examinations was liberal except in chemistry; but, in chemistry, the students were again graded over a greater range both in internal and external assessment; 4) the inter-correlations among different parts of the examination indicated the possibility of a general factor underlying the different skills developed and assessed during the prescience course.

83 SAKUNTALA SHARMA J: Sampling universes of questions for university examinations. Educational Miscellany 1969-70, 6(3-4), 49-55. 11 ref.

An attempt has been made to introduce a new scheme of examinations wherein question papers are prepared by means of random sampling from well prepared universes of questions. It has been explained that the following defects of the present system of examinations viz., 1) arbitrary sampling of questions in the examination papers, 2) subjectivity involved in marking of the scripts; 3) disproportionate choice given in question papers; 4) obtaining a combined score in order to arrive at a qualitative decision regarding the student based on the student's scores in different subjects, and 5) risks involved in examinations such as a deserving student failing and a non-deserving passing, could be remedied by the proposed scheme. The concepts of examiner's risk and students' risk are explained and a method evolved for controlling both the risks.

EXTRA-CURRICULAR ACTIVITIES

84 BAHL B S: National Service Scheme as a pioneer youth activity. Publishers' Monthly 1972, 14(2), 5-11.

The following suggestions have been made: 1) arousing confidence and inspiration in the students' minds about the value of the NSS in developing their own personality; 2) selecting persons imbued with a right zeal for social service as NSS teachers, and giving them the necessary training and an honorarium of at least Rs.100; 3) in the beginning enrolling only such students as volunteers who because of their earlier training and aptitude appear to be more suited for the scheme, and further screening them after the completion of orientation courses and proper evaluation; 4) whatever the project taken up, aiming at meeting the genuine need of the community or the group, and developing local leadership and initiative; 5) framing and implementing the programmes in close liaison with the various local bodies and welfare organizations like the Red Cross, Bharat Scouts and Guides, YMCA, etc.; 6) setting up of an ideal pattern of personal involvement in the scheme by the principals; and 7) making the NSS a voluntary scheme.

85 KHOSLA G D: National service for youth - I a remedy for student indiscipline; II benefits exceed costs. Times of India 28, 29 March 1972, p.8, cols.3-5; p.10, cols.7,8. 2600 words.

A scheme of compulsory national service involving all students studying in universities, professional and technical institutes for a period of two years commencing after the degree course or its equivalent has been suggested to remedy indiscipline and frustration among the youth. Details of the scheme have been sketched as follows: 1) the degree or diploma should be conferred only after the completion of national service; 2) each student should be allotted a category of service such as training in the army, the navy, the airforce, the police, teaching work in village schools, removing adult illiteracy, etc.; 3) medical students should be asked to work in village dispensaries, engineers on any engineering or construction project in progress, housing schemes, metal workshops etc.; a group of engineering students could supervise the construction of tubewells; they could form cooperatives of tubewell borers; 4) a subsistence allowance be given to students; 5) the national service be not made compulsory for women, but any woman wishing to join a project be encouraged to do so; 6) the scheme could be coordinated with the scheme of rural employment; 7) the service must be extended to all national activities and the period of rendering the service must be substantially increased from the present 20 hours. The expense involved in the scheme would be justified by the fact that the student

community would be disciplined. Involving students in village improvement work would promote national integration. On completion of the service period the students can also start small scale industries which are financially rewarding.

FINANCE

86 KHAN Y D: Should education pay its way. Educational Miscellany 1969-70, 6(3-4), 14-16.

The proposition of enhancing tuition fee in schools and colleges should be examined, keeping in view the question whether education should pay its way as some other services. The aspects involved are: 1) raising the revenue required to meet the cost of education - a responsibility of the Government, and 2) financing studies at various levels and stages in a system of education, a responsibility of the public. However, enhancement of tuition fee in the present situation of widespread poverty in the country, would hinder the scientific and technological progress. If the analysis of the budgets and accounts of the educational institutions favouring enhancement of fees justifies the proposal, the desirability of increasing the proportion of aid to them should be explored instead of implementing the said proposal.

87 PANDIT H N: Financing of education in India, institutional framework, participation and growth. Indian Educational Review 1971, 6(2), 106-37. 19 ref.

The institutional framework and the mechanism of educational finance in India is described. In the financing of education during the three Five-year Plans (1950-66), the major trends in the participation of the Central Government, State Governments, local bodies, endowments, households and international agencies, have been identified, and the educational expenditure in relation to the gross domestic product and total State and Central expenditure on all sectors has been analysed. The expenditure for 1965-66 as estimated by the Education Commission (1964-66) in relation to the actual educational expenditure has been evaluated.

88 AIYA S V C: Open school. NIE Journal 1971, 5(5,6), 3-7.

The problem that the paper tries to tackle is the one of making available to all citizens the benefits of primary education. To fulfil the constitutional directive of providing free and compulsory primary education through the conventional type of schools manned by trained teachers is a practical impossibility in the near future. Further, it is necessary to keep in mind the wastage and stagnation and their well-known causes. While attempting to solve the problem through alternative means, it should be remembered that the principal objective of primary education is to discipline the mind of the child and equip it with such knowledge, information and methods of behaviour as would make it take its rightful place as an enlightened citizen of a socialistic democracy. Instead of planning primary education in terms of subjects or items, an overall integrated approach of content should be pursued. The overall content should be divided into a large number of independent units, each unit having a set of lessons. These programmed lessons must be presented through the open schools. The open school visualises setting up a medium frequency 1KW transmitter for 5000 square miles. In addition to the radio programmes, the children will be provided with nicely illustrated books. The open school must also provide in-service education for teachers. The cost of such schools, it is observed, will be less than the conventional schools. The open school lessons can also be utilised by adults.

89 Evening classes /Editorial/. Times of India. 5 March 1972, p.8, col.1 600 words.

A strong case has been made for instituting in universities, evening classes to teach technological and professional subjects. The absence of facilities for part-time degree courses debars intelligent employees from advancement and discourages employers in factories from introducing career planning and other schemes for their employees. The State and the Central Governments have encouraged the universities to conduct correspondence courses. However, the subjects requiring laboratory equipment cannot be taught by correspondence courses. Therefore, instead of correspondence courses, evening classes and summer courses could be held in universities. This would enable the universities to enrol more students without incurring expenditure on buildings and equipment. The universities can also avail of the services of qualified scientists etc., who have full-time jobs in government/research institutions for conducting evening classes.

90 Part-time courses [Editorial]. Mail 4 March 1972, p.6, cols.1,2. 1000 words.

The right of every person to study the course of his choice has been recognized. However, in the context of educated unemployment, Dr Kothari's suggestion for starting part-time courses for all professions has not been appreciated. The surplus personnel can be absorbed only if the economy improves. In any case the personnel requirement in agriculture and business-management is great. The conservatism and hesitance of universities in starting new courses including foreign languages has been criticized. The efforts of private and voluntary organizations (like Bharatiya Vidya Bhavan, Cultural Wings of diplomatic missions, etc.) in this regard have been commended and proper recognition urged for the certificates and diplomas granted by them.

GUIDANCE AND COUNSELLING

91 SHARMA A: School problems and guidance. NIE Journal 1971, 5(5,6), 82-8.

When pupils have problems of various kinds they do not respond to school learning and this results in academic failure, underachievement, dropping out, etc. Some of the aspects on which students have problems are a) adjustment to school, b) social and recreational activities, c) finance and living conditions, d) morals and religion. Poor learning may be due to the absence of proper classroom climate. It is necessary to promote conducive classroom climate to maximise learning. With regard to guidance, the following points have to be remembered: 1) guidance should emphasise the fact that its primary responsibility is to the individual, i.e., individual boys and girls should be enabled to solve their problems; 2) all children in the school should be covered; 3) every child should be enabled to strive for his/her best; 4) it must be emphasised that the class teacher has an important role to play in guidance, for, the pupils are in constant contact with the class teacher in contrast to their occasional meetings with the counsellor.

92 Delhi University [Editorial]. Times of India 2 March 1972, p.8, cols.1,2. 450 words.

Dr Sarup Singh, the Vice-Chancellor of the Delhi University has made out a case for setting up a separate university in South Delhi for easier administrative management. But, the Union Education Ministry has objected to it for the following reasons: 1) all good colleges and able and experienced professors are concentrated in old Delhi and the new university will become a second class institution; 2) the government would find it difficult to finance funds for recruiting additional administrative staff and teachers for the new university; 3) as there are already two universities in the city, it would not be just to provide for one more. The situation could be improved by modifying the federal character of the Delhi University and passing on some of its powers to the constituent colleges. The colleges should shoulder the responsibility of making the students a part of a lively academic community. The local teachers' association, instead of opposing the scheme, should approve the proposal and utilize the opportunity granted to them.

93 Expanding Universities [Editorial]. Statesman 26 February 1972, p.6, cols.3,4. 550 words.

Because of the unmanageable size of enrolment in the Delhi University it has been suggested by a section of the academic opinion that there should be another university. However, the Union Education Ministry is averse to this proposition. If merely administrative reorganization such as giving greater responsibility to constituent colleges in matters of discipline, admissions and examinations, is thought of as a solution to the problem of unmanageable size, then, as the Prime Minister has pointed out, there is the possibility of decline in academic standards. On the other hand, if academic devolution is contemplated, then it is welcome. The University, then, will confine itself to postgraduate studies; everything connected with undergraduate studies including award of degrees will devolve on the colleges. Since the employers will soon discover the worth of the products of a particular college, the concerned college and the teachers will endeavour their best to maintain academic standards.

94 FILELLA J: Mediating role of the social sciences for national development and its educational consequences. New Frontiers in Education 1971, 1(3), 252-74. 28 ref.

A developing country ought to pay special attention to the development of all the social sciences so that in its progress towards modernisation not only are material conditions improved but the mentality of the people changed for the human enjoyment of the material improvements. In a developing country with a rich cultural heritage, the social sciences should be regarded as mediators between the material prosperity ushered in by the scientific and technological progress on the one hand and the capacity of enjoying material progress in accordance with the humanising influence of the living cultural traditions on the other. Hence the following suggestions are made: 1) sufficient attention should be paid to the social sciences in higher education; 2) separate departments should be encouraged for different fields of the social sciences; 3) colleges with well-established departments of social sciences should be given special educational status encouraged to experiment with new programmes; 4) there should be a minimum science programme for social science students; coordinated research programmes should be jointly undertaken by science and social science students; etc.

95 GURUGE A W P: Dongerkery Commission Report - an assessment of wider applicability. New Frontiers in Education 1971, 1(3), 315-25.

An assessment is made of the Dongerkery Commission's Report on modernization of University Acts for its wider applicability for the nation's higher education in general. The Commission was appointed by the Government of Gujarat and as such the report is more relevant to the five universities in the State. The following are some of the observations made by the author while examining the Commission's report: 1) when listing the objectives of a university the Commission hints that the existence of some of the universities at least is not justified but it does identify the major lapses and suggest remedies; the Commission has stressed the traditional objective of conservation, dissemination and advancement of knowledge, whose relevance and comprehensiveness has been often questioned; 2) the Commission's eighteen recommendations for modernising universities are not very relevant to the 6 university functions listed by the Commission itself; when one examines the place assigned to research and development, it is found that development is not even mentioned, and research itself is referred to not

as the university's positive responsibility and contribution to modernisation of society but only as a defensive strategy; there is emphasis only on rural planning development and reconstruction but not also on the problems of urbanisation; the recommendation that university teachers should be supreme in all academic matters smacks of a doctrine of insularity; the lay participation in the university affairs as suggested by the Commission has been narrowly conceived; 3) the efforts of the Commission to buttress the tottering edifice of the Court-Council-Senate administrative machinery only suggest that the idea of evolving a less cumbersome, more efficient and more practical system of university authorities did not occur to it; 4) the coordination committee proposed at the State level has been assigned such important functions that without secretarial services those functions cannot be performed by the busy members.

96 Junior colleges [Editorial]. Hindu 22 February 1972, p.6, cols. 1,2. 550 words.

The Tamil Nadu Government has been considering the revival of the two-year Intermediate course, as the experience with the one-year Pre-university course confirmed the original criticism that it neither trains the students in general education nor prepares them for degree courses. With the revival of the two-year Intermediate course, the duration of the degree course will have to be reduced by one year. The pressure on degree courses will lessen if the PUC qualifies students for the technical and non-technical courses as also for the junior level, ministerial type of services in the public and private sectors. The two-year PUC will mean more expenditure for the government, as education upto the PUC is free. However, there is no other way for the government but to find the money. Organizationally, public money allotted for this purpose can be more efficiently spent if the PUC, as has been proposed, is taken over by junior colleges, whose staff should be carefully selected.

97 MAHALINGAM N: Universities and institutions. Monthly Bulletin, Madras Institute of Development Studies 1971, 1(11), S.8-14.

The various practical problems faced by industries in Tamil Nadu have been cited as examples of industrial research problems which could be taken up by universities and other research institutions. Some hurdles to the progress of research in institutions and universities are: 1) the absence

of a proper dialogue between industry and research institutions and the lack of industry-oriented research; 2) paucity of funds, and the inability of many of the industries to afford research; 3) research output being not commercially viable; 4) universities rarely involving themselves in any useful research for society; 5) the aggregate amount spent on research and development in India being very small in comparison to other countries.

98 NAIK J P: Structural aspects of higher education. Hindustan Times, Sunday World 2 January 1972, p.3, cols.1-5. 1800 words.

The following structural changes have been suggested: 1) relieving the universities of all responsibilities for affiliated colleges, including the holding of the examination for the first degree; 2) placing all the under-graduate colleges under the purview of the Boards of Collegiate Education to be set up; 3) adopting the concept of autonomous colleges on a large scale, and giving them an option either to remain with the Boards of Collegiate Education or to affiliate themselves to a university with its permission; 4) setting up at least one Research Institute in every State which should remain small with annual expenditure of not more than Rupees 0.3 to 1 million. It is hoped that these changes would create the basic conditions essential for the revolution to be brought about in content, teaching and evaluation in higher education. Development of two ancillary programmes - a) an intensive and large scale programme of teacher education, and b) special programmes of student aid especially the organization of text-book libraries has also been suggested.

99 RAJARAMAN R: Higher education, to set the house in order. Economic and Political Weekly 1972, 7(10), 554-7.

There has been too much emphasis on liberal education at the university level, and far too much has been invested in university education at the expense of school education. That more and more of higher education should be professions-oriented and that admissions to different institutions should be correlated to projected manpower needs have been proposed by experts and commissions. However, it has to be adequately stressed that what is taught at the universities must also be professionally geared to create teaching and research cadres, and that admissions to universities must be regulated accordingly. The other professional courses

should not be given within the conventional universities but in separate technical colleges. Universities should be left to cater to academic subjects. University graduates would thus be fit to be teachers and scholars, and candidates for any other profession would be more appropriately found among the professional - college graduates. A university so organised would offer several advantages: 1) being a logically compact concept, it would not suffer from internal contradictions such as the existing mismatch between what is taught and what the students need; it would have a unified purpose and direction; 2) there will be no misgivings about courses of study being too bookish and not sufficiently relevant. A university so organised and pruned could become relatively free of bureaucratic controls and procedures. The other educational reforms are not so important as this one.

100 _ Revival of Intermediate - principals' views sought /News item/. Hindu 8 February 1972, p.7, cols.3-5. 750 words.

The opinions of principals of affiliated colleges have been sought by means of a questionnaire regarding the recommendation of the Committee of Legislature on Estimates on Collegiate Education for the adoption of the proposals viz. revival of the 2-year Intermediate course either with a 10-year secondary education and 3-year Degree course or with a 11-year secondary education and two-year degree course. The details of the questionnaire have been given.

101 SONACHALAM K S: How the universities and research institutions can tailor their research in the light of the Fourth Five Year Plan priorities for Tamil Nadu. Monthly Bulletin, Madras Institute of Development Studies 1971, 1(11), S124-30.

The universities and research institutions concentrate more on fundamental research. At times, the areas of research chosen are so vast that the energies spent get diffused, nor have they usually any relevance to the immediate and exacting problems. Agriculture, industry, education, and community development are the various sectors which are bedevilled with problems. These are the problems which should be taken up by universities and research institutions. Apart from those industrial and sectoral studies, there is great need for district techno-economic surveys to assess the natural, capital and human resources available and to

provide guidelines for their optimum development. Entrepreneurship is yet another area which deserves research attention. The newly created University of Agricultural Sciences in Tamil Nadu has a well defined area to concentrate. The entire State may be divided into three zones and to each university the contiguous zone may be assigned for conducting district techno-economic and sociological surveys and manpower research while to the research institutions the urban agglomerations of Madras and Madurai cities, Coimbatore and Salem towns. The sectoral problems may be assigned to universities and research institutions on the basis of expertise they possess. The distribution of research studies could be arranged by a standing committee of experts. Above all there should be coordination among the government, private industry and university-cum-research institutions.

102 Varsity teachers call for radical reforms. Hindu 2 February 1972, p.6, cols.4-8. 1250 words.

The conference on problems in higher education and research, attended by over 300 teachers and educationists from different parts of Tamil Nadu and held under the auspices of the Academy of Humanities, Science and Technology in Coimbatore recently opined that higher education being free for the vast majority in the State the enormous increase in enrolment will create further problems of unemployment and frustration as the education imparted is not linked to the sectoral manpower requirements of the State economy. The present rush for higher education has largely been attributed to the absence of a clear policy on higher education. The following recommendations have been made: 1) transforming more than half of the arts and science colleges into rural polytechnics; 2)adopting a flexible system of higher education which allows freedom and autonomy to the institutions themselves to frame courses, to plan instructional and training arrangements, involving, if possible, cooperation with local industrial, commercial and service establishments, and to make a continuous, internal evaluation of their students; 3) introducing a two-year Junior College programme in select institutions, leaving the others to continue the present pattern of P.U.C. and three-year Degree courses; 4) orienting and designing the Junior College programme in such a way that its completion would entitle a person to take up a junior level job so far open to degree-holders or to join a degree course as per his choice; 5) instituting part-time courses to enable those in employment to qualify further.

HIGHER TECHNICAL AND PROFESSIONAL EDUCATION

103 Centre favours autonomous farm universities [News item]. Hindu, 26 March 1972, p.9, cols.1-3. 800 words.

Addressing the plenary session of the third convention of the Association of Indian Agricultural Universities, the Union Minister of State for Agriculture, Mr A.P. Shinde stated that i) the agricultural universities and research institutes should emphasise on increasing the productivity of cotton, oilseeds, sugarcane and jute, ii) the centre should ensure that all agricultural universities become strong autonomous bodies, ii) universities avoid duplication of work; iv) research and extension work be undertaken in regard to water and soil management, use of balanced fertilizers, and dry farming techniques, v) the Association help raise the standard of education in sub-standard institutions, vi) the problem of unemployment among agriculture graduates be paid special attention and vii) the agricultural education should keep pace with changing requirements.

104 SANKARAM A: Employment possibilities for agricultural graduates. Hindu 22 March 1972, p.6, cols.4-8. 1200 words.

Cooperative endeavour of a large number of scientists of high academic excellence and ability has been sought to improve agricultural production in the country. Men of calibre should be drawn into research by way of incentives and better service conditions. The question of instituting an all-India service should also be considered at a scientific level. Though the extension work is confined to the specialisation in water management, pesticides, labour saving machinery etc., experts are needed to deal with the marketing of farm produce, warehousing, crop insurance and credit given through banks etc. Specialised and intensive training courses for one or two years for graduates should be organised. A variety of postgraduate courses in seed technology, farm management, soil testing, fertilizer use, marketing and crop insurance could be started in agricultural universities with the collaboration of private industries. With such special training these agricultural graduates could be usefully employed in industries. A workable plan to employ agricultural graduates in national agricultural programmes should be evolved.

HISTORY

105 QURAISHI M A: Some aspects of Muslim education. Baroda, M.S. University of Baroda, 1970. ii, 183p.

An account of educational system of Islam is presented. The essays are grouped into three sections. The general characteristics of the traditional system of education in Islam together with its ideals and agencies are given in the first section. The extent to which the Muslim thinkers were alive to the problem of education – its aims, principles and methods have been presented in the second section. The third section has a specific bearing on Muslim education in Gujarat. The following are the contents: I – 1) concept of Islamic education, 2) elementary school, 3) the Madrasah, 4) curriculum, 5) class and the methods of teaching, 6) teachers and students, 7) some famous institutions of learning; II – 8) Ibn. Jama'ah's Tazkirat-us-Sami, 9) Al-Ghazzali's philosophy of education, 10) an Arab educator of the XIII century, 11) educational ideas of Ibn Khaldun; III – 12) administration of education, 13) Muslim libraries in Gujarat, 14) glimpse of Muslim education and learning in Gujarat.

INSPECTION

106 WADHERA R C: Role and relevance of supervision. Rajasthan Board Journal of Education 1971, 7(3), 15–21.

It has been underlined that administration, organization and supervision are interlinked and complementary to each other. The supervisory functions, besides the improvement of the total learning environment, are: 1) stimulation of professional growth; 2) selection and revision of the objectives of education; 3) development of instructional material; 4) evolving effective methods of teaching; 5) ensuring objective evaluation of instruction; 6) aiding new teachers to become successful and settled through timely initiation and apt orientation; 7) allocation of work at different levels; 8) avoiding of questionable school practices. The following suggestions have been made: 1) supervision should be more democratic and less bureaucratic; 2) it should pilot educational leadership and professional counselling; 3) a supervisor should promote rapport between teachers and students, and teachers and administrators, and also guarantee the integrity of learning situation; 4) supervision should be a positive force and forum for the improvement of educational activities through the willing acceptance of responsibility and creativity; 5) it should assist teachers

to recognise and release their potential of creativity, leadership and dynamism; 6) a supervisor should stress the provision of expert guidance and counselling; 7) a supervisor should ensure coordination and integration of all educational efforts in the role of a specialised consultant and sympathetic collaborator.

INSTRUCTIONAL MATERIAL AND AIDS

107 GANAPATHY K R: Writing for low level literates. Bangalore, University of Agricultural Sciences, 1971. 34p. 25 ref.

The problem of mass communication of information to be conveyed to the farmers, who are usually low level literates has been discussed under the following heads: 1) existing situation of mass communication media and how to improve it; 2) type of publications to use; 3) what to write and how to write; 4) physical make up of publication; 5) evaluation of communication intended to be conveyed to the farmers. Certain measures have been recommended to 1) the Government; 2) development departments and 3) information units (communication centres) of agricultural universities. The Government should a) set up an information organization; b) provide sufficient budget; c) prescribe its functions and d) provide physical facilities. Development departments should make arrangements to a) collect material; b) supply information to the writers; c) prepare material for publications and d) co-operate with the information unit. The information units of agricultural universities should a) analyze existing situation; b) survey existing media; c) recommend to the Government if a separate medium has to be formulated; d) select personnel; e) train personnel; f) get assistance of specialists; g) take up research projects like - usefulness of existing media; what media the farmers prefer; time available for the media use; type of publications that are effective etc.; h) evaluate and use results of evaluation for future work.

108 PATTANAYAK D P: Teaching of languages through language laboratories and mass media. NIE Journal 1971, 5(5,6), 11-16.

As a language laboratory is an essential element in the audio-lingual approach to language teaching, film projectors, epidiascopes, TV, etc. are some of the more important audiovisual equipment used for language teaching. The use of language laboratory has several advantages over the traditional teaching, such as closer student-teacher contact,

individual attention to students, scope for progress at one's own pace, etc. The language laboratory is not a substitute to a language teacher. To make it a success, there should be close collaboration between the lab. teacher and class teacher. The use of audio-visual and audio-lingual equipment requires a good deal of preparation before and after their use. Before the use of mass media for language teaching, it is necessary to be clear about the goals. Misconception regarding the difference between mother tongue teaching and other tongue teaching, and the confusion between the notions of a second language and a foreign language have to be cleared. Though there are 20 language laboratories in the country, not much serious empirical research data are available from them. There should be some experimentation in solving the problem of large numbers. If language lessons are to be broadcast by radio and TV it is necessary to consult language experts. If 90% of what goes on in a language lab. can be achieved at, say, one-tenth or one fifth of the price of a sophisticated lab., it is necessary to explore the possibility of economy. There is need for replicating many of the foreign researches. It is important to create an awareness for the need for proper soft-ware and their accelerated production.

109 PRITAM SINGH: Specific problems in preparing general science textbooks. NIE Journal 1971, 5(5,6), 61-3.

No general education can be complete if general science does not find place in the curriculum. General science has to find a place in the school curriculum right from class I. There is a dearth of good general science textbooks for the primary stage. The major problems to be tackled in the preparation of good textbooks are: 1) the difficulty about agreement on the concept of general science, that is, is general science to be treated as a combination of different subjects like physics, chemistry, biology, or is it an integrated course? 2) the choice whether the concentric approach is to be adopted or the topical approach; 3) use of selected and graded vocabulary, and the minimum use of technical terminology; 4) making textbooks reflect the pupils' environment so that science is related to their life; 5) the need for making textbooks self-sufficient in the absence of other instructional aids; 6) making textbooks comprehensive and up-to-date in content, providing self-learning and self-evaluation material in the context of dearth of qualified teachers. Profuse use of illustrations, provision for training in sensory experiences, more of reinforcement material and maximum involvement of the child are essential requisites of a textbook in general science at

the primary stage. At the middle school stage stress has to be laid upon functional understanding, reflection on the nature of science, the investigative approach of presentation, use of historical references, development of scientific attitudes etc.

110 SRIVASTAVA H S, SOLANKY D C: Principles for the preparation of civics textbooks. NIE Journal 1971, 5(5,6), 64-6.

The following are the main principles that have to be kept in mind while preparing a textbook in civics: 1) fitting into the total curriculum plan; 2) reflecting national goals and development of international understanding; 3) taking into consideration the availability of community resources; 4) inculcating desirable values that go to make an individual a useful citizen, and highlighting the existing social problems; 5) keeping in view the dimensions and the depth to which the subject matter should be covered; 6) taking cognizance of the latest developments in the discipline; 7) making the textbook suitable for the age group; 8) maintaining the essential character of easy communicability with the students.

111 TARA ALI BAIG: TV in rural primary education. NIE Journal 1971, 5(5,6), 1,2.

Educational television on a sufficiently large and well-devised scale could prove the most effective means of rapid over-all development. The major value of TV education is threefold: 1) it can cover the needs of children and illiterate adults in the most remote regions of India; 2) teacher training can be accelerated; 3) adults and children often separated by the school system can be brought together if the TV set is put in the local school and programmes catered to adult requirements of literacy, agriculture, nutrition, health and family planning in the afternoon or evening hours. TV can promote national integration and secularism. The four problems educational TV has to face are: 1) the cost, 2) assurance of electric supply, 3) operation, maintenance and repair, 4) shortage of teaching material to use with the equipment or the medium. TV educational programmes should first cater to the rural needs.

112 VENKATARAMAN R, VENKATASUBRAMANIAM R: Critical study of the audio-visual programme in secondary schools in Coimbatore. Journal of Educational Research and Extension 1971, 8(2), 113-17.

With the aid of a specially designed questionnaire and an opinionnaire, the views of the teachers of 52 rural and urban schools in Coimbatore district towards audio-visual programmes were elicited. The findings showed that in majority of the cases, the use of audio-visual aids was unsatisfactory. The following suggestions have been offered to improve the utility of the aids: 1) teachers should be trained in handling radio lessons; 2) as many teachers opine that the timings of educational broadcasts are unsuitable, facilities be given to record and broadcast them as and when suitable; the All India Radio (AIR) could also cooperate by helping the schools in recording the programmes; 3) steps be taken to encourage the use of the film strip projector; 4) schools should take keen interest in organising school museums; and 5) training colleges should organise special in-service programmes for giving intensive training to teachers in the use of all the audio-visual aids.

PHYSICAL EDUCATION

113 SHARMA N.L: Good posture and correct training. Rajasthan Board Journal of Education 1971, 7(3), 31-5.

It has been regretted that due importance has not been given in India to the problem of maintaining healthy physique through good posture and correct training, while the West could achieve this through a nation-wide, government-supported programmes, making physical education and health education compulsory and an examination subject. Such programmes should not only be limited to schools and colleges, but should be made universal. The typical posture faults and defects, and the methods of identifying and correcting such defects have been illustrated.

114 ABRAHAM P M: Manpower planning in India - a review of studies and problems. Manpower Journal 1971, 7(3), 11-34.

The paper discusses briefly the major landmarks in the evolution of manpower planning in the country and the evolution of the organizational structure for manpower planning. The predominant accent during the last 10-15 years was on making estimates of demand and supply of various categories of high level manpower. This led to the neglect of other important areas of manpower planning one of which is utilization of personnel already in labour force. Another characteristic of the estimates of demand and supply was that the end-products were global estimates. The emphasis in future should be on more and more regional studies, and also on studies of different industrial sectors and of different occupations at lower levels of aggregation. Manpower forecasting exercises have commanded a lot of confidence in India and the anticipated estimates have automatically been converted into educational targets notwithstanding the fact that manpower forecasting is at best an imprecise science. In the context of a federal constitution, the primary responsibility for manpower planning in areas such as agriculture or health should rest squarely on State governments with the manpower planner at the national level performing a coordinating role. All important agencies - both users as well as trainers of manpower must be involved in the process of manpower planning. Even after plans are drawn up with care, they should be subjected to periodical reviews so that they become responsive to changing factors.

115 Are they going round the mulbery bush? [Editorial]. Hindustan Times 17 February 1972, p.7, cols.1,2. 350 words.

It is necessary to ensure that the task of educational reform is not further postponed under the pretext of waiting for the report of the newly set up expert group to formulate proposals for education in the Fifth Plan. The need for informing the expert group regarding the type of educational pattern desired, the priorities needed within the educational plan, and the socioeconomic framework in which the educational plan is to be fitted has been underlined.

116 BANKESHWAR S S: Problems of educated unemployed. Bharat Jyoti. 26 March 1972, p.4, cols.7,8. 1200 words.

The main causes of educated unemployment are: 1) mounting increase in the working population; 2) lack of employment orientation in planning; 3) absence of vocational training in the educational system; 4) concentration of industries in a few metropolitan areas causing wide disparities in the employment position between different regions. The following remedial measures have been suggested: 1) restricting admissions to Arts and Commerce colleges; 2) increasing the number of agricultural and technical training schools; 3) vocationalizing secondary education and providing work-experience in agriculture, industry and other fields; 4) setting up schools in rural areas to teach courses in agriculture, animal husbandry and handicrafts; 5) making greater investment in light and consumer goods industries; 6) accelerating the growth of literacy and absorbing the educated unemployed as teachers; 7) establishing agro-industrial service centres in each district; 8) launching rural electrification projects; 9) enlarging the scope for self-employment; 10) giving top priority in planning to the problem of educated unemployment and other economic problems.

117 BISWAS A, AGRAWAL S: Indian educational documents since independence. New Delhi, Academic Publishers, 1971. xvii, 639p.

This volume offers a selection of official documents on Indian education published since Independence. Apart from including all important Reports of Committees and Commissions, it covers the proceedings of the meetings of the Central Advisory Board of Education, Conferences of the State Education Ministers, Vice-chancellors' Conferences, All India Council for Technical Education and some seminars.

118 CHOWDHURY P N, NANDY H K: Scientific and technical personnel, a perspective of development. New Frontiers in Education 1971, 1(3), 221-34.

Optimum utilisation of scientific and technical manpower has been discussed. Analysing certain relevant statistical information, the problems relating to unemployment and underutilisation of scientists, engineers and doctors, the probable impact of surplus manpower at the end of the Fourth Plan, the relationship of manpower growth with changes in the educational system on the one hand and the statement of relevant economic and policy factors affecting

the intake rate of scientific and technical personnel in the economy, on the other have all been discussed. The basic answer to the problems of planning for scientific and allied manpower centres round the issue of developing effective information system in this field, properly manned and scientifically designed. Once this necessary condition is satisfied, it is possible to collect adequately futuristic studies (including forecasts) on scientific manpower which decides to a large extent, the course of educational reform and solve many a crucial problems in the field of economic planning itself.

119 Experts group set up for education plan [News item]. Hindustan Times 16 February 1972, p.5, cols.1,2. 250 words.

The Planning Commission has set up a 20-member experts "steering group" on education under the chairmanship of Prof. S. Chakravarty to formulate proposals for the development of education in the Fifth Five Year Plan. In addition to the steering group, 11 task forces have also been set up to formulate proposals for elementary education, vocational and technical education, adult and out-of-school education programmes for youth, employment of educated persons, language development, book production and library facilities, education and finance, and machinery for educational planning and implementation. The steering group will also coordinate the work of the task forces, interrelate the various aspects of educational development, and give a direction to educational growth in the context of economic planning.

120 MAZUMDAR V: Jobs and education. Seminar 1972, No.149, 74-81.

The lack of coordination between employment and education in India has been pointed out. Because of social demand for education there was a steady increase in the expansion of education. But due to lack of resources and failure to relate education to socio-economic needs, there was excessive provision of liberal arts and neglect of scientific, technological and vocational education. Higher education expanded at a very fast rate to the neglect of primary education. Thus the educational system, as pointed out by the Education Commission (1964-66) failed to meet the economic, social or academic needs of the nation. The Education Commission as well as a number of conferences stressed the need for better manpower estimates and relating these to enrolment and development of higher education. However, the political

leadership failed to withstand the social pressures that spring from private profitability of education, and expansion continued. Further, the academic profession, and the industrial and business sectors which absorb the products of educational system made little efforts to initiate qualitative changes in the contents and methods of education to redress the imbalance between the supply and demand of university products. The following suggestions are made: 1) fulfilling the constitutional directive of providing free and compulsory education to all children up to the age of 14 as early as possible; 2) removing illiteracy by an intensive programme of adult education; 3) stopping expansion of higher education and concentrating the resources on improvement, diversification and qualitative changes; 4) mounting a massive propaganda to bring the academic community and administrators to a realisation of its social responsibility; 5) drafting students for the spread of literacy and primary education and other nationally necessary programmes; etc.

121 MIRAJGAOKER A G: Unemployment among engineers. Statesman 22 February 1972, p.6, cols.4-6. 1200 words.

It has been regretted that Indian engineers migrate abroad for employment after undergoing training at the cost of country. The Indian engineers working aborad could be classified into those who obtain their basic engineering degree in a foreign country and those who go after getting their basic degree in India. Between these two categories, efforts should be made to prevent the latter from settling in foreign countries. The following suggestions are made to tackle the problem of unemployed engineers: 1) jobs should be found for those who are on the unemployed list; 2) the supply of engineers should be adjusted to demand; greater emphasis should be made on quality than on quantity; 3) the system of education should be made job oriented; basic training at the degree level should provide practical and field work experiences; the scheme of sandwich courses whore students spend alternate semesters in college and in industry or in field work should be encouraged; and 4) while more employment opportunities should be created to reduce the migration of engineers, a realistic approach should be taken towards those who do not wish to return; instead of investing more on CSIR pools, the money should be spent on projects to give employment to the unemployed.

122 MITRA A K: Manpower planning, strategy for a new educational system. Economic Times 18 February 1972, p.5, cols.3-8; p.6, cols.5-8. 3000 words.

It is regretted that the educational planning in India is not geared to the actual needs of the community. The agricultural sector which employs 70% of India's population and contributes 50% to the national income is not served adequately by the educational system so as to produce the needed skilled and technical personnel. It is shown that there is lopsided emphasis on higher education to the neglect of primary education. More money is spent on higher education with the result that the primary and secondary level education do not get the deserving budget allocations. The result is the problem of educated unemployed. Primary education should be expanded to cover all, and secondary education diversified in order to equip the masses to bring about socio-economic transformation by higher production and saving, and restriction of demographic growth. There should be selective admission to higher education courses, and it should be related to manpower requirements. There should be planned provision of vocational education and work-experience at all levels.

123 PADMANABHAN ACHARI T K: Educational planning. Kerala Journal of Education 1970, September, 49-53.

The need for integrating educational planning with the economic and social policy of the country has been stressed. At present, educational planning is done only at the national and State levels. It is necessary to extend the planning process to the district level and then to institutional level also. The following programmes have been suggested under district-level planning which would be mainly confined to those areas where variations are permissible from district to district: 1) provision of facilities in educational institutions like buildings, laboratories, playgrounds, teaching aids, etc.; 2) non-teacher costs like expenditure on provision of essential student services; 3) work-experience and social service; 4) programmes for non-student youth or adult education; 5) utilization of existing facilities; 6) education and employment.

124 SABERWAL S: Education and inequality, an essay in political sociology. Economic and Political Weekly 1972, 7(5-7), 409-12. 7 ref.

It is pointed out that the educational problems cannot be resolved in the context of educational institutions alone. The attributes of, and the motivations generated in, the larger-society influence the educational domain decisively. A very large part of the pressure to the college enrolment comes from the top 10% of the population who spend over Rs.100 per capita per month. On the other hand, only 57% of the primary age group population attended the schools in 1968-69. There are good economic reasons for the enrolment pressure on higher education. Consequently the standard of education suffers. It is argued that the critical path both for quantitative expansion at the primary level and for qualitative reform in the universities lies through an egalitarian income policy.

125 SINHA A K N: Problem of unemployment among doctors. Searchlight 13 February 1972, p.4, cols. 3-7. 3500 words.

The acute problem of unemployment in the country is due to non-provision of employment opportunities in proportion to expansion of medical colleges. The following suggestions have been put forth to tackle the problem: 1) a National Manpower Survey should be conducted by the Government for obtaining a correct figure of unemployed medical graduates and a detailed medical census of the whole country should be recorded and updated every year; 2) the Government of India should appoint a body with the collaboration of the Medical Council of India to compile a medical register for the country; 3) a proper health administration should be organised by the members of the medical profession; 4) in order to bring uniformity in the standard of medical education, a medical university should be instituted in each of the States; this university should be an affiliating body for all medical colleges in the State and possess a control over all affairs concerning the medical colleges and their attached hospitals; 5) besides the registration of medical practitioners, a vocational registration should be made; this would signify a reasonable minimum of informed competence in a specific field and be granted on the basis of general professional training and a specified period of further training and experience; this would also stimulate the growth of training facilities in different fields of hospital practice and community medicine; 6) financial help be granted for setting up 'group practice' in rural areas to encourage young medical graduates to migrate to rural areas; 7) for improving the rural health, the Government should

implement the recommendations of the Bengal State Branch of IMA; 8) the doctors should be assured of better conditions of work and a fair treatment from society; 9) the Medical Registration Council in different States should take disciplinary measures against misguided persons earning money by unfair and unethical means; 10) the Governments' move to amend the Medical Council of India Act in order to include the registration of quacks should be opposed.

126 VEDA PRAKASHA: Manpower planning and education in India. New Frontiers in Education 1971, 1(3), 235-51.

Manpower planning in India is of recent origin - hardly 10 or 15 years old. But during this period it has already established itself as the single most vital link between education and economic development. It has introduced an element of precision in educational planning, and has helped to overcome shortages in almost all important sectors, notably those relating to engineers, doctors, agricultural and other scientists and teachers. It has generated considerable amount of research interest in the refinement of forecasting methodology and in analytical and survey-type studies. It has strengthened statistical and other data-collecting activities in the country. There is little question that manpower planning has come to stay. But there is another side to the picture too. Experience in India, as indeed in other countries, has shown that manpower projections involve many untested assumptions and can be quite misleading, that educational needs cannot be derived exclusively from economic needs and that in any case, the concept of manpower planning, if it has to make any meaningful contribution to educational development, must be broadened and diversified into that of human resource development. There is also a growing consciousness that manpower planning and educational development, to be effective, must be accompanied by certain pre-conditions: fast economic growth, effective population control and a system of efficient public administration. Without these it would be idle to hope that manpower planning or educational reform can avail much, particularly in tackling the extremely serious problem of educated unemployment.

PRE-PRIMARY EDUCATION

127 Nursery schools and Balwadis [Editorial]. Hindu 15 February 1972, p.6, cols.2,3. 500 words.

The services of nursery schools and balwadis have been commended. They socialise children and prepare them for the primary schools, relieve working parents of the problem of supervision of the young, offer children nutritious food and make possible medical treatment for those suffering from ailments. The report of the study group on the development of pre-school child suggested that these schools should be well financed as better attendance and less wastage would be likely if the children are socialised at the pre-school stage. It also suggested that priority be given by the State Governments to set up balwadis for the benefit of slum children and farm labourers. The idea of pre-school care should be promoted in the countryside and in towns.

128 Pre-school child [Editorial]. Hindustan Times 9 February 1972, p.7, cols. 1,2. 450 words.

The recently published report of a Committee on the Pre-School Child rightly pointed out that the development of the pre-school child should include the three major areas of health, nutrition and personality. About 5 million pre-school children might be covered under such a programme by 1981 if suitably phased, with priority being given to the children from urban slums, tribal areas and underprivileged groups in rural areas. The additional amount of Rs.17.6 crores required for this purpose in the next two years could be raised by mobilising community participation. The Committee's view that a single social worker should coordinate and implement all programmes for the pre-school child so as to convey the idea of an integrated service to the community, has been commended.

129 Pre-school child education [Editorial]. National Herald 10 February 1972, p.5, cols. 1,2. 750 words.

The investment in education should be at least as much as in defence, and education should begin not at the primary stage, but at the pre-school stage. Commendably, the Union Ministry of Education has undertaken a study of the development of the pre-school child in the wider socio-economic context of the child's nutrition, family and

social environment. The study group envisages at least 10% of the pre-school children whose number is expected to be about 50 million (in 1981) will be covered by the pre-school programme. The care centre should have an atmosphere similar to that of the child's home minus its insanitary surroundings; hence, the need for obtaining the right type of teachers. Besides the budgeted amount, an additional expenditure of about Rs.17.5 crores is involved. A part of it could be obtained through the local community's voluntary effort, which is important not only for its monetary help but also for breaking the isolation of the educational system from the community.

PRIMARY EDUCATION

130 Primary education [Editorial]. Free Press Journal 15 February 1972, p.4, cols.1,2. 500 words.

With regard to the launching of a comprehensive employment programme on a national basis, a proposal was made to recruit over 45,000 elementary and primary school teachers. Extending universal primary education and building new schools would provide employment not only for teachers, but also for engineers. The target of providing primary education to all the children between ages of 6 and 11 has yet to be reached. As the rate of school expansion is unsatisfactory, it may not be possible to achieve the goal even by 1985-86. The wastage occurring due to dropouts also hinders the achievement of the target. The expansion of primary education in the rural areas, being meagre quantitatively, would prove poor qualitatively also, if the problem of wastage is not solved.

RURAL EDUCATION

131 Restructuring rural education [Editorial]. Hindustan Times 23 January 1972, p.7, cols.1-4. 700 words.

The structural reform of rural education proposed by Dr. M.S. Swaminathan in one of the two lectures he delivered (Princess Leelavathi Lectures) at the Mysore University is commended. According to the proposal, the rural education should aim at making the rural children acquire the ability for an integrated application of intellect, physical inputs and management talent in order to widen the yield frontiers in agriculture. A start can be made with

restructuring the syllabus in middle and secondary schools in villages, where agriculture is already being taught in some form or the other. For this, the major agricultural research institutes in the neighbourhood have to provide the technical leadership. The educational projects should be of economic and educational value and should demonstratively prove useful to the large farming community who are watching them from outside. The extension departments of agricultural colleges and universities should provide on-the-spot guidance and orientation courses to teachers to enable them to undertake useful projects. With regard to the adult illiterates, what is suggested is 'technicracy' that is, imparting technical skills connected with all aspects of agriculture. To disseminate such need-based education, a 'cafetaria approach' - the adoption of any system of instruction, from agricultural polytechnics to short residential and correspondence courses, for which facilities are available - is suggested.

SPECIAL EDUCATION

132 NANAVATTI K J, SHIVARUDRAPPA G: Case study of delinquent children of certified school in Hubli. Journal of the College of Education, Karnatak University 1971, 8(2), 16-25.

Information about twenty delinquent children, ten boys and ten girls, of the certified school in Hubli, was secured through personal contacts, observations, reports of the teachers and the records. The study revealed that the following factors have been responsible for juvenile delinquency: 1) physical factors such as ill health and physical disability of the children, and 2) extrinsic factors viz., poor home environment, poverty, and overcrowded houses. Suggestion has been made that pre-school education, evening classes for adults, mother clubs, parent education classes, parent-teacher associations, recreation opportunities for children and adults, vocational guidance for school children, youth clubs etc. prevent potential delinquency.

STATISTICS

133 INDIA. UNIVERSITY GRANTS COMMISSION: University development in India, basic facts and figures 1967-68. New Delhi, the Commission, 1971. viii, 324p.

The publication provides a useful and convenient summary of statistical information about the Indian universities. Based on the returns received from the various universities and colleges, a statistical report for the year 1967-68 has been prepared. The following are the contents: 1) All-India statistics 1965-66, 1966-67 and 1967-68; 2) universities; 3) colleges and teaching departments; 4) university enrolment; 5) enrolment in the faculties; 6) enrolment according to stage; 7) staff; 8) halls of residence and staff quarters; 9) postgraduate education; 10) institutions deemed as universities; 11) institutions of national importance.

STUDENT INDISCIPLINE

134 GANDHI K: Student unrest and university response. Hindustan Times 13 February 1972, p.7, cols.7,8. 1800 words.

The persistence of student indiscipline in spite of the liberal involvement of students in university affairs has been regretted. The prevailing perfunctory system of education, the unprecedented growth of educational institutions, the fall in educational standards, student and teacher participation in politics, the general socio-economic and political problems, the generational conflicts, and the exploitation of students by political parties have been cited as factors contributing to the student unrest. Promulgation of an order or insertion of a clause in the Calendar by the universities banning the involvement of students above a certain age in the campus affairs, proper encouragement and guidance to students in their functioning in university affairs, creation of a climate of fraternity among students, teachers and Vice-Chancellors have been recommended.

135 AKHTER H S M Q, SINHA A K: On the performance prediction of a group of students. Indian Educational Review 1971, 6(2), 220-32. 4 ref.

With the mounting pressure on higher education in India, the need for selective admission, at least to science courses is being increasingly felt. In view of the inadequacy of conventional techniques of selection, the possibilities of using statistical methods have been explored. Two hundred and twenty one students who appeared at the pre-science examination 1969 (annual) of Patna University were selected for the study. Out of the 221 students, 169 had passed the examination and 52 had failed. The marks secured by these students at the secondary school examination were collected. Applying Wald's (1944) technique, an attempt has been made to see how far the marks secured by a student in any two of the four subjects - English, Hindi, Physics and Chemistry - would be helpful in predicting his performance at the pre-science stage. The possibilities of classification on the basis of one subject only have also been examined. The results show, among other things, that the association between the actual and predicted performance is significant when classification is done taking into account either Physics or Chemistry. In the case of Physics the association is relatively more intense.

136 ANAND K K: Selection for Management education - a research study of admission procedures for the postgraduate programme (1964-66 and 1965-67). Ahmedabad, Indian Institute of Management, 1970. 88p. 17 ref.

This monograph is an outgrowth of a two-year research study conducted at the Indian Institute of Management, Ahmedabad on its admission policies and procedures. The following conclusions have been arrived at: 1) a small fee for the application form should be charged to reduce frivolous requests; 2) the reasons for non-appearance of candidates for admission interview, non-acceptance of admission offer, not joining the course after acceptance of admission offer, and failure to complete the programme should be investigated; 3) the previous academic record has a small positive correlation with performance at the Institute; 4) overall academic performance during the two years of the Institute's programme should be taken as a criterion for validation of selection policies and procedures; there is need to refine the evaluation procedures which measures the level of

performance of students in order to have a high criter reliability; 5) the rating of application forms by th admission committee should be replaced by a system of objective rating; 6) the School and College Ability Test and interview should continue to be used in the selection process; 7) the possibility of assigning explicit and specific weightages to different parts of the selection process should be explored; 8) concerted efforts should be made to develop good admission tests; 9) it should be explored whether a test of values should also be included in the selection process; 10) it would be useful to determine which abilities, though important, the grades do not measure; 11) a study should be made of the requirements and preferences of the employers in terms of the pre-programme educational standing (science, engineering, commerce, etc.), specialization in different areas (marketing, finance, etc.), of the graduates so that the admission policy and curriculum planning can be suitably adjusted; 12) the extent and the direction in which growth is achieved by the students during the two-year study period should be determined.

137 MANERIKAR V, PATIL V: Analysis of results of tests used for selection of candidates for Master's Degree in Management Studies course. Indian Journal of Applied Psychology 1972, 9(1), 47-9.

The study was made to analyse the performance on intelligence and social judgement tests in relation to the performance at the annual examination of the selected students and thereby test their validity in the selection programme. Intelligence and social judgment were tested through Otis Test of Intelligence (1-s), Wonderlic Personnel Test (1-b), and Social Judgment Scale (II). The sample consisted of 28 students from 1966-68 group and 23 students from 1968-70 group. Tests 1-b and II were administered at the time of selection and test 1-a subsequently in the class. Inter-test correlation coefficients and correlations of the intelligence and social judgment tests with performance in annual examination were worked out. The conclusions are: 1) performance in the examination was highly dependent on their intelligence test scores; 2) test 1-b was preferable to 1-a; 3) the dependence of performance in the examination on social judgment score was insignificant.

138 CHAUDHURI S C: Developing curriculum in teacher education for art education. NIE Journal 1971, 5(5,6), 77-81.

The necessity of having pre-service and in-service courses of art education both in elementary teacher education institutions for general teachers, and in art-teacher education institutions for art teachers has been stressed. The existing position of art education in primary teacher training institutions has been examined. In developing curriculum for the training institutions the following issues have to be considered: 1) the nomenclature of the courses; 2) the objectives of each course; 3) the items and their details to be included - a) a discussion of the school curriculum, including the theoretical knowledge and the techniques involved in the practical work, b) actual practice of some of the techniques, c) pedagogical knowledge concerned with art education including the preparation of instructional materials and their use, d) internship; 4) the method of teaching to be followed by the teacher educators; 5) the weightage to be given to the courses in terms of time allotted and marks given in the scheme of programme; 6) personnel facilities required; 7) physical facilities; 8) evaluation procedure.

139 CHILANA M R: Extension in education - a peep back and a look forward. Quest in Education 1972, 9(1), 3-20.

The existing patterns and programmes of extension services have been described. The following suggestions have been made: 1) conducting an objective evaluation of the extension services; 2) clearing off all the administrative tangles affecting the efficiency of the programme; 3) entrusting every training institute with the task of extension work; 4) making supervisors and school inspectors responsible for providing extension services; 5) starting independent extension institutes; 6) provision of extension services by some good schools to their neighbouring institutions; 7) offering extension services through correspondence; 8) organizing credit courses for teachers through extension; 9) involving as many agencies as possible to help the schools improve; 10) including educational extension in teacher education courses; 11) conducting research studies in extension work; 12) developing theory of extension on a sound footing.

140 VERMA P L, PUROHIT J N, MISHRA H N: Fruitfulness of supervisory remarks. Naya Shikshak (Teacher Today) 1971, 14(2), 64-73. 7 ref.

To assess the extent of fruitfulness of supervisory remarks offered during practice teaching, 5724 supervisory remarks made to 36 student-teachers in their 687 practice lessons were studied. The findings are as follows: 1) normally a supervisor puts about 8 remarks on a supervised lesson; 2) about one-third of the remarks are vague and repetitive; 3) only 13% are constructive remarks; 4) task related behaviour shown by the supervisors in the remarks is 59.2%; 5) negative reactions expressed by the supervisors constitute only 2.7%; 6) no significant relationship was found between the supervisors' experience and the fruitfulness and wastage in remarks; and 7) supervisors do not indicate the stage at which the lesson was observed and remarks given, that is, they do not indicate whether the remark related to the introductory stage, or to the actual presentation of the lesson, or to the recapitulating stage.

TEACHERS

141 DEWAL O S: Emerging roles of teachers in developing countries. Naya Shikshak (Teacher Today) 1971, 14(2), 9-14. 7 ref.

Teachers have multiple roles to play: 1) instructional role, 2) growth role which is concerned with socialization, guidance, moral training, fostering better study habits, developing proper attitudes and interests of students, 3) extra instructional role such as maintaining records, keeping accounts, etc. The three instructional systems that can be conceived are: 1) teacher-only system - an instructional system where the teacher alone handles the instruction without the use of programmed learning material (PLM) or teaching machine (TM); 2) programme only system - the system where the live teacher does not participate, and it is wholly regulated and managed by PLM or TM; 3) teacher-programme system which is a combination of the two above-mentioned systems. The multiple roles of teachers under various instructional systems have been examined.

142 JULIET J S: Role of the teacher in a changing society. Kerala Journal of Education 1970, September, 61-6.

The importance of teachers' influence on the personality of a child has been underlined in view of the modern concept of education which lays stress on the training of children to lead a harmonious social life with participation in socially useful as well as individually satisfying activities. It is, therefore, essential that the teacher should keep a clean private and public record, act as a parent, a guide, and a psychiatrist, form active associations with the parents to enlist their cooperation in training their children on the right lines, possess a sense of dedication to work, maintain discipline to promote the same among pupils, inculcate moral principles in the student's minds, guide students in all extra-curricular activities, bring unhealthy students to the doctor's notice, and also be research-minded. Constitution of Advisory District Councils of Teachers at district level, Joint Teachers Councils at State level, and National Council of Teachers at national level has been suggested for involving teachers in educational planning and other decision-making programmes regarding the salaries, conditions of work and service of teachers.

143 KAKKAR S B: Professor qualities as viewed by students. Manas 1971, 18(2), 97-103. 7 ref.

A homogeneous sample of 350 students selected randomly from the final year degree classes of three liberal arts colleges in Patiala was asked to indicate the importance of the ten qualities of professors - personality, character and principles, mastery of modern teaching methods, interest in teaching, mastery of subjects, effective speech, effective teaching, punctuality and discipline, friendliness and love, and ability to understand students, using a five-point rating scale. The quality - ability to understand students was rated highest, closely followed by the qualities - effective teaching, mastery of subject, mastery of methods, and personality. The quality - friendliness, sympathy and love was rated lowest, with interest in teaching reaching almost similar rating.

144 MARAGATHAM M, SOUNDARARAJA RAO T R: Evolving criteria for assessing teaching efficiency of high school teachers. Journal of Educational Research and Extension 1971, 8(2), 118-23.

A test was constructed to assess the teaching efficiency of school teachers. The test was in the form of a check-list, comprising the aspects - knowledge, teaching ability, catering to the individual differences, class administration, moving with pupils, teacher characteristics, evaluating efficiency, professional interest, attitude towards school set up, community interest, and pupil attainment. The responses of 180 high school teachers and 75 administrators were elicited with respect to the weightage given to each of the factors. On analysing the data, it was found that: 1) teachers attached significantly more weightage to class administration, pupil attainment and to attitude towards school set up while administrators signified teaching ability and teacher characteristics as important; 2) women teachers ascribed more weightage to knowledge and pupil attainment while men to class administration; 3) 24.3% of the sample preferred assessment once a year while 25.3% of the administrators preferred it to be three times a year. On the basis of the study the following weightage was given to the various aspects which constitute teacher efficiency; 1) knowledge - 20 points, 2) teaching ability - 18 points, 3) class administration - 8 points, 4) professional interests - 8 points, 5) pupil attainment - 8 points, 6) catering to individual differences of pupils - 8 points, 7) teacher characteristics - 7 points, 8) moving with pupils - 6 points, 9) evaluating efficiency - 6 points, 10) attitude towards school set up - 6 points, 11) community interest - 5 points.

145 RAMASWAMY P, KULANDAIVEL K: Leisure time activities of primary school teachers. Journal of Educational Research and Extension 1971, 8(2), 108-12.

A sample of 500 teachers from 76 primary schools was administered a questionnaire along with a checklist and their responses were analysed to study their leisure time activities. The major findings are as follows: 1) most of the teachers spend their leisure time in reading for knowledge, preparing aids, and preparing for further examinations; 2) men teachers show interest in visiting relatives and helping parents, while women in domestic chores; 3) re teachers in rural areas than urban show an interest inmeeting students and their parents, in first aid and village service; 4) environment, the economic conditions and status have an influence on their leisure time activities;

and 5) mid-day meals work reduces their leisure time. Encouraging educational activities of teachers by meeting the cost in preparation of aids by the management, reducing the pupil-teacher ratio, entrusting mid-day meals work to local authorities, enabling teachers to pursue their leisure time activities and activities for self-sufficiency, providing residential facilities, etc., are some of the suggestions offered to improve leisure time activities of teachers.

146 SHARMA R A: Relationship between predictors and teacher-effectiveness at elementary level. Indian Educational Review 1971, 6(2), 214-19.

The study was designed to investigate the relationship between certain predictors and teacher-effectiveness at the elementary stage. Six predictors - aptitude, age, academic grades, teaching experience, sex, socio-economic status - and three criterion measures - classroom teaching rating, personality rating, the final marks of the training course - were taken up for the study. Seven hundred student teachers were selected by cluster sampling technique from the elementary teacher education institutions of Uttar Pradesh. A teaching aptitude test constructed and standardised by K.P. Pandey, and personality rating and classroom teaching rating scales prepared by the investigator were used. The main findings are that a significant relationship exists between the criteria of teacher-effectiveness on the one hand and academic grades and teaching experience as predictors on the other. Socio-economic status and sex variables are not significant.

147 SHIV MANGAL SINGH'SUMAN': Colleges, college teachers and politics. University News 1972, 10(1), 18-20.

The key role of teachers in developing the character of the youth and promoting national development has been highlighted. It has been suggested that teachers should neither be affected by party politics nor corrupt the students' minds and academic life with narrow party politics and cheap group rivalries. Remaining a political thinker, a teacher should create political awareness among students. He should not become a political agent, but put forth an objective and analytical approach to political problems which may become a guideline for social welfare. The prevalent malinfluence of regional jealousies and political rivalries on college education has been deplored. It has been concluded that, if only, the teacher ceases to be a party or onlooker in the petty political feuds of students and takes a real interest in students, the indiscipline rampant among them could be curbed.

148 VERMA M: Job-liking among teachers. Journal of Education and Psychology 1972, 29(4), 268-71. 6 ref.

The following two hypotheses were tested: 1) there is much difference between points of likings of primary school, intermediate colleg and degree or postgraduate college teachers for their own job; 2) as far as points of liking among teachers for their own job is concerned, sex differences have no importance. An open-end question "what are the points of your liking for your own job?" was given to a random sample of 300 teachers in Uttar Pradesh. The analysis of the answers showed that the variance in the points of liking between the teachers of various levels was only partial, and that sex differences were not important.

TEACHING METHODS

149 BUCH M B, SANTHANAM M R: Sex of the teacher as a factor of teacher classroom behaviour. Indian Educational Review 1971, 6(2), 47-66. 8 ref.

The study was undertaken to find out the relation, if any, between the sex of the teacher and the teacher's classroom behaviour. Flanders' ten-category system of observation was used. The sample consisted of 16 male and 16 female teachers teaching science in the upper primary schools of Madras. Every teacher was observed for two spells of 30 minutes each. Separate matrices were prepared for each teacher. Two master matrices, one for each sex, were prepared through the process of cell-by-cell addition, and Darwin's Likelihood Ratio Criterion Test, meant for verifying the significance of interdependence amongst category sequences, was done for the two master matrices. On t-tests, significant differences were found between male and female teachers in respect of: a) their capacity to generate student talk, b) their questioning ratio, and c) their content emphasis.

150 GAIND D N: Student participation in the teaching of history. NIE Journal 1971, 5(5,6), 40-3.

Teaching of history at present emphasises more on the political and military aspects of history rather than on social, economic and cultural aspects. The purpose of teaching history is to deepen man's understanding of the past societies and the process of change, and to develop a

right perspective. The objectives of teaching history are: 1) to acquaint pupils with the nature of history as a dynamic process and as a course of continual process of development; 2) to enable the pupils to form the right view and opinion on controversial issues; 3) to foster national integration and international understanding; 4) to give students a sense of time and chronology and a knowledge of how historians work and form judgements. The students should acquire all the skills which are appropriate to the above objectives. Student participation in the teaching process is essential to achieve the above objectives. Through student participation, learning is vicariously acquired and shared. The teacher does not lecture but causes learning. The pupils have to be trained for purposeful self-study and group participation. The teacher has to direct the discussions, organize responses of pupils and give suggestions on the use of resource-materials. Thoughtful planning of student participation is essential.

151 JAIN R L: Ucca-śikṣā evam vyākhyān pranāli (= higher education and lecture method). / Hindi /. Naya Shikshak (Teacher Today) 1971, 14(2), 28-35.

The lectures are mainly of three types viz: 1) inspirational, 2) didactic, and 3) inspirational-cum-didactic. Questions by students should be encouraged during and after the lectures. Mere repetition of the matter given in the text-books will make the lecture 'boring' and library would serve this purpose better. Since library reading is lifeless, lecture compensates it by giving new knowledge to pupils in effective style, by associating elements of knowledge with relevant facts, and only then lecture method can be superior to Seminar or tutorial methods. Students can grasp knowledge by lectures easily and quickly if the lecturer takes adequate pains for preparation and presentation of his subject matter. He should make best use of his personality to create interest in pupils for the subject. He should present the matter systematically, methodically, well organised, related to day to day life events, keeping in view the mental and educational background and capacity of the students. Blackboard and suitable aids and equipment may be used to create and preserve interest of pupils. Lecture can be best delivered if based on lecture notes or synopsis. Language of the lecture should be impressive, attractive, inspiring and thought-provoking. Time factors should carefully be kept in view. Style of expression should be natural, artificiality and mannerism be avoided. Tension be also avoided and the lecturer should satisfy himself that the students' interest and understanding is there. Humour on suitable occasions gives life to the lecture. The lecturers should observe the lectures of senior staff

members and should learn from them regarding style and delivery of the subject matter. These facts will go a long way to improve the lecturer and help in the educational development of pupils.

152 MEHAR Y S, MARIHAL V G: KUCE plan of teaching larger classes through unit method of teaching. Journal of the College of Education, Karnatak University 1971, 8(2), 52-65. 13 ref.

The Karnatak University College of Education (KUCE) plan intended to teach the academic subjects to large classes through group activities with due emphasis on 1) group leader, 2) reference material, and 3) intergroup discussions has been briefly described and a study has been made to examine the effectiveness of the plan. A group of 104 pupils drawn from standard VIII, sections A and C, of the New English School, Alnavar formed the sample for the study. A pre-test in geography based on the portion done in standard VII was administered to the subjects. Three units of a geography lesson were taught through KUCE plan of teaching to each section by rotation for a period of one month. Thus VIII (A) and (C) classes acted as control groups twice and as experimental groups twice. The control group was taught through conventional method and the experimental group through KUCE plan. A post-test was then administered to both the sections. The work-oriented nd the work avoidance behaviours of pupils were recorded and analysed. The results showed that KUCE plan of teaching was more effective than the traditional method of teaching.

153 NARAYANA SWAMY K, PATTED G M: Diagnosis and remedial teaching with reference to a unit of high school algebra (Unit: Directed numbers). Journal of the College of Education, Karnatak University 197 , 8(2), 7-15.

Keeping in view the objectives of teaching the subject and the unit, a diagnostic test containing 22 examples was constructed and administered to 42 girls studying in IX standard of the Basel Mission Girls High School, Dharwar. Based on the analysis of the answer scripts, remedial programme was devised and executed. Soon after the remedial teaching the pupils were given another test and the answer sheets assessed. The efficacy of the remedial teaching programme was examined by comparing the pre-test and post-test. A month later, another test similar in pattern to the first two, was administered to know the retention of the knowledge

derived by pupils from the remedial teaching. Analysis of the data reveals that: 1) the pupils have not understood clearly the concept of directed numbers; 2) the rules regarding the operations involving directed numbers are also not clearly understood by the girls; 3) the students did not follow the sequence in attempting examples involving two or more operations; 4) majority have not developed the ability to apply the knowledge of directed numbers in solving simple problems of daily life; and 5) the remedial teaching programme has, however, helped in reducing their difficulties in understanding the unit i.e. directed numbers.

154 NARENDRA NATH: Study of the effect of training in interaction analysis on the behaviour of student teachers. Journal of Educational Research and Extension 1971, 8(2), 85-90.

A sample of 24 B.Ed. women teacher trainees teaching social studies to classes VIII and IX of a rural high school was selected and divided into two equal groups, experimental (group A) and control (group B). Flanders 10 category system of classroom interaction tool was used for measuring the verbal interchange between the teacher and his pupils. Using this tool a pre-test was made by observing the lessons of each of the 24 student-trainees. Later, the student teachers in the experimental group were given training in the interaction analysis for 6 days and were acquainted with the theory and practice of interaction analysis as used by Flanders. They were also given practical training in observing the lessons, preparing the matrices and interpreting them. The estimates of two more observations of both the groups were made. Separate matrices were drawn for each teacher of control and experimental group. The analysis of the matrix revealed the following findings: 1) the initial behaviour of both the groups was almost identical; 2) the experimental group showed an improvement in the student talk and a decline in the amount of silence and confusion during the post-training period, whereas in the control group there was no improvement; 3) training in interaction analysis had a positive and significant impact on the behaviour of student teachers; 4) teachers' orientation to student responses had increased more in the experimental group than in the control group; 5) pupil initiative ratio in the experimental group rose to about three times the initial observation, whereas there was no rise in the control group.

155 NIGAM M N: Cartography in modern geographical education. Rajasthan Board Journal of Education 197 , 7(3), 26-30.

The schools should equip the students with such knowledge and abilities as will enable them to understand the information presented by the mass media of information - newspapers, youth journals, radio and television. This article is concerned with what is expected from school instruction in geography and how such expectations can be realised. In this regard, a project was undertaken in Prague Research Institute for Geodesy and Cartography in 1967 and 1968. An examination of the contents of mass media revealed that a fair amount of geographical information (7% to 11%) is presented through these media. When the geography curriculum of elementary and secondary schools was examined, it was found that the textbooks for elementary schools could explain only 49 to 61 per cent of all geographical notions presented through the mass media, that the textbooks of secondary schools could explain only 51 to 65 per cent of the notions, and that through the existing school atlases the pupils could obtain 62 to 78 per cent of those notions. It was ascertained that the pupils' skill in map reading and independent work with maps had to be developed far more than what is being done at present. The three basic requisites to be fulfilled in order to bring about geographical orientation in education are: 1) provision of necessary maps; 2) enabling pupils to acquire geographical information by the independent reading of maps of various descriptions and for various purposes, primarily school maps, topographical maps, technical and general purpose maps; 3) provision of appropriate system of cartographic teaching aids that will help the implementation of the above-mentioned two points.

156 OM PARKASH: Forms and ways of student participation in the teaching of history. NIE Journal 1971, 5(5,6), 44-6.

Student participation to be effective and educationally purposive must be in terms of the objectives of teaching history. The objectives may be in both the cognitive and the affective domains. The student participation may be as an individual or in groups. The teacher needs to provide for different activities, either of an intellectual or manipulative kind. The activities must flow from a specific content and must reinforce, support or illustrate specific concepts or facts of history. In selecting the activities, the teacher must be guided by the educational objectives as well as the available resources. The emphasis would have to be on understanding and application rather than on memorization and reproduction of facts. Some examples of individual and group activities, and topics for group discussion have been

given. Student participation can be both inside and outside the classroom. Student participation is to be realistic. This imposes a great responsibility on the teachers. Teachers must plan very carefully.

157 RAMAN NAIR R: Education for creativity. Kerala Journal of Education 1970, September, 54-60. 2 ref.

The need for fostering creativity among children has been emphasized in view of its importance in developing one's own personality as well as in the scientific, technical, political, economic, moral and social development of the mankind. The present educational system with its overemphasis on uniformity and conformity, text-book-centered curriculum, and stereo-typed techniques of evaluation is not suitable for the pupose. The schools should recognize the importance of creativity and accordingly modify the educational objectives, teaching and testing methods. The most important factor in developing creativity is a permissive atmosphere which includes freedom from pressure and an encouragement of self-initiated activity. The role of a teacher in this context is very important as he should tolerate and encourage a certain amount of departure from tradition, and also learn to teach creatively many things now taught by authority. It is, therefore, necessary that educational authorities should also encourage creative teachers, and allow them the necessary freedom.

158 SANTHANAM M R: Sex differences across some behavioural dimensions of teachers in teaching of mathematics. Mathematics Education 1972, 6(1), 3-5. 6 ref.

The present study was made on a sample of 16 male and 16 female teachers of primary and upper primary schools in the city of Madras with the use of Flander's ten-category Interaction Analysis System. It was found that 1) the female teachers asked questions to a greater extent than the male teachers; 2) the female teachers exhibited greater response behaviour than their male counterparts. Further research on larger samples and covering differing areas has been suggested to verify the above results, which are not very strongly supported on statistical verification.

159 TICKOO M L: Methodology for foreign language teaching in India – the case for experiment. Indian Educational Review 1971, 6(2), 1-10.

Very little of what has become accepted as part of contemporary methodology for foreign language teaching in India has the support of research and experiment based on actual situations of use. In the absence of scientific support, two sources: 1) individual 'success stories', 2) the wartime experiments in the Western World, are depended upon for useful ideas and innovations. It is argued that both, though very useful, have their limitations. There is need for new researches which satisfy the following minimum essentials: 1) they should be carried out in the schoolrooms and with full recognition of indigenous needs and limitations; 2) they should be carried out on a scale large enough to represent the variations within the system and covering all aspects of language teaching methodology; 3) they should be adequately controlled in terms of as many variables as possible; 4) they should utilise both pre-tests and post-tests which are reliable as well as valid; 5) each of them should last at least three years. Since dependable researches require big investments, it is important to pool together the separate meagre resources of all those involved in 'foreign' language teaching in the country.

160 UDAI PAREEK, VENKATESWARA RAO T: Behaviour modification in teachers by feedback using interaction analysis. Indian Educational Review 1971, 6(2), 11-46. 37 ref.

A ten-day training was given to a group of nine teachers. They were taught about Flanders' technique, and the teachers practised coding classroom interactions on Flanders' technique. The classroom interaction patterns of each of the teachers coded by trained observers earlier to the course were fed back to them. On giving such feedback the teachers interpreted their own as well as the other trainees' classroom interaction behaviour categories and set goals for self-improvement. Post-training observations of the trained teachers as well as a group of untrained teachers at different periods revealed that after the training the teachers started using more of indirect patterns of interaction, i.e. praising, encouraging, accepting and clarifying ideas, etc., with their students. It will be useful for teacher education institutions to impart training on interaction analysis to the trainees.

131 DHAPLA T S: Effectiveness of TAT as a measure of aggression, a review. Indian Journal of Psychology 1971, 46(4), 319-28. 17 ref.

The following three points have been considered in reviewing the position of TAT as a measure of aggression: 1) how far the test is suitable to assess the aggression likely to be reflected in one's behaviour; 2) what are the factors that account for variance between fantasy aggression and behavioural aggression; 3) what problems for further investigation in the area emerge. From the survey of a number of studies, it has been inferred that 1) mostly, the correlation between fantasy aggression in TAT and behavioural aggression is positive, but it is not high, and 2) contrary to the notion that projective techniques reveal only those trends which the subject, if willing, can verbalise. Some of the factors which influence the relationship between TAT variables and overt behavioural variables are a) the area of aggression, b) the cards used, c) the scoring system adopted and the population. The Rorschach and TAT can distinguish between extremely aggressive and extremely non-aggressive groups, but evidence for finer discriminations is equivocal. If it is possible to assess n-aggression with TAT in combination with any other short-term verbal enquiry technique, certain problems could be investigated, a list of which is given.

162 JAI PRAKASH, GUPTA J S: Attainment test in general science for class VIII (in Hindi). Manas 1971, 18(2), 91-6.

An achievement test in general science was constructed and standardized for the students of Class VIII in Uttar Pradesh. The first experimental draft consisted of 230 items covering the courses of VI-VIII. However, only 140 items of class VIII were found satisfactory and included in the final draft. The test being a Power Test, 90 minutes was considered as the appropriate time limit. The printed test was finally administered to a large and well representative sample of 1602 students of Uttar Pradesh. Reliability of the test was computed by the Split-Half Method both by Guttman's and Spearman Brown Prophecy formulae. The reliability coefficients by the two formulae were t.54 and t.96, respectively. Validity of the test was established by correlating test marks with school marks and coefficient of validity of each school was separately calculated. The coefficient of validity of the total population was also computed and found to be .501. As the sample on which the test had been tried was large and the results obtained balanced, the test can be considered reliable and satisfactory.

163 SACHDEVA D: Multiple comparisons in analysis of variance. Indian Journal of Applied Psychology 1972, 9(1), 38-43. 5 ref.

The two linear contrast procedures presented in this paper, one proposed by Scheffe and the other by Tukey provide a valuable key to the problem of isolating the significant source of variation among means that lead to the rejection of null hypothesis through the use of ANOVA (Analysis of variance) technique. Numerical examples have been given to show the mechanics of these statistical procedures.

164 SANTHANAM M R: Time line display of classroom interaction analysis. Journal of Educational Research and Extension 1971, 8(2), 69-84. 4 ref.

Flander's classroom analysis categories, displaying the numbers obtained from categories on a ten by ten matrix, studying significant areas of interaction, interpreting, the results from the matrix have been described. 'The time line display' method has been advocated to overcome the two drawbacks associated with the Flander's matrix construction, namely the 'tedium' going with matrix construction and the 'limitation' of reconstruction of an observed event during 'decoding' stage. The advantages of the time line display technique over that of matrix have been pointed out.

165 SHUKLA A N, SOHAL T S, GUPTA J P: Similitudinal study of Gausset t-test, Edwards 25-D, t HL-test, Edwards and Kilpatricks scale discrimination r-phi, biserial coefficient, point-biserial coefficient and guilford's phi coefficient for item analysis in the construction of summated rating scale. Indian Journal of Psychology 1971, 46(4), 329-40. 25 ref.

The purpose of the study is to investigate empirically the relative efficiency of Gausset t-test, Edwards 25-D, t HL-test, Edwards and Kilpatrick's scale discrimination r-phi, biserial r, point-biserial r, Guilfords phi coefficient and Mean score for item analysis. A list of 52 raw statements was prepared to construct a Likert type scale. This scale had been designed to measure the attitude of the postgraduate students towards the concept of extension education. The list of raw statements was administered to 21 judges and their judgements were processed for selecting the statements. The judgement was taken on a five-point scale. The judgement scores of 21 judges were tabulated and processed by calculating the above-mentioned seven constants. Coefficient

of concordance along with F-test and rank correlation coefficients were computed to measure the degree of agreement among the aforesaid seven techniques for item-analysis and inter-relationship between two item-analysis coefficients. It has been concluded that for the set of items used, the choice of biserial, point-biserial coefficients for item-analysis would yield the same rank ordering of the units. Due to perfect linear relationship between rbi and rpbi, any of these correlation coefficients can be used successfully for item-analysis in order to achieve equivalen. precision and accuracy. Besides rbi and rpbi, it is discerned that scale determination rphi and Edwards 25-D tHL-test also yield reliable results in the analysis of item's validity.

166 SUKUMARAN NAIR A: Effect of correction for guessing on Raven's Test Scores and on the predictive and concurrent validity of the test. Kerala Journal of Education 1970, September, 37-43. 9 ref.

The study was conducted on a random sample of 250 boys and girls of classes VIII - X drawn from a State-wide sample of 1320 students of Kerala, used for another study. The Standard form of the Progressive Matrices Test, the Kerala University Verbal Group Test of Intelligence, and the total school marks obtained by the subjects in the class examinations immediately preceding the study were used. It was primarily intended to study how correction for guessing, when applied to the Raven's Progressive Matrices Test, affects the mean of the score group, the ordering of the scores, and the predictive and concurrent validities of the test. The study revealed that - a) the size of the score group (as measured by the mean) was significantly altered by correction, b) the relative ordering of the scores was not considerably changed by correction, c) the predictive validity was not significantly affected by correction, and d) the concurrent validity was significantly affected by correction. Thus, on the whole, the study reveals that correction does not improve the validity of the Progressive Matrices Test. On the contrary, there are indications that uncorrected scores are superior or as good as corrected scores for the different functions indicated in the study. Correction for particular tests should be evolved on the basis of empirical evidence in relation to the functions they are expected to perform.

167 TUTOO D N: Psychodiagnostic applications of the mirror tracing test. Indian Educational Review 1971, 6(2), 293-303. 49 ref.

The history of the mirror-tracing test has been recounted and the researches on it have been discussed in an attempt to assess the potentialities of the test in diverse fields and to arrive at an objective assessment of the assets and liabilities of the test in psychological and educational research.

List of Periodicals Abstracted

Allahabad Farmer 1971: V 45, No 2
Economic and Political Weekly 1972: V 7, Nos 5-8, 10
Educational Miscellany 1969-70: V 6, Nos 3, 4
Indian Educational Review 1971: V 6, No 2
Indian Journal of Adult Education 1972: V 33, Nos 2, 3
Indian Journal of Applied Psychology 1972: V 9, No 1
Indian Journal of Experimental Psychology 1972: V 6, No 1
Indian Journal of Psychology 1971: V 46, No 4
Indian Journal of Social Work 1971: V 31, No 4; V 32, No 2
Journal of the College of Education, Karnatak University 1971:
V 8, No 2
Journal of Education and Psychology 1972: V 29, No 4
Journal of Educational Research and Extension 1971: V 8, No 2
Journal of Family Welfare 1971: V 18, No 2
Journal of the Mysore State Education Federation 1972: V 25, Nos 9-11
Kerala Journal of Education 1970: September
Manas 1971: V 18, No 2
Manpower Journal 1971: V 7, No 3
Mathematics Education 1972: V 6, No 1
Monthly Bulletin, Madras Institute of Development Studies 1971:
V 1, Nos 10, 11
NIE Journal 1971: V 5, Nos 5, 6
Naya Shikshak (Teacher Today) 1971: V 14, No 2
New Frontiers in Education 1971: V 1, No 3
Publishers' Monthly 1972: V 14, No 2
Quest in Education 1972: V 9, No 1
Rajasthan Board Journal of Education 1971: V 7, No 3
Seminar 1972: No 149
Teachers' Journal 1972: V 6, No 2
University News 1972: V 10, Nos 1, 3

Newspapers:

Bharat Jyoti: 26 March 1972
Economic Times: 18 February; 19 March 1972
Free Press Journal: 15 February 1972
Hindu: 2, 8, 15, 22 February; 22, 26 March 1972
Hindustan Times: 2, 23 January; 9, 13, 16, 17 February 1972
Mail: 22 February; 4 March 1972
National Herald: 10, 17 February; 9 March 1972
Searchlight: 13 February 1972
Statesman: 22, 26 February 1972
Times of India: 2 January; 2, 5, 17, 28, 29 March 1972
Tribune: 2 March 1972

SPECIAL SECTION

TECHNICAL EDUCATION - I

A1 ALL INDIA COUNCIL FOR TECHNICAL EDUCATION. SPECIAL COMMITTEE FOR COMMERCE EDUCATION. Report. New Delhi, Ministry of Scientific Research and Cultural Affairs, 1961. 148p.

The following are some of the important recommendations for the improvement of commerce education in the country: 1) there should be a post-matric two-year diploma course in commercial practice; 2) commerce as a group should be taught only in the 11th class and not earlier, and this should consist of only two subjects, commercial geography and elements of book-keeping; 3) specialisation in one or the other branch of commerce would begin only at the postgraduate stage and that there would be no place for optional groups at the B.Com. level; 4) M.Com. course should be so designed as to train specialists for employment in business and industry as well as in the academic profession; 5) business administration should be treated as a separate discipline and be allowed to develop in the university but with sufficient freedom and flexibility; 6) some measure of coordination should be established between the universities and the professional institutions; 7) it may be desirable to have practical training for M.Com students after the completion of academic instruction; 8) there should be part-time teachers drawn from professions for subjects like accountancy, taxation, law, etc. but their number should be restricted; 9) there is need for a well-organised scheme of practical training for commerce teachers; 10) commerce workshops should be established in all commerce departments of universities; 11) teaching method should include tutorials, discussions, case study, project work, etc.; 12) an All India Council for Commerce Education should be set up.

A2 CHANDIRAMANI G K: Technological education in India. New Delhi, Ministry of Education, 1956. 20p.

Discusses i) the position before and after 1947, ii) the information of All India Council for Technical Education, its scope and functions, its recommendations, iii) establishment of the Indian Institute of Technology, Kharagpur, iv) International aid, v) Indian Institute of Science, Bangalore, vi) implementation of schemes regarding the provision of practical training stipends, Research Training scholarships, and vii) the improvement of postgraduate science departments in the universities, non-governmental institutions, and viii) the development under the Five-year plans. A list of 30 subjects and the names of institutions where courses are being organised is given. Position regarding management studies is also discussed.

A3 CHANDRAKANT L S: Technical education in India today. New Delhi, Ministry of Scientific Research and Cultural Affairs, 1963. 107p.

The following are the chapter headings of the book: 1) introduction, 2) technical education, its structure, 3) technical institutions, their nature, 4) higher technological institutes, 5) planning for technical manpower, 6) technical education, its administration, 7) financing technical education, 8) practical training, 9) technical teacher, 10) technical student, 11) role of professional societies, 12) technology and the man. The appendix includes the list of technical institutions of postgraduate, first degree and diploma courses as in 1961.

A4 CHANDRAKANT L S: Technological education at Indian universities. Education Quarterly 1957, 9(34), 151-8.

A Committee appointed by the Government of India to review the system of polytechnic education in the country recommended that new polytechnics should not be established at least for the next five years. The Committee consisted of technical experts from India and foreign countries including the U.S., the U.K., Japan and West Germany. The Committee has said that the position in regard to the intake capacity of existing polytechnics may be reviewed after three years and necessary changes may be made to meet the actual needs. The programmes of technical education and training should be drawn up in an integrated manner with the cooperation of industry. The major concern of polytechnics should be to run regular diploma courses for the technicians and at the same time organise a variety of short-term and part-time courses for craftsmen and technicians in service. Part-time courses should be started at the initiative and with the cooperation of industry so as to benefit persons working in the local industry. The minimum academic qualification for admission to a course should be a pass in the pre-university or higher secondary course or its equivalent. Polytechnic education should develop in the students practical skills through laboratory work, workshop practice and project work.

A5 CHARI M S V: A scheme of post-secondary vocational education. Progress of Education 1955, 30(4), 127-8.

Introduction of craft in higher secondary school stage, though a step in the right direction, will not be sufficient for a student to get gainful employment. The author, therefore, recommends the establishment of post-secondary vocational schools, covering a period of 3 years. Considers also the cost aspect of the scheme and suggests a curriculum.

A6 CHOPPE K C: Progress of technical education in India and the need for modification in the existing curricula. Journal of Association of Principals of Technical Institutions 1955, 8(3), 216-18.

Technical education started in this country over a century ago, the progress had been very slow until the Second World War gave a great impetus to it. A further impetus came with Independence. The following are discussed: 1) the role of the All India Council of Technical Education and the Association of Principals of Technical Institutions in setting a standard for technical institutions, 2) the All India Examinations called National Diploma and National Certificate examinations, and 3) the Central part-time courses. Suggestions for future development have been made.

A7 COMMITTEE ON POSTGRADUATE ENGINEERING EDUCATION AND RESEARCH: Report. New Delhi, Ministry of Scientific Research and Cultural Affairs, 1962. 63p.

The following are some of the important recommendations made for the development of postgraduate engineering education: 1) the introduction of five-year integrated course provides a good opportunity to improve the science content of degree courses and therefore full-fledged departments of physics, chemistry and mathematics should be established in all engineering colleges; 2) these science departments may conduct master's degree courses in science and enrol students for Ph.D degree in science; 3) selected institutions may be allowed to conduct 3-year engineering course for science graduates; 4) there may be two types of postgraduate courses, diploma and master's degree; the diploma courses will produce the specialist personnel required to man the industry; the master's degree course will produce the personnel required to undertake research and make fundamental contribution; 5) in certain fields of technology such as advanced electronics, metallurgy, etc. the postgraduate courses should also be opened to master's degree holders in the appropriate branches of science; 6) a radical change in the staff structure and

recruitment and promotion policy is required in order to strengthen the teaching staff of engineering colleges; 7) there should be close cooperation with industry; 8) the personnel in the industry and the teachers of first degree engineering colleges should be encouraged to undergo postgraduate courses; 9) in the course of next five years facilities may be created for 1250 seats in master's degree courses, about 500 seats in diploma courses, and about 100 seats for Ph.D.; 10) post-graduate and research students may be encouraged to undertake part-time teaching work; 11) a Board of Postgraduate Studies in Engineering and Technology should be set up under the aegis of the All-India Council for Technical Education.

A8 INDIA. CENTRAL ADVISORY BOARD OF EDUCATION. Post-war educational development in India / Sargent Report /. Report. Delhi, Manager of Publications, 1944. 92p.

The Central Advisory Board of Education (CABE) set up committees to study various aspects of education in order to provide India with a system of education comparable with that available in other countries. With regard to technical, commercial and art education the Report makes the following observations: 1) in view of the prospective needs of post-war industry and commerce for skilled technicians and in order to cater for the aptitudes of those who will derive greater benefit from a practical course, the establishment of an efficient system of technical education at all stages is a matter of great urgency; 2) due regard should be had to the recommendations of the Abbot-Wood Report (see IEM 1972, Vol.7, No.1 Abst. No.A12) in respect of the scope and content of technical instruction; 3) the estimated gross annual cost of the proposals will be approximately Rs.100 million and the net cost Rs.80 million.

A9 INDIA. CENTRAL ADVISORY BOARD OF EDUCATION. TECHNICAL EDUCATION COMMITTEE: Report.....together with the decisions of the Board thereon. Delhi, Manager of Publications, 1946. 37p.

The Committee was appointed by the Board to explore ways and means of developing facilities for technical education in the country as a whole. The following are the recommendations: 1) a comprehensive system of technical education at all stages should be planned; 2) the function of technical education should be: a) to meet the needs of industry and commerce; b) to develop the natural abilities of students by instruction on practical lines; 3) technical education

should be an integral part of the educational system; 4) education from the earliest stages should be given a practical character; 5) technical education should include commercial education and art in relation to industry; agricultural education should be regarded as a branch of technical education; 6) junior technical or industrial or trade schools and technical high schools should provide full-time instruction preparatory to employment; senior technical institutions should provide part-time instruction for those already in employment; 7) technical institutions should be located in or near industrial and commercial areas, but admissions to them should be on an all-India basis; 8) technical high schools, junior technical, trade or industrial schools should be administered by provincial governments, but beyond this stage, except those conducted in the technological departments of universities, technical education should be placed under a central body.

A10 INDIA. CENTRAL BUREAU OF EDUCATION. Development of higher technical institutions in India (interim report of Sarker Committee). Simla, the Bureau, 1946. 45p.

The Committee were of the opinion that the then existing facilities for higher technical education in India were inadequate both in quantity and quality to satisfy India's post-war needs of high grade technologists. The Committee made the following recommendations: 1) not less than four higher technical institutions, one in each of the zones of the country is necessary to satisfy the post-war requirements; 2) the one in the East should be set up at or near Calcutta at an early date; 3) establishment of the institution in the Western region should be in or near Bombay and should be taken in hand concurrently with that in the East; 4) to satisfy the immediate needs for engineers generally and for those with specialised training in hydraulics in particular, the engineering nucleus of the institution in the North should be set up without delay; 5) to ensure the proper planning of buildings, equipment and courses of study, the principal and heads of the main departments of these institutions should be appointed and the services of an architect with experience in planning of technical institution secured at a sufficiently early stage.

A11 INDIA. DEPARTMENT OF EDUCATION. SELECTION BOARD, OVERSEAS SCHOLARSHIPS, 1945: Report.....for the selection of students for higher technical education overseas. Delhi, the Manager of Publications, 1945. 38p.

The origin of the scheme has been mentioned. The general principles that should govern the selection of students and the procedure of selection have been listed. The following recommendations have been made: 1) to ensure public confidence and to maintain fair treatment of the minority community, the work of selection should be handed over to the Federal Public Service Commission. The staff of the said Commission should be strengthened for the purpose; 2) modern methods of selection should be employed and for this, the experience of the selection of Personnel Directorate should be utilised; 3) there should be an agreement with provincial governments as to the general lines of selection in order that uniformity of standards may be secured; 4) arrangements should be made to analyse the results of each selection and thus help universities to equate their standards; 5) the need for provincial advisory bureaux is great and there should be a close liaison with government agents abroad.

A12 INDIA. DEPARTMENT OF EDUCATION, HEALTH AND LANDS: Report on vocational education in India (Delhi, Punjab & U.P.) by A. Abbott with a section of general education and administration by S.H. Wood / Abbott and Wood Report /. New Delhi, Publications Division, 1937. 138p.

The main recommendations with regard to vocational education are: 1) the expansion of vocational education should not greatly outstrip the development of industry; 2) general and vocational education are not to be regarded as essentially different branches, but the earlier and later phases of a continuous process, each subject in the vocational school has its origin in the non-vocational school; 3) vocational education must be based on an adequate general education; the entrance standard should not, as a rule, be below that reached at the end of the middle school (Class VIII); Pupils from this stage can be admitted to junior vocational schools; pupils who have successfully completed the higher secondary school course can be admitted to senior vocational schools; 4) the junior vocational school, receiving its pupils at the end of Class VIII and providing a three year course, would be paralled to the higher secondary school; the senior vocational school, receiving its pupils at the end of Class XI and providing a two-year course, would be parallel to the higher secondary school; 5) part-time schools should be provided for the further education of young men already in employment; 6) a limited number of higher secondary schools should have an agricultural bias; 7) the Government should establish a vocational training college, working in close association with an ordinary training college.

A13 INDIA. LOK SABHA ESTIMATES COMMITTEE (1957-58). Tenth report, Ministry of Education and Scientific Research, Technical education Pt.I. New Delhi, Lok Sabha Secretariat, 1958. 60p.

The pattern of technical education in Europe, training of engineers in the USSR, the development of scientific and technical education in the USA have been briefly discussed. The growth of engineering and technical education in India has been analysed and recommendations have been made on: 1) the programmes undertaken during the First Five Year Plan; 2) problems of technical education; 3) need for priorities; 4) specialised courses; 5) personnel needs of the Second Plan; 6) participation by private agencies; 7) employment position of technical personnel; 8) Directorate of Manpower in the Ministry of Home Affairs; 9) the staff position in engineering and technical institutions; 10) the services of foreign experts; 11) the standard of equipment; 12) buildings for technical and engineering institutions. The scope, constitution and functions of All-India Council For Technical Education have been examined.

A14 INDIA. LOK SABHA ESTIMATES COMMITTEE (1957-58): Fifteenth report, Ministry of Education and Scientific Research, technical education. Pt II. New Delhi, Lok Sabha Secretariat, 1958. iv, 75p.

The scope, composition and the functions of the Indian Institute of Technology (Kharagpur), the Delhi Polytechnic, the School of Town and Country Planning (Delhi), have been discussed and recommendations have been made on their admission policies, courses of study, staff facilities, finance and accounts, etc. Territorial jurisdiction, finance and budget and functions of Assistant Educational Advisors of the four regional offices at Bombay, Calcutta, Madras and Kanpur of the Ministry of Education have been discussed. The functions of State Boards of Technical Education have also been dealt with. The importance of technical schools, technical training schemes of the Ministry of Labour, and the need for coordination have been stressed for the technical training at the pre-matriculation stage.

A15 INDIA. MINISTRY OF COMMERCE AND INDUSTRIES. SMALL SCALE INDUSTRIES BOARD. TECHNICAL TRAINING COMMITTEE: Report. New Delhi, the Ministry, 1957. 91p.

The Committee was directed to examine and report on short-term and long-term measures to be taken for the training of skilled workers and supervisors for small industries. The following recommendations have been made: 1) to meet the needs of small industries sector during 1958-61, 6.35 lakh persons should be trained for skilled and semi-skilled jobs; 2) the National Council for Training in Vocational Trades (NCTVT) should examine the possibility of expansion of institutional and training programme to provide additional 20000 seats under the Directorate General of Resettlement and Employment (DGRE) programme for training certificate holders for the years 1958-61; 3) a planned and properly organised programme should replace the unorganised training arrangements at factories; necessary facilities should be provided to factories for this purpose; 4) programmes for apprenticeship training should be expanded to the extent of 5% of the labour for the years 1958-60 and upto 11.5% for 1960-61 under the guidance of the NCTVT; 5) the period of training may be brought down from 2½ years to 2 years to meet the exigency; 6) factories should be assisted to set up separate sections for training with additional equipment and qualified staff attached to the production workshops to enable them to accept apprentices upto 11.5% of their labour force; 7) the NCTVT should prepare a phased programme for training instructors; 8) day or evening classes should be opened for apprentices to acquire knowledge of theory of their crafts; 9) immediate programmes of apprenticeship training should be started at the common Facility and Pilot Workshop attached to the small industries organization of the Ministry of Commerce and Training; 10) the NCTVT should in consultation with the Planning Commission assess the probable requirements of workers in different trades for the Third Plan period and make arrangements for their training.

A16 INDIA. MINISTRY OF SCIENTIFIC RESEARCH AND CULTURAL AFFAIRS: Report on the further expansion of technical education in the Second Five Year Plan. New Delhi, the Ministry, 1958. 48p.

After the formulation of the Second Five Year Plan, the Engineering Personnel Committee appointed by the Planning Commission felt that the envisaged expansion of technical education during the Plan period would not be adequate to meet the demand. The Committee proposed 18 more engineering colleges and 62 more polytechnics to be opened. However,

subsequently, Ghosh-Chandrakant Committee appointed by the Ministry of Education and Planning Commission, in its report (1957) selected 19 existing engineering colleges and 50 polytechnics for further expansion to meet substantially the anticipated demand. This recommendation of the Ghosh-Chandrakant Committee was endorsed by the Technical Manpower Committee of the Cabinet. The following are the chapter headings of the report: 1) introduction, 2) present position and anticipated provision, 3) parity or equity among regions, 4) need for additional colleges and polytechnics, 5) location of new colleges and polytechnics, 6) general principles for new colleges, 7) general principles for polytechnics, 8) course-wise distribution, 9) financial estimates, 10) administrative aspects.

A17 **INDIA. MINISTRY OF SCIENTIFIC RESEARCH AND CULTURAL AFFAIRS:** Report on technical education in the USSR. New Delhi, the Ministry, 1963. ii, 99p.

The Government of India appointed a three-man delegation to study the Soviet system of technical education. In the light of their study tour the delegation made the following recommendations for the improvement of technical education in India with particular reference to polytechnics: 1) there is need for integrating technical and general education, to formulate a uniform system for the whole country, and to correlate education and employment; 2) the diploma courses should be reorganised to permit more intense specialisation in specific subjects; 3) practical training in industry during the period of the course is essential to make the student a finished product; practical training in industry should be under the joint control of the institution and the factory concerned; 4) workshop training given in polytechnics should be production-cum-training type; 5) all polytechnics should have a liberal amount of visual aids; 6) attention is required to be given for teacher training and refresher courses; 7) part time and correspondence courses should be provided; 8) students who pass creditably from industrial training Institutes should be admitted to polytechnics and similarly diploma students to degree courses; 9) examination system should be modernised, and mothertongue adopted as the medium of education; 10) immediate steps are to be taken to publish standard textbooks and to produce other instructional aids; 11) a national institute of research in technical and vocational education should be immediately set up.

A18 INDIA. NATIONAL PLANNING COMMITTEE. SUB-COMMITTEE ON TECHNICAL EDUCATION AND DEVELOPMENTAL RESEARCH: Report. (In its general education and technical education and developmental research. National Planning Series. Bombay, Vora and Co., 1948. 97-156).

A national system of technical education and scientific research has been outlined. Technical education could occupy an intermediate stage after primary education or Basic education. A few suggestions have been given for the modification of the Wardha scheme. After primary stage, a regular sifting of students is to be made for diverting them to different lines. The 'continuation schools' where theoretical and technical training in arts and crafts are imparted should be of polytechnic nature. The training in these 'continuation schools' and apprenticeship should cover 3 or 4 years. Schools should be attached to industrial establishments imparting training to apprentices. Students not entering secondary schools are to continue in the continuation schools and such study should be free and compulsory. As for the higher technical education, the isolation between the teaching staff of engineering and technological institutions, industry and the government departments should be broken up. From the very start students in engineering colleges should get acquainted with large-scale industrial operations. All educational institutions at the university level should be equipped with men, machines and instruments for carrying out advanced research work.

A19 INDIA. PLANNING COMMISSION. COMMITTEE ON PLAN PROJECTS. BUILDING PROJECTS TEAM: Report on Industrial Training Institutes and Central Institutes. New Delhi, the Committee (Planning Commission), 1960. 20p.

As a number of Industrial Training Institutes (ITI) and a few Central Training Institutes were to be constructed in the Third Plan, the Buildings Projects Team of the Committee on Plan Projects, thought it desirable to study the space requirements, space planning and design aspects of the Institute buildings. For this purpose the team instituted a panel. The details of accomodation for ITIs were worked out by an ad-hoc committee appointed by the Ministry of Labour in 1957. The layout diagrams were examined in great detail by the panel and certain reductions in areas were effected by cutting out unnecessary circulation space and by rearranging the equipment wherever possible. The revised requirements of administrative building, workshop, hostel building, staff quarters etc. for ITIs are set out in section 1 of the report. Regarding Central Training Institutes, the panel had taken into account the extra requirements for the proper functioning of the institutes and laid down standards for administrative building, workshop and hostel building, etc. These are given in section 2. In section 3 and 4 the panel has dealt with the factors that should be taken into account in the planning and designing of these

buildings. Specifications to be followed for the different items of work in order to ensure uniformity in the pattern of buildings and for effecting economy consistent with functional requirements are outlined in section 5. Proforma for implementing the recommendations is dealt with in section 6.

A20 INDIA. PLANNING COMMISSION. PERSPECTIVE PLANNING DIVISION: Preliminary report on wastage in technical education. New Delhi, the Commission, 1959. 18p.

It was felt necessary to make a quantitative study of wastage occurring in the field of technical education. Questionnaire study conducted among 39 institutions of degree and diploma courses revealed the following: 1) out of 4116 fresh admissions considered in the 4-year degree course, the overall wastage was 19% (43% for chemical engineering, 36% for civil, and 23% for mining and metallurgical, etc.); 2) in the 3-year degree course the overall wastage was 20%; 3) two-thirds of the wastage was accounted for by students who discontinued after failing in examination; 4) wastage during the first year accounted for a substantial proportion of the total wastage; 5) overall wastage in diploma courses was as high as 36% (automobile engineering - 67%, electrical - 58%, civil - 48% and mechanical - 42%); 6) with regard to stagnation 40%-45% of students of 3 or 4 year courses completed the courses taking one or two years more than the required period; 7) wastage percentage differed widely between institutions; 8) the reasons for wastage were a) financial, b) inability to cope with the course, c) choosing other courses after initially attending the engineering course.

A21 INDIA. PLANNING COMMISSION. WORKING GROUP ON TECHNICAL EDUCATION AND VOCATIONAL TRAINING. Report. New Delhi, the Commission, 1960. v, 164p.

The working group and its sub-committees addressed themselves to the various problems of technical education in the country. Certain concepts and ideas of technical education and vocational training on which the Group has expressed its views, have been embodied in chapters II, III and IV which form an introduction to the subject. Chapter V gives an account of how educational facilities expanded during the Second Plan, and Chapter VI deals with the requirements in the Third and Fourth Plans and indicates the measures that should be taken for further expansion. Suggestions in regard to improvement and new ideas on patterns of technical education and vocational training have been stated in the form of recommendations in chapter VII. Financial implications have been worked out in chapter VIII and problems of qualitative improvement have been briefly touched upon in chapter IX. The optimum size of a college and polytechnic and their changing patterns have been discussed and due emphasis have been laid on part-time courses,

short-term courses and correspondence courses. The information and statistical data which the working group received from different Ministries, State Governments, etc. have been summed up in the form of tables in the body of the report.

A22 INDIA. UNIVERSITY EDUCATION COMMISSION (1948-49). Engineering and technology. (In its Report Vol. 1. Delhi, Manager of Publications, 1962, 218-56).

With regard to technical education, Radhakrishnan Commission recommended the following: 1) steps should be taken to improve the usefulness of the existing engineering and technological institutes according to the recommendations of the Advisory Panel of Engineers and Technologists to be set up; 2) the number of engineering schools of different grades be increased particularly for training foremen, craftsmen, draftsmen, overseers, etc.; 3) all engineering courses include general education, basic physical and engineering sciences, etc., and the first year of each course should be common to all branches; 4) practical work is important and it should be secured as work during vacation, or as postgraduate works training or as work and study programme during the undergraduate years; 5) wherever possible the existing engineering and technological colleges be upgraded for postgraduate training and research in selected subjects; 6) steps be taken to start without delay the higher technological institutes as recommended by the Higher Technological Education Committee; 7) possibilities should be explored to send engineering graduates to work in American industries and other institutions to secure know-how; 8) engineering education should stress on students becoming competent and self-reliant to promote individual enterprise; 9) engineering colleges should not be dominated by Government departments; they should be closely associated with universities; 10) the faculty of engineering and technology should include scientists, teachers of humanities and commerce and a number of practising engineers and technologists; 11) the University Grants Commission should be assisted by a Standing Advisory Panel for Engineering and Technology for disbursement of grants.

A23 INSTITUTE OF APPLIED MANPOWER RESEARCH, NEW DELHI. Manpower group survey, engineering manpower - analytical review of demand forecast methodology and provisional forecast of growth. Pts I & II. New Delhi, the Institute, 1963. 19p. 55p.

The first part deals with provisional forecast of growth which is intended to assist in making provision for engineering education in the Fourth Plan. An estimate is made of the growth which is likely to take place in the supply of engineering manpower during the Fourth and Fifth Plan period, as a result of all engineering institutions working on the basis of admission capacity which was

then planned to be installed during the Third Plan. An estimate of the prospective growth of demand for the engineering manpower during the Fourth and Fifth Plan periods is also made. A comparison leads to the conclusion that there should be an 'expansion - pause' for three years (1965-67). The process of expansion, it is suggested, can be resumed in 1968, and the pace of expansion is worked out. The second part of the study deals with demand forecast methodology. This contains a review and evaluation of forecasting methods adopted in India as well as in USA and U.K.

A24 MISRA N G: Technical education at secondary stage. Shiksha 1955, 8(1), 143-50.

Suggests that technical schools should be better started as separate and independent units. These schools should provide full facilities of extensive training in various arts and crafts and every person should have an access to them. Every technical high school should be equipped to cater to the needs of pupils right from the primary to higher secondary stage. Discusses also the problems of staffing and the likely expenses.

A25 Progress of technical education in India and needs for modification in existing curricula. Journal of Association of Principals of Technical Institutions 1956, 8(4), 252-4.

A symposium on the subject.

A26 VEDA PRAKASHA: Selection of children for secondary technical education at eleven plus. Delhi, Central Institute of Education, 1956. 27p.

The paper, submitted by the author to the Secondary Education Commission, evaluates the findings of the important researches carried out on the selection of children for secondary technical education, including a factorial study of his own. It is contended that there is very little evidence for practical factor at this age. Because of this as well as certain other compelling reasons, such as the desirability of taking into account a child's interests and attitudes, it is advisable to postpone the selection of children for secondary technical education till at least the age of 13 or 14, which is the earliest age when the factor in question can be expected to emerge somewhat more definitely.