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TEACHER EDUCATION IN INDIA DURING FIVE DECADES AFTER INDEPENDENCE : AN OVERVIEW

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A study of the development in teacher education during the five decades after independence in India was made by the author and it is proposed to present the main findings of this study together with some thoughts about future action in this paper The study was sponsored by the National Council for Teacher Education. Let us consider the teacher education programmes stage wise.

PRE-SCHOOL TEACHER EDUCATION

Teacher education for preschool stage has not developed to the extent that teacher education for other stages have developed for the simple reason that preschool education is not provided in government schools in most of the States. Nursery schools and Kindergarten classes are generally provided by private agencies. There is a scheme of Integrated Child Development Services (IGDS) *under* the Department of Social Welfare of the Government of India, under which Anganwadis are established for taking care of young children. But the focus of attention in this programme is the health of the child rather than its mental development. The anganwadi workers do not have proper preschool teacher education. However, there are many nursery schools and Kindergartens in urban areas *In* most of the States operate under private management. Pre-primary teacher training institutions, mostly under private management, generally offer a one-year certificate/ diploma course after higher secondary/high school certificate. The * National Council for Teacher Education, established under an Act of Parliament in **1**993, has recognised 43 pre-prirnary teacher training institutions till March 1998 and refused recognition to 9 institutions. It reports that there are 157 such institutions in the country out of which 113 had applied for recognition by March 1998. There is a need for developing a model curriculum for preschool teacher education which NCTE may prepare and send it to State Governments and examining

bodies. State Governments may set up examining bodies for conducting examination and granting certificate/diploma for pre-primary teaching, This would improve the quality of pre-primary teacher education in the country;

ELEMENTARY TEACHER EDUCATION

The total population of India has grown from 361.1 million in 1951 to 884.3 million in 1991 and is estimated to have crossed 1 billion by January, 2000. Thus, population has grown 2.8 times, We had a very low literacy rate of 18.33% of population aged 7 and above in 1951 which has increased to 52.21% of population aged 7 and above in 1991. This percentage has further increased by now. Enrolment of children aged 6* in Class-I of the primary schools has crossed 90% and is close to 100% of children of that age in many States. However, there is considerable dropout of children before they reach Class-V. The total enrolment of pupils in the primary and upper-primary schools increased from 16.15 million in 1947 to 131.10 million in 1995 which was more than 8 limes. The number of teachers employed in primary schools increased from 5,18 lakhs in 1950 to 20.13 lakhs in 1995. Thus, the number of teachers employed in primary schools increased four times. The provision for primary teacher education has also considerably increased The total number of trained primary teachers increased from 302 thousand in 1950 to 1714 thousand in 1996. While 58.38 per cent of teachers working in primary schools were trained in 1950,85 per cent of the teachers working in 1995 were trained. This percentage has crossed 90% by now, and in many States, has reached 100%.

The minimum educational qualification required for appointment as primary teacher was only up to Ciass-VH or Middle School level, before and in the early years after independence. This was considered inadequate and was raised to High School Certificate. During the last decade, this qualification has been raised to higher secondary school certificate in some states, although it continues to be secondary school certificate in many states. The primary teacher training course was of one year duration after secondary school certificate during the first three decades after independence. After the formation of National Council for Teacher Education as an advisory body in 1973, it recommended a two year primary teacher training course after secondary school-

certificate and it was implemented in most of the States. At present, except West Bengal, Assam and the Northeastern States, in all other States, the duration of the primary teacher training course is two years. The NOTE (advisory body) also prepared a curriculum frame I work for teacher education to improve its quality and it was by and large accepted and implemented *In* most of the States.

SECONDARY TEACHER EDUCATION

The total enrolment in secondary classes increased from 1.25 million in 1950-51 to 15,22 million in 1993. It was over 10 million by 1978. The total number of teachers employed in secondary schools increased from"457.93 thousand in 1978 to 895.7 thousand in 1995, out of which 404,83 thousand (or 88.4%) were trained in 1978 and 815.0 thousand (or 91.0%) were trained in 1995. There were only 53 secondary teacher training colleges in 1950-51 and their number increased to 1852 by 1997-98... In addition to this, teachers were also trained through correspondence/distance education. This very large increase in number of teachers required put a heavy strain on governmental efforts to improve and maintain the quality of teacher education. The minimum general education qualification required of a secondary teacher was increased from intermediate (LA/LSc.) to a Bachelor's degree. The teacher training institutions which earlier awarded a diploma awarded by State Governments are now granting B.Ed, degree and affiliated to a University, The government of India set up pace-setting Colleges of education such as Central institute of Education *in* 1961 in Delhi and four Regional Colleges of Education in 1963. The Government of India also set up the National Council for Educational Research and Training (NCERT) in 1961, which since then is trying to improve teacher education at ail levels through improvement of curriculum, text books and in-service education of teachers. The NCERT developed a Teacher Education Curriculum Framework and brought about changes in curriculum through interaction with Universities and State Governments and by training teacher educators. It brought about innovations in teacher education, such as internship in teaching, adopting micro-teaching, models of teaching and education in values in teacher education. The Central Government .also set up the. National Council for Teacher Education as an advisory body In 1973 which working closely with NCERT and the Central and State Governments

tried to improve quality of teacher education. In spite of all these efforts, many teacher education institutions having inadequate infrastructure and teachers came up particularly during the last two decades providing teacher education of poor quality. So the Government of India through an act of Parliament set up the National Council for Teacher Education (NCTE) in 1993 with legal powers to lay down and maintain standards of teacher education and to recognise teacher education institutions. The NCTE has by March, 1998 granted recognition to 470 out of 790 existing teacher education Colleges which applied for recognition. It also granted recognition to 51 out of 267 new teacher education institutions. The NCTE has also prepared a new teacher education curriculum framework and is trying to get it implemented. St has also recommended that B.Ed. Degree course should be of two years duration. The four Regional Institutes of Education have already started the two year B.Ed. Degree course from 1999-2000,

IN-SERVICE TEACHER EDUCATION

After the establishment of NCERT in 1961, it began organising short in-service education programmes on various educational themes for different categories of teachers and teacher-educators. On its recommendation and with Centra! assistance, State Institutes of Education (which later were upgraded as State Councils of Educational Research and Training) were started which collaborated with NCERT and organised in-service teacher education programmes in the State. After adoption of the National Policy on Education in 1986, District Institutes of Education were established at district level; which apart from organising pre-service primary teacher education also conducted in-service education for primary school teachers. The NCERT organised a programme of Mass Orientation for School Teachers (PMOST) during 1986-89, using a three tier training strategy, it oriented 17.62 lakh school teachers on the National Policy on Education. Again, during 1993-1997, the NCERT organised a Special Orientation Programme for Teachers (SOPT) and trained 18 lakh teachers on Minimum Levels of Learning (MLL) based teaching and activity based teaching.. It successfully used both print and non-print media (particularly educational television) in these programmes. Since 1975-76, the Central Institute of Educational Technology has been preparing and telecasting educational television programmes for primary schools.

The Regional Colleges (now called Institutes) of Education also organise in-service training programmes for teachers and teacher educators at regional level. Thus we have at present a network of central, regional, state and district level institutions organising in-service education programmes for teachers. The Government spends a lot of money every year on in-service education of teachers, but no evaluation has been made of the effect of these programmes on teachers. Since the teachers get the in-service education free including their board and lodging and travelling expenses, there is a tendency to take these very lightly and not try to learn much and not try to implement what they learn. The organisers also often organise such programmes without finding out the need for them and without development of course materials and orienting trainers. There appears to be a need for an effective evaluation of such programmes and offering only need-based programmes with well-planned and developed course materials.

TEACHER EDUCATION THROUGH CORRESPONDENCE/ DISTANCE EDUCATION

Since there were about 50% of untrained teachers working in secondary schools, in 1965, on the recommendation of the Indian Association of Teacher Educators, the four Regional Colleges of Education and the Central Institute of Education started summer school-cum-correspondence course for training existing untrained employed secondary school teachers leading to B.Ed. Degree. The programme consisted of two summer sessions of eight weeks each of instruction at the college together with correspondence work in between. The programmes was stopped by Central Institute of Education after five years but the Regional Colleges of Education continued the courses up to 1985 when they were discontinued as it was found that more than 90% of secondary school teachers were already trained. However, a number of universities started purely correspondence courses leading to B.Ed. Degree with very little contact programme. The NCTE in consultation with UGC and the Distance Education Council has adopted revised guidelines which are being followed by universities including open universities for offering teacher education courses leading to B.Ed. Degree. After these guidelines were enforced in 1996, most of the universities stopped the correspondence courses/distance education programmes leading to B.Ed. Degree.

SUGGESTED ACTION FOR THE FUTURE

Since we now have NCTE as a statutory organisation with legal powers to take suitable action for planned and coordinated development of teacher education and for maintenance of standards of teacher education, it is now possible to improve standards of teacher education. The NCTE has already developed norms for different levels of teacher education and taken action for recognition of institutions of teacher education. It is proposed that further action may be initiated by NCTE gs follows:

1. A scheme for providing developmental grants to teacher education institutions by Government of India based on objective criteria developed by NCTE may be implemented.
2. NCTE may develop and implement a programme for phasing out the one-year B.Ed. Course and replacing it by two year B.Ed. Course.
3. Four year/five year integrated courses of teacher education may be started in general colleges having departments of education by providing incentive developmental grants to them.
4. Comprehensive colleges of education having both elementary and secondary teacher education programmes may be set up.
5. Developmental grants may be provided to selected colleges of teacher education to offer courses in educational technology and use of computers in education.
6. All teacher educators of elementary teacher education institutions who do not have B.Ed./MEd. Degrees in elementary teacher education should be given orientation courses in elementary teacher education through contact-cum-correspondence/ distance education.
7. All future teacher educators of elementary teacher education as well as administrators/supervisors of elementary education should be required to have B.Ed. (El. edn.)/M.Ed.(El.edn.) or a special bridge course in Elementary Education after B.Ed.(Sec.edn.). Colleges of teacher education should offer both B.Ed.(El. edn.) and B.Ed.(Sec.edn.).
8. Only well-designed and need-based in-service education

programmes may be offered by DIET, SCERT and NCERT as well as by universities including open universities mainly through distance education. Each course should have a final examination and those passing be given certificates/diplomas. Each course should have a course-fee to be paid by the participant. These courses may be considered essential for some specific jobs and for promotion in service.

9. NCTE should develop data base for teacher requirement for each state and advise state governments in planned development of teacher education.

10. NCTE may develop curriculum guidelines for pre-school teacher education, special teacher education (for teaching the disabled), teacher education for physical education, art and music, etc.

11. State level/Central level examining bodies may conduct examinations for preschool teacher education and award certificates/diplomas.

12. Research in teacher education institutions may be encouraged by providing research grants for approved projects.

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TEACHERS' TRAINING IN ANDAMAN & NICOBAR ISLANDS

Nirupama Rath

To provide training in pedagogy and methodology of teaching to the untrained primary school teachers, the Andaman & Nicobar Administration decided to open a Teachers[1] Training School at Port Blair in August 1958.

The Teachers' Training School first started functioning with 20 in-service teachers as trainees and with one headmaster and two craft Instructors as trainers. The post of headmaster was upgraded to that of Principal in 1964. The Teachers' Training School in the year 1975 was renamed as Teachers' Training Institute -TTI. TTI has been very helpful in raising the standard of education in the Islands.

There were many problems in getting trained graduate and postgraduate teachers in these islands. Certain restrictions on the recruitment of the mainland teachers on a permanent and regular basis had created obstacles in attracting good and qualified teachers from the mainland. Keeping the problem of need based teachers' recruitment in view, the Andaman and Nicobar Administration started the first B.Ed Degree Course. The. Teachers' Training course got recognition by the UGC and permanent affiliation to the Punjab University with affect from the same date. The year 1987 was another milestone in the history of the Institution. It was in this year that the B.Ed. College was affiliated to the Pondicherry University. This institution, dedicated to teacher education, has been trying its level best despite of a number of constraints, to achieve the national objectives laid down in the National policy **OR** Education 1986 and proving instrumental in raising standard of education in these islands.

Govt. Teachers' Training College is a full time pre-service training institution. It has been entrusted with multifarious curricular and co-curricular activities, Pondicherry University Correspondence Courses also function in this Institution.These two institutions - Teachers' Training Institute (TTI) which provides JBT Training for Primary school teachers and Teachers' Training college (TTC) which provides B.Ed Training for

secondary school teachers were functioning under the same roof. The A**&N** Administration has decided to make two separate Institutes as Teachers Training Institute (for JBT), and Teachers Training college renamed as Tagore Govt. College of Education (for B.Ed Training). The State Institute of Education provides in-service training to the Teachers time to time.

TAGORE GOVT. COLLEGE OF EDUCATION

Admission Procedure

A candidate shall be eligible for the admission to the B.Ed course provided he/she has Graduation / Post Graduation Degree from a recognised University. Admission is made strictly on the basis of merit. In case of Post Graduates, some percentage of marks are added to the percentage of marks obtained in Graduation. Post Graduation with -First class - 8 % marks, Second class - 5 % marks, Third class - 3 % marks. Seat allotment is according to the norms fixed by the A**&N** Administration on the basis of following categories.

Categories	Percentage of seats
Tribals	20%
10 years continuous study in these Islands	20%
Locals	50%
a) Pre-42 (Settled before 1942)	
b)Settlers (Settled after the panel settlement)	
Central Govt, employees/Deputationist/ Defence persons etc.)	10%

Theory Papers

1. Response to challenges in Education .
2. Learning for Human Development.
3. Evaluation, Elements of Statistics and Research.
4. Any one of the following Electives:

^Institutional Planning ii) Value Oriented Education

iii)ComputerAided Instruction iv) Educational Technology

v)Special Education vi) Adult Education

vii)Population Education viii) Guidance and Counselling

ix)Vocational Guidance

Choice of Optional(Method) Subjects

Every candidate shall offer two optional subjects. The first optional shall be subject that he has specialised at the major level in the degree course or in the post - graduate course. Principal shall assign the second optional subject. The candidates will deal with the content and methodology in the optional subjects as per the subjects of specialisation. The subjects are:

i)	English 1	ii)	Hindi 1
iii)	Mathematics	iv)	Physical science
v)	Biology	vi)	Home Science
vii)	History	viii)	English II
ix)	Hindi II	x)	Geography
xi)	Social Studies		

Teaching Competency Including Observation of Teaching Practical Related to

Optional Subjects

a) Preparation and use of instructional aids / materials

b) Construction of tests and interpretation of scores

c) Practical training in the use of audio visual apparatus

Wcirking with Community

a) Adult education in the slums

b) Organising coaching classes for children in the sluffls

c) Organising developmental work at Panchayat level

d) Organising medical camps in the slums

e) Organising MATHAR SANGAMS (Anganwadi) in the neighbourhood

f) Creating an awareness of the effects of pollution, population propaganda and environment.

Practical Work

Teaching Competency

The practical in teaching includes observations and teaching practice both at the macro and the micro levels. It covers one week of observation of lessons during the initial months of the course, followed by micro teaching in the college and four weeks of intensive teaching period. The programme for each student shall approximate to the normal daily work of a qualified trained teacher. For the purpose of teaching practice, each student works as an apprentice under a selected teacher and under the general supervision of the Principal and subject specialists of the college. S/he also maintains the prescribed workbooks for observation of lessons and practice teaching [Micro and Macro] in each of his/her special subjects. The workbooks contain records of at least 40 practice teaching lessons, 20 in each special subject. Each teaching practice lesson is reported separately to the Principal by the lecture or teacher authorised for the purpose and the reports and the work-books are made available to the Supervising Examiners who are appointed by the University. The final report of the college on each student, together with the workbook (s), is made available to the Supervising Examiners, whose decision on the marks to be awarded is final. The candidates with post-graduate qualification may have their practice teaching in higher-secondary/ senior secondary classes.

Practical Related to Optional Subjects

Preparation and use of instructional aids

Students prepare instructional aids in both optional subjects. They take units from high school/ higher secondary school syllabus and prepare aids with reference to concepts/ ideas in the units, aids of different types (Charts, models, filmstrips, tapes, slides, and transparencies).

Construction of Tests and interpretation of scores

The construction of tests is made in both the subjects in the case of students offering two different subjects as optional. Interpretation of results is made and recorded. It is suggested that preparation and administration of the achievement tests completed during 4 weeks of intensive teaching practice period.

Use of Audio-Visual Apparatus

Each student teacher is given training in operating at least two types of audio-visual apparatus such as film projector, film strip projector, overhead projector, tape-recorder etc. In evaluating this, emphasis isgiven on grasp of basic principles, dexterity in operation and integration with the teaching process.

Working with Community

Socially Useful Productive Work

Trainees undertake Socially Useful Productive Work in the areas health and hygiene, cultural and recreational activities/or community work. They also organise SUPW involving school students, during their teaching practice.

Camp

A camp is organised for a minimum of 5 days during the beginning of the year giving students training in community life, first aid / scouting/ guiding. The camp is preferably held outside the college in a rural setting.

General

Action Research / Project / Case study

Trainees take any one of the activities suggested. An action research on a problem relating to learning, teaching or administration is undertaken, Case study may be made a student with a problem.

Scheme of Examination

Theory Papers

Papers-I, II, V& VI . Internal - 25 Marks, External-75 Marks

Papers-Ill & IV Internal - 15 Marks, External - 35 Marks

Distribution of Internal marks

Papers-1, V&VI		Paper II	
December Exam	10 Marks	December Exam	10 Marks
Monthly Test	5 Marks	Monthly Test	5 Marks
*Term Paper	10 Marks	Psychology Experiments	10 Marks

Paper-Ill and.Paper-IV (excluding Computer Aided Instruction)

December Exam 10 Marks Monthly test 5 Marks

Paper-Ill Computer Aided Instruction: Practical 15 marks

Total = 4 X 25+ 2X 15 =130 Marks

*In consultation with the professor, each student selects a topics and prepares an essay (10 pages typed) to be submitted at the end of January.

External Examination

	Subject	Duration	Marks
1)	Response to Challenges in Education	3 hours	75
2)	Learning for Human Development	3 hours	75
3)	Evaluation & Research	1 hour 30 mins	35
4)	Elective subject	1 hour 30 mins	35
5)	Optional I	3 hours	75
6)	Optional II	3 hours	75
	Total		370

Practical: Internal assessment is subject to be reviewed by the Board of Supervising Examiners

	Subject	Marks
Group I - 300		
D	Teaching competency (100+100)	200
2)	Preparation and use of instructional aids	50
3)	Practical use of av apparatus for a lesson in each optional	50
Group 11-100		
1)	Construction of tests	30
2)	Socially Useful Productive Work	30
3)	Camp	20
4)	Action research project / case study	20
Total		400

Practical Examination by the Board of Supervising Examiners

The Board of Supervising Examiners examine the teaching of a significant cross- section of the candidates. The supervising examiners report to the University the marks awarded to each student in the two divisions of practical examination viz.1)Teaching Competency. 2) Other aspects of practical work.

The pattern of question papers shall be as follows:

Papers 1,11, V& VI	
2 Essay type questions with internal choice	2 x 15 = 30 marks
5 One page answer questions out of 8	5 x 5 = 25 marks
10 Half page answer questions out of 12	10x2 =20 marks
	Total = 75 marks
Papers HI & IV	
1 Essay type question with internal choice	1x15 = 15 marks
3 One page answer questions out of 4	2x5 =10 marks
5 Half page answer questions out of 7	5x2 =10 marks
	35 marks

Problems

* No Demonstration School is attached to the Institution for practice teaching.
* As the place is cut off from the mainland, the learning materials and other necessary information is not reaching in time.
* Inadequate library and laboratory facilities.

GOVERNMENT TEACHERS' TRAINING INSTITUTE (TTI)

Government Teachers' Training Institute is a full time pre-service training Institution which provides Junior Basic Training (JBT).It is recognized by NCTE, Bhubaneswar.

Admission Procedure

A candidate is eligible for the admission to the JBT course provided he/she has passed Higher Secondary (+2) Examination from a recognized Board or University. Admission is made strictly on the basis of merit. Seat allotment is according to the norms fixed by the A&N Administration on the basis of categories as mentioned earlier for the admission into B.Ed, course. JBT is a TWO years training course.

Courses and Scheme of Evaluation

The courses for each year along with evaluation scheme are as follows.

First Year

Sl. No	Subject	Internal	External	Total
1	Teaching of English	40	60	100
2	Teaching of Hindi	40	60	100
3	Teaching of General Science (EVS-I)	40	60	100
4	Teaching of Social Studies (EVS-II)	40	60	100
5	Teaching of Mathematics	40	60	100
B) General Professional Courses:				
1	Education in emerging India	40	60	100
2	Educational Psychology	40	60	100
3	Teacher function at elementary stage	40	60	100
4	Educational Technology Tribal Education	40	60	100
	Total			900
C) Practical Subjects		Half yearly	Annual	
1	Health and Physical Education.	40	60	100
2	Work Experience	40	60	100
3	Art Education.	40	60	100
4	Scouting/Guiding.	40	60	100
5	Music	40	60	100
	Total			500
	Grand Total			1400

SECOND YEAR

IS!.	Subject	Internal	External	Total
1	Teaching of English.	40	60	100
2	Teaching of Hindi	40	60	100
3	Teaching of General Science (EVS-I)	40	60	100
4	Teaching of Social Studies (EVS-II)	40	60	100
5	Teaching of Mathematics	40	60	100
	B) General Professional Courses			
1	Education in emerging India	40	60	100
2	Educational Psychology	40	60	100
3	Teacherfunction at elementary stage	40	60	100
4	Pre School Education or Non Formal Education	40	60	100
	Total			900

C) Practical Subjects

		Half yearly	Annual'	Total 1
	Health and Physical Education	40	60	100
2	Work Experience	40	60	100
3	Art Education	40	60	too
4	Scouting/Guiding	40	60	100
5	Music	40	60	100
	Total			500
	D) Students Field Experience			
	Teaching Practice (each subject)	50	50	100
	Total 5x100			500
	GRAND TOTAL			1900

STATE INSTITUTE OF EDUCATION

A State Institute of Education (SIE) has also been set up in the islands and it is responsible for conducting inservice training programme. Short-term orientation courses are conducted for teachers to acquaint them with the new trends in the methods of assessment, institutional planning, teaching and organization of co curricular activities. There are different units/cells of the SIE which conduct these training programmes, District Centre for English Teaching (DCERT) is recognized by the CIEFL and imparts training in teaching English. IED Cell is under the centrally sponsored scheme of the Ministry of Human Resource Development. It provides training to the Primary School Resource Teachers (PSRT) who deal with disable children .In addition to these, short term training programmes are also organized by SIE for :(a) preparation of audio visual aids and educational toys, (b) use of environmental resources in teaching, (c) use of science kits, (d) evaluation and measurement of scholastic achievement, (e) institutional planning and (f) tribal dialect and languages.

In addition to these activities in the sphere of teacher's training the island authorities, through the Directorate of Education, provide in service training to primary and secondary school teachers. Experts from RIE, Bhubaneshwar, provide help and guidance to teachers and organize training courses for them every year either in the islands or in the mainland of India. Every three years, a teacher is provided with the opportunity for such training.

A DIET to cater to the needs of the elementary school teacher has been sanctioned by the central Govt., and it is proposed to ultimately take over the primary level Teachers' Training Institute. This institute is supposed to provide two years of pre -service education to the elementary stage teachers as well as in- service education for teachers and field functionaries at the elementary education level.

ENTRANCE TEST SCORES AS PREDICTOR OF ACHIEVEMENT OF TEACHER TRAINEES

Harvinder Kaur

Pushpinder Kaur

INTRODUCTION

The teacher is of paramount importance in every system of education. The whole system of education revolves around the teacher. In ancient India the teacher was rated equal to God. In the west, s/he has been called the 'architect of nation', 'the maker of man' and' the maker of history'. The idea of teacher education is perhaps as old as teaching itself. No educational programme can be a success without the proper education of teachers. The quality of education is linked to the quality of teachers, academically and professionally. It is a widely recognised fact that the teacher is ultimate key to educational change and school improvement. There are 22 institutions conducting the teacher education programme in Punjab and Chandigarh, which are affiliated to three universities- Guru Nanak Dev University, Amritsar, Punjabi University, Patiala and Panjab University, Chandigarh.

Previously, the minimum eligible qualification required for admission into the B.Ed. Course was B.A./B.Sc./B.Com. Degree of a recognised University. The qualifying percentage for the general category was 45% and in case of candidates belonging to SC/ST/BC it was 40%. In cae of B.Ed. Correspondence Course of the Punjabi University, Patiala, the additional requirement was teaching experience of one year in Government/recognised/affiliated school. But now the criteria has been changed. In casse of regular B.Ed, course,- the admission is purely based on the Entrance Test Scores, where the entrance test is conducted jointly b^one of the three universities. In case of B. Ed. (C.C.), the Entrance Test is conducted by Punjabi University, Patiala. Candidates are eligible for this test those who possess B.A./B.Sc./B.Com. Degree with minimum 45% marks (40% in case of SC/ST/BC) from a recognised university and who have minimum two years of teaching experience.

Singh (1991), Kaur (1992) and Prabha (1992) have studied different factors predicting the success in teacher training courses. It was found that a study in the context of entrance test scores and achievement scores, is strongly needed as many universities are emphasising the Entrance Tests to be conducted for admission to different courses. Therefore, the present study aimed to find out the need of such tests in B.Ed. (C.C.) Course being conducted at Punjabi University, Patiala.

OBJECTIVES

The present investigation intended to:

(i) know the Entrance Test Scores and Achievement Scores of teacher trainees.

(ii) explore the relationship between the Entrance Test Scores and Achievement Scores of teacher trainees.

(iii) find out the difference in the Entrance Test Scores and Achievement Scores of Male and Female teacher trainees.

HYPOTHESES

It was hypothesised that:

(i) There is no relationship between the Entrance Test Scores and Achievement Scores of teacher trainees.

(ii) There is no significant difference between the Entrance Test Scores and Achievement Scores of Male and Female teacher trainees.

METHOD AND PROCEDURE

Out of 350 teacher traineesof the Department of Correspondence courses of Punjabi University, Patiala 100 teacher trainees were randomly selected. The admitted students were from academic session 1996-98, who belong to different districts of Punjab. Therefore, the sample was found to be representative of the whole state of Punjab. The sample was further divided into 50 Male and 50 Female.

For the purpose of the present study, the scores of the students on Entrance Test were taken. The Entrance Test comprised of the following four papers: General Awareness, Mental Ability, Teaching

Potential, and Language Proficiency - Punjabi or Hindi and English.

The B.Ed. (C.C.) Two year course comprised of the following papers: (i) Principles of Education, (ii) Educational Psychology and Guidance, (iir) Indian Education, (iv) School Management and Any two papers from the following options:a) Teaching of Punjabi or English, b) Teaching of Social Studies, c) Teaching of Physics and Chemistry, and d) Teaching of Mathematics

Besides, the Achievement Scores on skill in Teaching and Sessional work were also included. The total marks of Entrance Test were 200, whereas the total marks of B.Ed, course were 1000. The scores of the sample were converted into percentages. To find out the relationship of Entrance Test Scores and Achievement Scores of the sample, coefficient of correlation was calculated. But to find out the difference between the Entrance Test Scores and achievement scores of male and female teacher trainees, ANOVA was applied.

RESULTS

The frequency distribution with respect to the percentage scores obtained by the teacher trainees in Entrance Test are given in Table 1.

Table-1

Percentage Scores on Entrance Test			
Class Interval	Total	Male	Female
	f	f	f
65-69	5	5	0
60-64	8	6	2
55-59	9	8	1
50-54	13	9	4
45-49	26	10	16
40-44	22	9	13
35-39	14	3	11
30-34	3	q	3
	100	50	50

Table 1 shows that the mean value of male, female and total groups with respect to their percentage scores on Entrance Test Scores lies in the same class interval, i.e. 45-49,

The frequency distribution of the percentage scores achieved by 100 teacher trainees in B.Ed, final examination are given in Table 2.

Table-2

Percentage Scores in B.Ed. Final Examination

Class Interval	Total f	Male f	Female f
36-67	1	0	1
34-65	0	0	0
32-63	1	0	1
30-61	8	4	4
53-59	12	6	6
56-57	25	12	13
54-55	12	5	7
52-53	24	14	10
50-51	15	8	7
48-49	2	1	1
Total	100	50	50

Table 2, clearly indicates that the mean value of male, female and total groups with respect to their percentage scores in B.Ed. Final Examination lies in the same class interval i.e. 56-57.

x/y	48-49	50-51	52-53	54-55	56-57	58-59	60-61	62-63	64-65	66-67	fy	T"	"TT"		Zx'y
65-69			8 1 -8		0 2 0	4 2 8					5	4	20	80	0
60-64			-6 1 -6	-3 1 -3	0 3 0	3 2 6	6 1 6				8	3	24	72	3
55-59		-6 1 -6	-4 1 -4		0 3 0	2 2 4	4 1 4			10 1 10	9	2	18	36	8
50-54			2 5 -2	-1 3 -3	0 4 0		2 1 2				13	1	13	13	-3
45-49	0 1 0	0 3 0	0 4 0	0 2 0	0 10 0	0 3 0	0 2 0	0 1 0			26	0	0	0	0
40-44		3 8 24	2 5 2	1 4 4	0 2 0	-1 1 -1	-2 2 -2				22	-1	-22	22	27
35-39	8 1 8	6 1 6	4 6 24	2 2 4	0 2 0	-1 1 -1	-2 2 -2				14	-2	-28	56	34
30-34		9 2 18	6 1 6								3	-3	-9	27	24
fx	2	15	24	12	25	12	8	1	0	1	100				
V—	4	-3	-2	-1	0	1	2	3	4 •	5					
1 ?—	8	-45	-48	-12	00	12	16	3	0	5	-77				
1 ?—	32	135	96	12	0	12	32	9	0	25					
ExV	8	42	12	2	0	13	6	0	0	10					

k.L.I-r./;

$$r_{xy} = \frac{N\Sigma fxy - \Sigma fx \cdot \Sigma fy}{\sqrt{[N\Sigma fx^2 - (\Sigma fx)^2][N\Sigma fy^2 - (\Sigma fy)^2]}}$$

$$\frac{100 \times 93 - (-77)(16)}{\sqrt{[100 \times 353 - (-77)^2][100 \times 306 - (16)^2]}}$$

$$\frac{9300 - (-1232)}{\sqrt{[35300 - 5929][30600 - 256]}} \qquad \frac{10532}{29754}$$

0.35 *

*Significantat0.01 level.

The first hypothesis was that there is no relation between the Entrance Test and Achievement Scores of Teacher Trainees. The coefficient of correlation between the Entrance Test Scores and Achievement Scores of teacher trainees was found to be 0.35 as shown in Table 3, which is significant at 0.01 level of significance.

In the light of this finding, the hypothesis stated above stands rejected. Thus, the Entrance Test Scores and the achievement scores of teacher trainees are found to be related i.e. the students who had achieved good marks in B.Ed. Entrance Test had also achieved good marks in B.Ed. Final Examination.

Table 4

Difference Between the Entrance Test Scores and Achievement Scores of Male and Female Teacher Trainees

Source of	df	SS	M.SS	F. Value
Among. Groups	3	5036.5	1678.8	25.09*
Within Groups	196	13120	66.9	
Total	199	18156.5		*

* Significant at 0.01 level

The second hypothesis was that there is no significant difference between the Entrance Test Scores and Achievement Scores of male and female Teacher Trainees. After applying ANOVA it was found that the F-Value is 25.09 which is significant at 0.01 level with df 3/196 as shown in Table 4. Thus, the hypothesis stands rejected, which indicates that the Entrance Test Scores and Achievement Scores of male and female teachee trainees differ significantly. Therefore, it can be concluded that male and female teacher trainers have achieved different types of scores in Entrance test and Achievement Test.

CONCLUSION

The results of the present study lead to the following conclusion that scores of Entrance Test and Achievement Test of teacher trainees make neither any difference in their skill or attitude nor any kind of influence on them that can hamper their achievement. In other words, those who are interested in becoming teachers, maintain their interest till their teacher training is complete. But gender differences have been found in the same context. It can also be concluded that one can predict the achievement of teacher trainers from the Entrance Test.

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ACHIEVEMENT MOTIVATION AND ANXIETY AMONG THE CHILDREN OF WORKING AND NON-WORKING MOTHERS STUDYING IN SECONDARY SCHOOLS OF SHILLONG

Minakshi Goswami

INTRODUCTION

The need to achieve is the spring-board of the achievement motivation. In a competitive society, the desire to excel over others or achieve a higher level than one's peers is called the achievement motivation. Atkinson and Feather(1966) defined achievement motivation as a latent disposition which is manifested in overt striving only when the individual perceives performance as instrumental to a sense of personal accomplishment. A related, but probably distinct, dimension of achievement - related motivation is anxiety or motive to avoid failure (also called fear to failure). In achievement related motivation anxiety too plays an important role. The role of the family is important in the development of achievement motivation. In the family, the task of the mother is important to provide necessary guidance and training in the formative years for the development of achievement motivation. Hence, the mothers, who are engaged in any kind of job may have differential effect on the development of achievement motivation in children. Anxiety of a child is also due to his/her family background and greatly depends on his/her mother.

In the present study to an attempt was made to i) assess the levels of achievement motivation and anxiety among the children of working and non-working mothers of Shillong, the capital of Meghalaya. ii) To study the levels of achievement motivation and anxiety of the working and non-working mothers children by sex.

MATERIALS AND METHODS

Students of IX standard of 10 randomly selected secondary schools of Shillong, capital city of Meghalaya, were the basic unit for data collection for the study. The selected schools represent students

from different socioeconomic status of the area. The data generated from study were analysed using the achievement motivation scale of Rao, 1974 and the achievement value and anxiety inventory of Mehta, 1969.

RESULTS AND DISCUSSION

Information available from the students of IX standard of the secondary schools of Shillong revealed that, when attention was given to the mean "-achievement score of working and non-working mothers children, it was found that working mothers children were more achievement oriented than the non-working mothers children.

Table-1
Achievement levels of the children of working and non-working mothers.

Group *of children*	*N*	*"-achievement Mean ± SD*	*Mean diff*	*t*	P
Working mothers children	88	13.60 ±2.46	12	3.00	0.01
Non - working mothers children	146	12.54 ±2.83			

Table 1 indicate that the mean "-achievement score was in favour of the working mothers children and the difference of the mean were statistically significant (P<0.01).

Table 2
Achievement score by sex

Group of children		*N*	*"-achievement Mean ± SD*	*Mean diff*	*t*	P
Working mothers' children	Boys	47	13.82 ±2.48	13	2.56	0.02
	Girls	41	13.43 ±2.67	14	1.68	NS
				23	1.57	NS
Non - working mothers' children						
	Boys	80	12.63 ±2.84	24	1.82	NS
	Girls	66	12.45 ±2.77	34	0.40	NS

NS = Non significant

Comparing boys and girls of both working and non-working mothers it was found that boys of working mothers were most achievement oriented than all other groups.

The mean score was in favour of boys of working mothers than the mean "-achievement score of the boys of the non-working mothers and the difference was statistically significant (P<0.02). When all the other groups were compared with each other were not statistically significant.'

A comparison was made of the working and non-working mothers children in terms of their mean anxiety scores. The results appear in Table 3.

Table 3
Mean anxiety levels of the children of working and non-working mothers.

Group of children	*N*	*Anxiety levels Mean ± SD*	*Mean diff*	*t*	*P*
'.. Working mothers'children	88	5.54 ±2.61			
			12	0.59	NS
., Non - working mothers' children	146	5.75 ±2.66			

NS = Non significant

The mean score was in favour of non-working mothers children, but the mean difference of the two groups were not statistically significant. The anxiety score of the boyas and gil are represented in the table 4.

Table 4
Mean anxiety score by sex

Group of children		*N*	*Anxiety levels Mean ± SD*	*Mean diff*	f	*P*
Working mothers' children						
	Boys	47	5.45 ± 2.29	12	0.81	NS
	Girls	41	5.84 ±2.22	23	0.29	NS
Non - working mothers'children						
	Boys	80	5.71 ±2.55	14	0.77	NS
	Girls	66	5.81 ±2.68	13	0.59	NS

NS = Non Significant

It wa observed that there were no significant difference among the groups and the anxiety of the girls of the working mothers found to be highest.

There were many studies which touched the broad areas of achievement motivation and anxiety. In the present study it was notced that tudent of working mothers are more achievement oriented than the students of non-working mothers.The main reasons for thi may be as follows: Firtly, most of the working mothers are educated and so they can provide the best guidance to their children. Secondly, working mothers are economically and socially independent. Thirdly, working mothers are more experienced and efficient to give psychological guidance to their children. After analysing the anxiety of the working and non-working mothers' children, girls of working mothers showed the hgighest anxiety.These mayty be associated with three reasons. Firstly, girls of working mothers have to share part of their mothers' responsibility. Secondly, the girls of working mothers do not get required attention,guidance and care during their formatve period from their mothers as they are engaged in jobs. Thirdly, they become over burdened because, at the same time they have to study as well as have to carry out part of ther mothers' responsibility.

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IMPROVING TEACHER QUALITY

Sunil Behari Mohanty

The quality of teachers determines the quality of a nation. Teachers have been instrumental in development of the world. Hence, attempts have been going on to improve teacher quality to fit into the changing contexts. Efforts have been made to specify aspects of teacher quality. Normally, teachers are expected to have adequate mastery over content area and to have appropriate level of pedagogizal skills. OECD(1994) study on teacher quality referred to three more areas - 1) ability to reflect and to be self-control, 2) empathy and the commitment to the acknowledgement of the dignity of others, 3) managerial competence. Some other factors were - love for children, setting an example of moral conduct, managing groups effectively, incorporating new technology, mastering multiple models of teaching and learning, adjusting and improvising, knowing the students, exchanging ideas with other teachers, reflecting, collaborating with other teachers, advancing the profession of teaching and contributing to the society at large. Not all teachers are made some are born. OECD (1990) Report stated that "successful teaching is primarily due to characteristics such as patience, persistence, the ability to analyse problems, and empathy with students" (p.73). The teachers require personality traits such as (a) complete self-control not only to the extent of not showing any anger but remaining quiet and undisturbed under all circumstances, (b) realisation of the relativity of one's importance, (c) the will and effort to continuously progress, (d) treating students with appropriate respect, etc. (The Mother 1978), It is very much difficult to develop such personality traits in teacher trainees, especially when they enter into teacher training institutions at an age by which their attitude towards life has already been mostly fixed. Training programme can be effective only when the teacher trainee is really interested in applying the learned techniques in real situation. Insincerity among teachers does not make the training programme effective. This leads to questioning the justification for spending money for providing initial teacher training.

There has been an informal teacher-training programme at Mirambika, New Delhi that has been found very much effective. The "Zero lecture programme" that has been undertaken in certain DIETs of Delhi wherein, the normal teacher training processes have been overlooked. The teacher trainees under Zero - Lecture appeared at the formal teacher training examination, without any difficulties. Professors of education have been involved in these innovations. It is also a fact that persons without M. Ed. have been found holding posts of professors/readers in Education in Universities and in NCERT Some of them have excelled even M. Ed. degree holders. Persons having no formal teacher training qualifications have received recognition from professional teacher education associations as best teacher educators. There are also instances of such persons acting as examiners of Doctorate in Education. Academic Staff Colleges in the country meant for providing orientatiion and inservice programmes to higher education teachers generally do not insist on M. Ed. or M. A. (Education) qualification for jobs of Director/Asst. Directors. Perhaps, this had led to mushroom growth of B. Ed. through correspondence. These types of situation reveal that in this country, teacher education has not beentaken seriously.Teachers acquire skills, as they get experienced. Sri Aurobindo International Centre of Education at Pondicherry is recognised by the Government of India as an Institution of Higher Learning of All India Importance. It does not have any provision for training of its teachers. So also is the situation at the Centre of Education at Auroville. It is also a fact that all trained teachers are not more effective than untrained ones. Such types of realization have led to extended period of training continuing in the school system under the guidance of expert school teachers.

INTRODUCTION OF EXTENDED PRACTICALTRAINING UNDER EXPERT SCHOOL TEACHERS

The quality of practical, training in various teacher-training courses can be ascertained by an effective evaluation that is generally lacking. There has been much variation not only in theoretical courses but also extent of practical areas covered from one examining body to another. There are instances of interviewing of candidates for evaluation. In some cases practical teaching evaluation is also undertaken by examiners having no formal degree level content knowledge. In such a

situation, allowing a product of teacher training system'to enter into school as a regular teacher has to be stopped. In advanced systems, a product of teacher training institution is attached to an effective teacher (mentor) for a specific period. During this period of attachment, the trainee receives reduced workload and carries out teaching work under guidance. The said/trainee is evaluated a number of times. On successful completion of the training, the trainee is declared as a full-fledged teacher. Iji the period of huge unemployment, in our ituation, such a system can provide helping hands in schools to taker care of classes when teachers are on leave. Such a system also can reduce the burden of over burdened teachers. This added responsibility will make existing teachers improve their own standard to show examples to the beginners.

INTRODUCTION OF TEACHER LICENSING TESTS

The quality of teacher education programme can be improved indirectly by instituting teacher accreditation tests. Such tests are found in developed countries. The strategies found in case of Educational Testing Service and the National Board for Professional Teaching Standards of USA include multiple choice questions, classroom observation, essays, extensive portfolio assessment continued over several months of work, sample of student work, video recording etc. Hence, introduction of teacher licensing system and development of has to be given priority. While introducing the system, the experiences available in developed countries can be of help.

INTRODUCTION OF PERIODIC EVALUATION OF TEACHERS

If teacher appraisal sytem is introduced, the teachers will take more interest in inservice programmes. Dr. R. C. Das in his article, in this issue of the journal, has suggested introduction of examination at the end of inservice programmes, provided on payment. He has suggested utilisation of such certificates for promotion or for specific jobs. This can be part of evaluaton strategy for extension of license to teach. Teacher licensing system may be valid for 10 years. After that, the teacher has to be tested for renewal of license,

MODIFICATION OF EXISTING NORMS OF NCTE

The Central Government enacted National Council for Teacher Education Act 1993 to take care of teacher education programmes.

The Norms for teacher education institutions developed by NCTE have brought out some qualitative changes in teacher education programmes. Some of these developments include: 1. Closure of sub-standard distance education mode programmes for initial teacher training, 2. Posting of regular and additional teachers in teacher education institutions, 3. Availability of specified amounts of funds for various types of activities, 4. Improvement in quality of intake, 5. Ensuring minimum number of working days in an academic year, 6. Provision for library cum reading room, and 7. Provision for equipment for psychology and educational technology. In spite of above-mentioned developments, there are certain areas in which Norms are to be modified. Som,e of these may be as follows:

State Norms

There is much variation found in States as regards necessity of providing teacher training, number of untrained teachers, number of teachers that would be necessary, and minimum qualification of teacher educators and material resources. In such a situation, there may not be any set of norms that are applicable for all States of the country.

Providing Course Specific Instead of Stage Specific Norms

The teachers possessing two-year diploma/Certificate courses now covered under NCTE norms as Elementary stage courses take classes in high schools. The students of One-year B. Ed: Degree course now covered under NCTE Norms as Secondary Stage has their practical training in classes V-VIII. There is no special B. Ed. Course for training of higher secondary school teachers. In some systems B. Ed. Course students also deliver their practice teaching lessons in higher secondary classes. A few years ago, NCERT colleges had B. Ed. (Elementary). The four year teacher education course at University of Delhi is meant for Elementary school teaching, whereas, such courses in NCERT Institutes and in colleges affiliated to Kolhapur University and Pondicherry University are meant for secondary school class teaching. Hence, it is essential that instead of stage specific norms course specific norms be formulated.

Upgrading Existing Diploma / Certificate Courses to Degree Stage

In case of two-year courses for elementary **level** teacher education, a considerable time is spent for teaching content to the trainees, who are mostly undergraduates. Incase of graduate teacher trainees, content teaching may not be necessary. There are already one-year courses in Northeast region. The Kothari Commission had suggested two-year course for higher secondary pass applicants and a special course for degree holders. A few years ago, NCERT had instituted, B. Ed. (Elementary) in its colleges. In days of huge unemployment, a large number of graduates enter into two year courses. A two-year Diploma/ Certificate course provides content enrichment. In case of graduates such type of content enrichment may not be necessary.The Kothari Commission had suggested increasing the level of elementary teacher training institution to the college stage. The ILO(1991) document also pointed out that, **"all** teachers should be prepared in general special and pedagogical subjects in Universities or in institutions on a level comparable to Universities or else in the special institution for the preparation of teachers". The DIETs are required to have principals of college reader level. There should be no difficulty in making these get affiliated to Universities for one year B. Ed. Course for elementary school teaching. Hence, there should be one-year diploma/ Certificate courses for graduates for elementary as well as for pre-primary school teaching.

Provision for Adequate Number of Demonstration Lessons

Majority of the teacher education programmes generally provide for one-demonstration lesson per subject. This does not coverall types of methods followed in teaching a subject and all types of content in a subject. There are more than five methods and types of content areas in each subject. Hence, there should be provision for delivery of at least 5 demonstration lessons in each of the method subjects in all types of courses.

Provision for Single Method Subject in B. Ed. Course

As there is no separate course for teachers of higher secondary education, the existing B. Ed. course provides for the training of higher secondary teachers. Such a teacher teaches only one subject. Hence, there should not be any mention about number of method subjects

offered by an individual at B. Ed. stage.

Non Specification of Minimum Strength of Teaching Staff

The strength of staff depends on the type of courses-One year, Two year, Degree, Diploma, Certificate, etc. In North Eastern States, there is provision for part time teacher educators from schools. The practical training in many developed countries is imparted by the school system. The present system of organising practical training by full time staff members of teacher training institutions is very much costly. If the schoolteachers are given the task of supervision, less number of staff members of teacher education institutions shall be necessary. Again, in case of institutions having 30 teacher trainees as found in case of one year B. Ed. Course of Punjab Agricultural University, Ludhiana, posting of above mentioned minimum number of teachers will be colossal wastage of funds. Hence, there should not be any minimum strength of teaching staff.

Specification of Certain Material Resources as Non-essential

There have been specifications regarding material resources. Some of the specifications need not be essential category. In case of B. Ed. courses, the material resources that should be treated as non essential include (a) Work experience labs, (b) Play ground, (c) Furniture - work table for laboratory, and (d) Science laboratory. In case of Diploma /Cerificate courses for elementary teacher education the non-essential category may include (a) Workshop, (b) Art and music room, (c) Games room, (d) Play fields, and (e) Science section and workshop attached to Multipurpose Education Laboratory. The teacher training institutions can function effectively by utilising the resources available in their co-operating schools.

Provision for Observation of Lessons Taught by Good Teachers

Teacher training can be more effective by making student teachers observe classroom teaching of effective schoolteachers. Such a provision shall not only help student teachers but also help the schoolteachers jn improving their own teaching. Many teacher-training syllabi do not provide for this activity. The first set of NCTE Norms prescribed observation of at least 10 lessons in case of secondary

teacher education. No doubt this step was a good measure to improve quality. The Revised set of Norms has not given stress on observation of teaching of good schoolteachers. Hence, the earlier provision needs to be restored. It has also to be introduced also for Diploma/ Certificate courses.

Method Master Student Teacher Ratio

Method master student teacher ratio is an important aspect of teacher training. There are instances of one method master for nearly 100 students. It is impossible to tackle such a large number. The Maximum limit should be 24.

Part time Instructors

There is not enough workload for instructors in physical education and for art / music. There is no necessity of workshop instructor / instructor in work experience. There is no necessity of instructor in educational technology, as there is provision for a lecturer in educational technology. Qualifications have been prescribed for instructors for physical education, art, music, and work experience. In the days of non-formal education, specification of any qualification for instructors may not be necessary. They can be selected on the basis of their knowledge- formal / non-formal and experience and expertise. The revised NCTE Norms provide for sharing of material resources. There should be efforts for sharing of human resources for checking wastage of funds. This type of sharing is also possible in case of human resources in case of ins|fuctors working in nearby teacher education institutions and other types of institutions. In rich countries one finds roving teachers for physical education, etc. Hence, there should be provision for such instructors with facility for travel allowances, if necessary. These types of teachers do not have adequate workload for whole time appointment. Hence, there shoulkd be provision for part time instructors or for roving full time instructors who may work in more than one institution including co-operating school.

Acceptance **of** UGC Norms **for Qualifications of Lecturer in Education**

In 1953, Secondary Education Commission suggested that, the qualification for lecturer in Education to be honours/ Master Degree in

first class and M.Ed, with three years of teaching experience or a LTV BT degree with five years of service as Inspector/ Headmaster. Many States accepted this suggestion. In Orissa, an aspirant for lecturer, who was not a first class in M. Ed. had to be an Honours Graduate and a Second class M. Ed. Otherwise s/he had to acquire a P.G. Degree. There are professors of Education in universities who do not have PG Degrees in content areas. Kothari Commission had suggested double Master degree - one in content and the other in Education. However, it suggested two additional increments for such staff members. It even suggested posting of persons without any formal teacher training qualifications. Such suggestions might have been given by the Commission keeping in view four year integrated courses being introduced by NCERT in its Regional Colleges which had scopes for posting of persons of general category for teaching exclusively content areas. NCTE Norms have not specified such increments. NCTE Norms specify that the qualifications for lecturer in Education should be first/ second class M.Ed, with Master degree in a school subject. As per UGC Norms, a lecturer in Education can be a M. A. (Education) or a M. Ed. As UGC is the fund giving authority to teacher training colleges, and departments of Education of general colleges and universities providing teacher-training courses, the UGC specifications need to be accepted by the NCTE. In case of elementary teacher education, NCTE Norms have specified two categories of teacher educators- pedagogy and methodology. Such separation leads to colossal wastage of human resources, as the staff members without M.Ed, cannot supervise practice teaching lessons effectively. Even to-day, there are only B. Ed. Degree holders worlfng as staff members even in DIETs. Hence, there should be one category as found in case of B. Ed. Course.

Degree Level Content Knowledge for Method Teachers/ Practice Teaching Lesson Supervisors

Content knowledge of a method master plays important role in supervision and evaluation of teaching practical. While States like Tamil Nadu insist on postgraduate in the content subject, States like Orissa do not specify any content knowledge. There is one Institute of Advanced Study, whch has been producing B.Ed.s for many years, without having any lecturer who has studied science subjects at degree stage. Similarly,

one does not find Geography method masters having content knowledge of Geography at least **at** their degree stages. As the Norms developed by NCTE did not specify minimum content knowledge of method teachers, many teacher education institutions having no method master having studied the subject at least at the degree stage, got permanent type of recognition. Therefore, NCTE Norms should prescribe content knowledge up to degree stage for method teachers and also for schoolteachers supervising practice teaching lessons.

Continuous School Experience of Method Teachers

A method teacher needs to have experience in school teaching to be in a position to give better advise to the student- teacher. A medical practitioner needs to have continuous experience of doctoring in order to teach effectively about tackling of various diseases. This is also applicable for teacher educator profession. Acharya Ramamurti (1990) stated that " Competent persons may be brought into these institutions form schools and other government Institutions on a rotational basis" (p.313). APEID (1990) document reported that the quality of teacher training suffered due to lack of school teaching experience of teacher educators. ILO (1991) stated that "the staff teaching pedagogical subjects should have had experience of teaching in school and wherever possible should have the experience periodically refreshed by secondment to teaching duties in schools' (p!l45). OECD(1994) pointed out seriousness of the situation arising due to failure of teacher educators to keep pace with changing currfcjla and teachng strategies (P.78). Hence, it is eesntial that teacher educators have not only initial school teaching experience but also continuous school teachingexperience

Functioning of Library Out Side Normal Hours

The quality of functioning of library has much to do in a teacher education programme. The teacher trainees do not have much time to go to the library during normal working hours. Reading room facilities out side normal working hours, i.e. in the morning and the evening is essential for every institution. The NCTE Norms need to specify working hours for reading rooms and libraries.

Supervision on the Basis of Observation of Full Lesson and Immediate Feedback

Supervision of practice teaching programme is an important aspect in teacher training. In many systems, the supervision is carried out with observation of lessons for 3 to 4 minutes. This happens, as a teacher educator is required to supervise all lessons being taught in a school on that day. generally, irrespective of his/ her content knowledge. The observation has to be followed by discussion that can result in making the remarks and suggestions more relevant and effective.

Incentives for Practice Teaching Schools

Ideal teacher training programme has to involve the school system in an effective manner. The student teaching lessons need to be observed by the concerned schoolteachers. They need to give feedback on the quality of teaching. They need to be given certain incentives for the purpose either in cash or kind. Similarly, the student teachers need not only to observe demonstration lessons given by their method teachers but also by school teachers. The involvement of school teachers in teacher training can improve the teaching quality of schoolteachers.

Continuous Comprehensive Internal Evaluation

Quality of evaluation controls the quality of training. In earlier times, most of the teacher trainees were from in-service category. Some of them had even two decades of school teaching experience. Teacher educators of yester day did not take the v§{uation of examination of teacher trainees seriously. Although the;y ature of teacher trainee population has completely turned around, the evaluation quality continues in the same old pattern. Lessons, in many situations are evaluated on the basis of observation of 3 to 4 minutes. Evaluation of practical work is not taken seriously. There are instances of a professor evaluating community work practical of 600 B. Ed. Candidates through interview conducted in a single day. The NCTE Norms need to make evaluation of practical work including teaching work completely internal. The National Policy on Education recommends continuous and comprehensive evaluation for school students. There should be both qualitative as well as quantitative evaluation. This can be done only when, the evaluation of practical work is made completely internal.

Practical Work

The Revised Norms provide for certain essential practical activities. Certain modifications are necessary. There are a number of subjects covered in Diploma / Certificate courses meant for preparation of elementary school teachers. These include Art, SUPW, Physical education, General Science, History, Geography and Civics. There should be at least five lessons in each of these subjects. There need not be any specification regarding science practical. Study of a few District Institutes of Education and Training, Colleges of Teacher Education and Institutes of Advanced Study in Education in a State revealed that the computers supplied free of cost a decade earlier remained in those packages, due to non-availability of staff to handle them. Again, the elementary school teachers may not be in a position to have computers in their schools. In that case, the training will be lost due to non-use. Hence computer practice should not be an essential item.

CONCLUSION

Improving teacher quality is a difficult task. The working of a person in any profession depends on the level of commitment. This is specifically valid in case of teachers. In such a situation, there may be debates over the proposal for introduction of teacher licensing system and mentoring system. Above suggestions need the attention of all those, involved in -the process of accelerating the process of improvement of quality of school education in general and quality of school education in particular

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HIGH TIDES WILL FLOAT MY SHIPS- Developing My Teachers-

B.K. Passi[1]

THE NCTE ACT

Teacher education in India has attained a new status in 1993 when Indian Parliament passed the Act for the establishment of National Council for Teacher Educaiton (NCTE). This Act expanded boundaries for teacher education to new areas and heights. New roles have been added through diverse functions enacted therewith. This definition covers as many as seven interrelated areas of education and teacher education. It also refers to three approaches of teacher preparation, such as, professional programs of education, training, and research leading to the preparation of teachers of pre-school, formal school, non-formal school, open education, adult education, and so on. It views teacher education as a process of life long development. While I should consider the popular meanings of teacher education I would also like to delimit my boundaries mapped by the definition given in the Act.

Demanding Functions of Teacher Education

The NCTE Act broadened the functins covering the regulatory and the developmental aspects of teacher education. The functions include areas of planning, programming, advising, and various types of teacher education programs. It commands NCTE to organize surveys, research, educational studies, promotion of innovations, institutional development, man power planning, preventing commercialization, and so on. The spectrum of functions is wide, varied and complex. Fulfilment of these functins demands serious attention of the professional. The enacted functions cover both regulatory and professional development of teacher education. A quick overview given below can be useful for verifying the above assertion.

Box-1 : Enacted Functions of NCTE

a. undertake surveys and studies relating to various aspects of teacher education and publish the results thereof;

b. make recommendations to the Central and state Governments, universities, University Grants Commission and recognized institutions in the matter of preparation of suitable plans and programs in the field of teacher education;

c. co-ordinate and monitor teacher education and its development in the country;

d. lay down guidelines in respect of minimum qualifications for a person to be employed as a teacher in schools or in recognized institutions;

e. lay down norms for any specified categry of courses of training in teacher education, including the minimum eligibility criteria for admission thereof, and the method of selection of candidates, duration of the course, course contents and mode of curriculum;

f. lay down guidelines for compliance by recognized institutions, for starting new curses for training, and for providing physical and instructional facilities, staffing pattern and staff qualifications;

g. lay down standards in respect of examinations leading to teacher education qualifications, criteria for admissin to such examinations and schemes of courses of training;

h. lay down guidelines regarding tuition fees and other fees chargeable by recognized institutions;

i. promote and conduct innovation and research in various areas of teacher education and disseminate the results thereof;

j. examine and review periodically the implementation of the norms, guidelines and standards laid down by the Council, and to suitably advise the recognized institutions;

k. evolve suitable performance appraisal systems, norms and mechanisms for enforcing accountability on recognized institutions;

I. formulate schemes for various levels of teacher education and identify recognized institutions and set up new institutions for teacher development programs;

m. take all necessary steps to prevent commercialization of teacher education; and

n. perform such other functions as may be entrusted to it by the Central Qovemment.

PREPARING TEACHER EDUCATORS

I can see that new tides will float my ships. The expanded meaning of teacher education, the enacted functions of teacher education in the NCTE Act, and the escalated desire for achieving quality have increased the complexity of the situation. We need to prepare new manpower. The task of conceptualizing new manpower requirements and its preparation, development, recruitment, and retention are crucial. These cannot be left to chance. There have been many such instances when we were caught napping. We have evidence of this that the Government has launched the much-awaited program of DIETs withut instituting the corresponding preparatory mechanisms for the formal training of elementary teacher educators. Therefore, the agenda for the formal preparation of the stage-specific teacher-educators needs urgent attention on our part.

Four models of teacher development

Many alternate structures of National Institute of Excellence in Teacher Educaiton (NIETE) can be visualized. Divergent viewpoints about the development of teachers, such as, natural development viewpoint, ad-hoc preparation viewpoint, and deliberate efforts viewpoint, and many more view-points could be listed here for the development of teachers. Somewhere else, I have pursued this unattended, rather unrecognized, problem of preparing interdisciplinary teacher educators. Four types of arrangements for the deliberate development of teacher educators could be registered. These are: (a) Centralized Single Site Model (Formal Model), (b) Coordinated Decentralized Multi Site Model (Embassy Model), (c) Non-formal Model (Parking Campus), and (d) Informal Open Model (Learning Waves Model). We need to allocate resources for deliberate preparation of teacher educators. We must distinguish between the man power prepared for teaching in schools and that required in the training of trainers.

Table-1

Models for preparing teacher educators in emerging areas

	Models	Focus/Asoect	Site/Cam pus	Facultv/Researchers
1.	Centralized Single Site Campus (Formal) Model)	Holistic teacher education	One large campus like IITs, IIMs	Faculty will be multi-disciplinary, flexible departmental organization, full-time formal scheduling
t	Coordinated Decentralized Multi-Site Campus (Embassy Model)	Collaborative role, facet/areas specific study of chosen aspect	Multiple sites located in institutions of different regions/ cities	Faculty will be full-time collaborators, organized department/ project wise through collaboration
	Non-formal Model (Parking Campus)	Coordinated relevant parking campus having area specific strength will be studied	Multiple request campuses coordinated through chosen functional focus	Faculty mostly part-time willing to pursue chosen area of study as per focus, consultants
4.	Informal Open Model (Learning Wave)	Emerging focus emanates from the available strength of willing partners	Multiple camp locations for rganizing multi-media conferencing Sequential conferencing and seminars	Faculty unpaid and belongs to parent institution; Part-time paid/unpaid academic persons, and dedicatee organizing staff

Centralized Single Site Campus (Formal Model)

At this stage, we propose that development of teachers may employ all the four models simultaneously. If funds are available, we prefer the first model, that is, 'Centralized Single Campus' because of its physical visibility and professinal effectiveness. Accountability can be easily worked out. Interdisciplinary support and cross stimulation will enhance the quality of work. A variation of this model could be seen in the form of esstablishing and Open University for teacher education.

Coordianted Decentralized Multi-site Campus (Embasy Model)

The second model called 'Collaborating Decentralized Multi-site Campuses-Embassy Model* will require lesser funding. The institutions

collaborating with the NIETE will provide financial support on the basis of their importance and participation. The existing infrastructure of these collaborating institutions will be utilized. Investments for developing the physical site and infrastructure can largely be avoided. However, the faculty expenditure will be fully supported.

Non-formal Model (Parking Campus)

The third model identified, as 'Coordinated Parking Campuses' is substantially economical and viable. The collaborating institutions have to be identified by examining relevance and potential strength for teacher education. It is possible that these institutions may not be directly focusing upon teacher education. It is hoped that after intensive reflections and extensive coordination of organized research by these institutions, this model will provide new guidelines for preparing teacher educators. It is expected that this type of coordination will be a tough exercise. Identification of relevant findings and outlining their implications need maturity. Compared to the other two models, the coordination and synthesizing work is much more difficult.

Informal Open Model (Learning Wave)

The fourth model is identified as 'Informal Model-Learning Waves'. It will work through an informal approach. Indentification of partners in the form of individuals, groups and institutes will be spontaneous. The modus operandi can be seen in the form of conferences, inter-institutional visitation, visiting faculty attachments, monitoring common research and development projects, undertaking of common consultancy and so on. Participating institutions will have open focus. There will be lesser controls and hinges for coordination. The focus will develop from institutional strengths. Unrestrained coordination may nurture freshness in conceptualization and approach. However, it needs a very high level of competence to attain such coordination. Iterative team networking for coordination may be useful. Different teams operating from multiple venues and employing evolving methods of coordinaton can be tried out.

Developing Curriculum for Teacher Educators

The formal preparation of teacher educators will help the users and also the providers. The literature search posed new questions about curriculum development and assumptions, curriculum development and ideology, curriculum development and educational priorities, curriculum development and philosophical beliefs.

Table-2 Philosophical Beliefs and Curriculum

Ideology	Educational Priorities	Philosophical Beliefs	Curriculum Development
1. Rational Humanism	Teaching through Socratic method The use of primary texts. No electives	The best education for the best, is the best education for all. Since time in school is short, expose students to the best of Western culture.	Teach students how to facilitate good seminars. Use secondary texts sparingly.
2. Develop-mentalism	Fit curriculum to child's needs and interests, Inquiry oriented teaching.	Cognitive structures develop as naturally as walking. If the setting is right, students will raise questions to push their own thinking.	Allow teachers the opportunity to be supervised. Rather than writing a curri-culum manual, prepare a curriculum manual, prepare a curriculum guide.
I. Reconcep-tualism	Use philosophy, psychology, and literature to understand the human experience. Provide "educatioon for being".	One learns through experience. We can learn to understand experience through phenomenology, psychoanalysis, and literature.	Write lesson plans without the use of objectives, curriculum writers ought to reveal their individual subjectivities.
1 Critical Theory	Equal opportunities for all students. Teaching should entail critical reflection.	A just society maximizes the advantage for the least advantaged. Schools are part of the larger community and must be analyzed as such.	Curriculum writers ought to examine their own working assumptions critically and ought to respect the integrity of teachers and students.
5. Multicultura-lism.	Students should learn to participate in various cultures. Approach concepts or themes from various view-points.	Students need to fee good about their ethnic identities. All people participate in various cultures and subcultures.	Make sure that text and pictures represent a variety of cultures.

3. Cognitive Pluralism	Teach, and allow students to express themselves,through a variety of forms of representation. Allow students to develop numerous intelligences.	Our senses cue into and pick up different aspects of the world. Combined with our individual history and general schemata, our senses allow us to construct meaning	Curriculum lesson plans and units ought to be aesthetically pleasing in appearance. Curriculum ought to represent a variety of ways of knowing.

Types of Teachers for New System

The classroom teacher in his/her present form cannot improve education. His/her preparedness is inadequate. His/her role is interdependent bat in practice he/she works alone. There are many other persons and forces which are operating upon the education. We have to seriously improve every function, every aspect, and help each and every person at every stage. Continued profesional transformation of the system through the development of all personnel ranging from that of a gatekeeper to boardroom managers. Everyone from the peon to the principal has to be transformed. Total quality functions ranging from the popular function of simple teaching to that of system designing have to be learnt. We need to have loving teachers, efficient principals, specialized teacher educators, other functionaries of specialized areas like physical education, computer education, yoga education, and special needs education. There will be more than one shade of teachers who will be working for the system. Accordingly, teacher education has to expand its training kit and broaden its vision.

We will get a clear idea of our needs if we take the analogy of a hospital. These imaginative practitioners claim that the preferred needs of the futuristic education profession should guide our preparations. Like hospitals, some teacher educators are advocating a new hierarchy of personnel for our school systems. A hospital needs administrators, supervisors, consultants, senior experts in medicine, general practitioner doctors, specialized support technicians, caring nurses, mart ward boys, etc. These educational dreamers assert that likewise our schools would need to recruit or prepare a multiple cadre of assorted professionals. The narrow range of existing personnel would be transformed. The existing lot of teachers has to be transformed with the help of role specific in-service teacher education programs.

These educational dreamers suggest that apart from the general cadre of teachers, we have to prepare futuristic school principals, visionary financial advisors, proactive public relations personnel, human comfort-giving school plant-managers, specialized transport managers, library, media, and resource-center managers, residential health and food caretakers, play-cum-recreation and physical education experts, managers of personnel and human development, curriculum development specialists, educational guidance counselors, holistic whole brain evaluators, and grade management personnel.

Three Dimension of Manpower: Area, Level, Role

The system of teacher education is complex. Future vision should be three-dimensional i.e. areas, levels, roles. It requires different levels of expertise even in one given area of work, say, curriculum development or teaching. We need teachers, para-teachers, helper teachers, senior masters, teaching consultant, system designers, and view finders. The preparation of these personnel cannot be left to chance. Deliberate professional initiatives have to be taken by the proactive nations. Programs ranging from simple certificate, diploma, graduate degree, postgraduate degree, master of phbilosophy, doctoral-consultant degree, and others have to be instituted on a priority basis. May be, existing universities and their Education faculties have to enter with a new responsibility and commitment. European universities are entering into the arena of teacher education of preschool education, elementary education. As a matter of fact, universities hould enter into all the areas of teacher education, but more so in the emerging areas of teacher education of ECCE, adult education teacher education, non-formal teacher education, senior secondary teacher education, open learning system teacher education. We have to cover - all the seven areas and six level of teacher training. One can see a cumulative hierarchy across the levels. A pool of assorted manpower has to be created. The following table describes area-wise and level-wise posibilities of 42 teacher education programs. Some of the high priority areas are highlighted therein.

Table-3 Levels of Teacher Education and Ceretification.

Areas and Levels of Teacher Education	Educational Certificatikon and Prodrams					
	Certificate (i)	Diploma (ii)	Degree B A/B.Ed.	PG M A/M.Ed (iv)	M.Phil Speciali-zation, (v)	Ph.D. Rese-arch, (vi)
1. Pre-Primary						
2. Primary						
3. Secondary						
4. Higher Secondary						
5. Non-Forma Education						
6. Adult Educaiton						
7. Open SQhQQl						

Role-Wise Manpower

It is expected that the school system would require multi-functional and multi-skilled teachers and personnel for undertaking the roles of teaching, research, curriculum development, co-peer-training for the 42 areas. Let us say there are five major roles teachers should be performing in future. That would mean 5 roles, 6 levels, and 7areas. This would mean we have to plan for 5 x6 x 7 i.e. 210 teacher education programs. In order to understand the emerging and varying roles of teachers, we have to prepare them differently. We might have to employ overlapping strategies of organizational arrangements. One can illustrate this by following a framework of preparing and developing teachers for the system of interdisciplinarity and credit weights assigned for an illustrative 100 Credit Master Degree program of teacher education of curriculum development for elementary education. The author of this concept paper has worked out the details of this idea elsewhere.

Zero-Lecture Program

Will'these additional demands overweigh the already falling structures of teacher education? Alternatively do we feel that our ships

will float? There could be hopes and failures. One may fear the darkness but let us not be suspicious of the lights. There are many worries, endless problems, and a long list of issues facing teacher education. The problems and issues are: partnership/collaboration *versus* empowerment; product content *versus* proces solutions; home versus school cultures; equity *versus* access; competency versus reflection based teacher education; teacher education as a discipline *versus* profession; conformity and standardzation versus diversity. And many other such issues. The Open and Distance Teacher Education i facing many other problems and isues. These are (i) assessing needs of teachers, (ii) case studies of distance teacher education programs, (iii) evaluating institutional materials, (iv) documenting innovative programs, (v) possibilities for designing open teacher educaiton, (vi) pedagogy of interactive TV programs, (vii) scenario of open learning pedagogy, (viii) from print materials to multimedia, (ix) establishing mixed-mode integrated institutions, (x) augmenting training resources, (xi) process-norms for distance teacher education, (xiii) establishing virtual institutions, (xiii) preparing researchers, (xiv) teacher development plans, (xv) area plans for teachers and other staff, (xvi) financing of open teacher education.

This gloomy picture should not overcome us. I am going to share a reinvigorating exemplar experiment called ZLP. This program is exciting. While designing this program, we recalled a few guiding principles and assumptions like : (a) the more and teacher talks the lesser is student achievement, (b) self-designed the self-managed groups perform better than their counter-parts, (c) integral environment covering physical, emotional, intellectual, and spiritual aspects is more conducive for growth, (d) learning, relaxing working, in a life-like environment should be integrated within institutions, (e) students should actively participate in the planning of the learning environment the preparing of the teaching-learning experiences, discussing academic / social / administrative issues, giving and receiving feedback, diagnosing and evaluating the scholastic and non-scholasstic achievement, (f) owning the responsibility of all events improves the personality of the students, and so on.

Indore Experiment

At Indore Tyagi, Chhaya and Passi have been continuously developing,

demonstrating, and disseminating the innovation. Tyagi and Chhaya prepared an overview of the program. It is given below. It covers different points such as: (a) flexible time management, (b) a variety of modes of learning-zero-lecturing, (c) diversified and participatory evaluation, (d) personalizing environment, (e) learner's freedom, (f) teacher as facilitator, organizer andinspirer, (g) field linkages, and (h) comparison of outcomes. Brief description of the experiment follows:

Box-2 Indore Experiment

- In DA University, a group of researchers attempted an innovative program. They conceptualized, planned, prepared and implemented an interdisciplinary, activity-based, decentralized program managed by participating teachers and students and using a multi-media and multi-modal structure. Given a choice of approaches, the student teachers chose in favor of this "new" teacher educaiton program called the personalized zero-lecture teacher education program. It is a "total immersion" program, with the group planning all things themselves including the physical layout of the room and all support facilities, the society and community work, relationship with program related agencies in the surrounding environment. The Institute of Educaiton did not provide any additional resources to this group of volunteers so as to keep parity with the other programs in the institute.
- The "hot" events and current events, having a direct and indirect influence on teacher educaiton, are the substance of many unscheduled discussion. Generally, these discussions are frank, unstructured yet serious. Student teachers began to learn the importance of freedom, trust arid responsibility. Group presentations, conflict resolutions, and value clarification etc. started emerging from the discussions.
- The prescribed syllabus topics and curriculum are completed within flexible, small groupings. Presentation of prepared topic through various techniques like team seminars, quizzes, debates, interviews, panel discussions, role playing, games etc. are carried out. A multi-media approach is used. Block presentations of each topic in the syllabus are completed. The presentation, feedback, discussion, clarification, expert teacher comments, reference reading, evaluation of the presentations by teams, assessment and grading of the presentations etc. are carried out continuously by peer trainers. This continues over 2 semesters. No lectures are given by anyone. There are particular improvements observed in the cognitive learning, personality changes, and self-improvements through this approach.
- The student teachers, teacher educators, critical consultants, school-employing authorities, school children, community, and media persons have acknowledged the success of this program during the past five years that it has been running.

CONCLUSIONS

The changing views, higher expectations, and enacted responsibility of teacher through NCTE Act (1993) demand proactive roles from teacher educators, and concurrently, there is a need to free teacher education from age-old shackles. New institutional arrangements in the form of Campus Model, Embassy Model, Parking Model, and Learning Wave Model with any combinations and permutations have to float the ships of my teachers. New programs covering five roles, six levels, and seven areas have to be initiated. Potential institutions should be supported to work on the lines of unique model development. Necessary encouragement, support and guidance have to be provided. The responsibility is with those who are enjoying power and status and not with the underprivileged teacher educators. Development roles must supersede the regulatory functions. Accountable responsibility should be directive principle for the new hopes in teacher education, Dreaming drams is useful but not dreaming is dangerous. ZLP was one such pipe dream of a few researchers,. Have faith in our trainees, they are a source of ideas, direction, energy, and trust.

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Principal

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CONTENTS

LOW ACHIEVEMENT : CAUSES AND REMEDIAL MEASURES

SarJa Paul

INTRODUCTION

Achievement in any course of study significantly affects the entire personality of the students. Low achieving students, it is generally observed* suffer from inferiority complex, frustration and manifest other forms of deviant behaviours. They lack self confidence, and find themselves misfit in the company of other students. This seriously affects their entire personality which has far reaching repercussions throughout their lives. Good achievement on the other hand tends to help both in improving the personality of the students and also their recognition by parents,, peer groups, teachers, neighbours and society at large, it boosts their morale and develops feeling in them that they are useful in the family school and society.

OBJECTIVES

1) To investigate some of the probable causes of low achievement on the part of higher secondary teacher trainees.
2) To investigate their study habits as one of the probable causes of low achievement.
3) To investigate their vocational interest as one of the probable causes of theirJow achievement,
4) To find out sex difference in their study habits and vocational interests.
5) To try out certain remedial measures fa Improve: their achievement.

SAMPLE

thesample was selected from teacher trainees of B.Ed, course from the Faculty of Education DEI; DayalbagH; Altb|ptefour students **fourmaiesandjfouEfem**

first test of internal assessment were selected for the study. The age of the students ranged between 21 years to 25 years. By low a enlevement itwas *mssm* achieving marks below 35%.

TOOLS

1) . For measuring acraevsmeni marks gained by the. students *m;* their first lest for selection and later on in their second test for assessing t i e r Improvement fn achievement were considered." •

2} For identifying their study habits, Study *Habit* inventory (SHJ). prepared by M. rVliMiopacfiayay and D.N. Sansanwa! was used.

3) For measuring vocational interests of the trainees Vocational ' Interest Record {VtR} *prepared* fay S.P. Kulshreshtha was used

4) For cfegnosing causes of poor achievement, personal interview - and reorroal conversation v/as done.

5) Suitable **iBfnedfaf** measures were adopted accordingly.

METHOD \

Case study method was used for diagnostic and..remedial] opposes, "J

HYPOTHESES

f oifowtiigthree hypotheses were formulated

1) There is no significant difference on the basis of sex in the study **oaiMfs** of tow achieving B. Ed. trainees.

2) There is no significant difference on the basis of sex in the vocational Interests of low achieving B.Ed, trainees.

3} Sitidents' *achievement* Is **not** significantly affected by adopting remeolal rreasures. .

PROCEDURE " - ijj

1.) Efghistudenis were *saleded* on me basis of marks *obtained by* , them in three compulsory *papers. Their* marks in the first test,;? h # ! after onsmonth of *their study,* were taken into consideration. 1||

2) They were given Study Habit Inventory and Vocational Interest §

Record for the purpose of analysing these two variables.

3} They were given personal guidance and additional help from time to lime.

4) Their achievement in the second test (held,about two months later) was also considered to find out any effect on their achievement

FINDINGS

probable Causes of Low Achievement

Some of the probable causes of low achievement identified and analysed on tho basis of survey of some reference books are:

Probable Causes of Low Achivement

In the Individual Himself/Herself	Family	School
> Physical Health	• Structure of Family	• General Climate of the School
^ Intelligence	• Members in the Family	• Teacher-Student Interaction in the Classroom
Attitudes	• Position of the Child	• Teacher-Student Interaction Outside the Classroom.
* General Interests	• Socioeconomic. Status	* Provision of Co-. curricular Activities
Study Habits	• Educational Status	• Provision of Teaching Aids
v Vocational interests	f Vocation of Parents	• System of Evaluation
^ s e l f Concept	• Family Environment	•Others
Level of ± As Pirati ons	• Parent Child Interaction	
Others	• Others	

Study Habits of the Selected Students

Identification of study habits were justified on the ground that they) are important for higher academic achievement and also for fruitfy use of leisure time, in the inventory, the study habits are considered |o be constituted of nine different kinds of behaviours which are given below: (i) Comprehensive, (ii) Concentration (iii) Task orientation, (ivj Sets (v) Interaction (vi) Drilling (vii) Supports (viii) Recording (ixj Language

• .: S Tabie-I $m - S •

Mean Scores on Study Habit Inventory of both Male and Female Low

Students	Mean Scores of Areas **o**fStud>' Habits								
	Comprehen sive	Concentra- tion	Task- orientation	ü	Interaction	Drilling	Support- i	Recording	Language
Boys	**31**	**20.5**	**15.5**	**17**	**8.5**	**7.5**	**8.0**	**7.5**	**5.0**
Girls	**28.6**	**25.3**	**26.0**	**15.6**	**8.0**	**8.0**	**6.3**	**3.6**	**4.0**

The table given above shows that boys gave" importance to comprehension, concentration, sets, task orientation in decreasing order of emphasis. Least importance was given to Interaction, Drilling, Supports, Recording and Language as study habits. So/far as girls were concerned, they also gave importance to comprehension, task orientation, concentration and sets, while least importance was given to language, recording, supports etc..

It was observed from the table that both boys and girls do not give importance to recording language, supports, drilling and interaction. These were very important for retention of the subject matter learnt Language is important from the point of view of expression - both oral and written which is basicfor achieving good marks. Hence emohasis

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iy enon to retain and also to reproduce theconteM

m
they have learnt. • , • ,

Vocational Interest of the Selected Students

Vocational Interest is defined as one's own pattern of preferences aptitudes, likes and dislikes, *preferred* by self or by other source for a given vocational area or vocation. Only by making the right choice the student is able to utilize his/her all potentialities to the maximum extent. -The vocational Interest Record (VIR) prepared byS.P. Kutshreshfha, which was administered to the selected sample consisted of altogether ten vocational areas: (i) Literary, (ii) Scientific, (iii) Executive (iv) Commercial (v) Constructive (vi) Artistic (vii) Agricultural (viii) Persuasive (ix) Social (x) Household

Table- II

Mean Score on Vocational Interest Record of both Male and Female Low Achieving Secondary School Teacher Trainees.

Students	Mean Scores on Vocational Interest									
Boys	10.5	12.5	13.5	9.0	5.5	9.5	7.5	9.0	7.0	6.0
Girls	15.0	8.3	7.5	6.0	2.0	6.6	3.3	8.3	13.0	6.6

The table given above shows that boys give first preference to executive jobs and then to literary, sdentific,, artistic, commercial, j^asive, social and household type of jobs. The least preferred by 1 ^ s instructive job. Girls on the other hand give most importance to houT^ and then to social, scientific, persuasive, executive, artistic and m The least importance given by them is to constructive and the gjri L The boys g^e first preference tDexBcuth^-j^Pf**^^® - bo VsajtF' V8first Preference to jobs related' to- lrtecary-;!fiteiBsts., Bojto %wQ. ^irls 9ive least importance to constructive type ofjobs.These f& *zed by the investigator f^^K1^'i3#'^lgi?^nee

to their temperament;.

Table - III

Classification of Mean Scores obtained by Boys and Girls on Vocational Interest Record

Classification	Scores	Boys	Girls
High Interest	18-20	- - , • ' S	-
Above Average Interest	14-17,	#.... -	Literary
Average Interest	07-13	Lit. Sc., Exe., Comm., Artistic, Agri., Persuasive, Social	Sc., Exe., Persuasive Social, House hold
Below Average Interest	04-06	Cons., Household	Comm. Artistic
Low Interest	0-03	- • :	Cons., Agri.

The table given above shows that none of the boys and girls of the sample possesses high interest in any of the vocational interest area. No boy possesses low interest in any area of vocational interest while girls have very low interest in constructive and agricultural and vocational areas. So far as interest related to household activities are concerned, there is not much difference between boys andgirls. Since they do not possess any special liking to particular vocation, they can be guided in broader perspective.

REMEDIAL MEASURES ADOPTED I *

The main emphasis was on what the investigator as a teacher do for these students to improve their achievement The investigator adopted the following techniques and measures:-

(1) On interview with ***them,*** the investigator felt that they suffer from inferiority complex and they were hesitant to disclose themselves. Therefore, the investigatory developed rapport with them and motivated them. She assured them that they can definitely do better,and they possess abilities. After several talks with them, they developed confidence in the investigator and became free with her to say all their faculties. He R was Provided to them from time to time and hindrances were removed. ; , . :

(2) Theirexpression was improved by giving them some additional

Assignment and correcting their linguistic errors and style of presentation. . £>>40f-3& - ,\

(3) List of reference books of their standard was made available to them.

(4) **Theywere also given personal guidancefrbm time to time,**

(5) **They were given educational guidance in the selection of elective course and work experience course and were also familiarised with the job opportunities related to them.**

(6) **To those who could not afford to purchase books, the investigator helped them by giving a few books and getting few books issued to** them **through Book Bank centre for the entire semester. -**

This little help given to these students boosted their self confidence, increased their dedication and sincerity to their work and various assignment and increased their achievement in the second test **held after a gap of two months. Increase in theirachievement was observed between fifteen per cent to twenty five per cent. Thus it can** be **concluded that achievement on the part of the student is a matter of cumulative effect of many other factors which, if attended well will definitely go a long way in improving their" overall performance, personality development and adjustment** ;

DEVELOPING EFFECTIVE COMMUNICATION SKILLS AMONG THE HIGH SCHOOL PUPILS

, -PadmavatiM..

INTRODUCTION

Language teaching, now has moved away from a teacher-centred approach to learner centred approach with the communicative approach to language teaching. Learners with their different needs and abilities have become the focal point now Use of the chalk and talk method alone is insufficient to cater to the demands of the learners. In keeping with these current theories related to the psychology of language learning, a dual attempt, was madeby the investigator of this project to cater to the needs and interests of the learners as well as to develop student teacher's competence as an organiser of the communicative activities, guide supervisor, facilitator and the successful manager. The strategies used in the project are (i) planning and organising the communicative activities- play lets, debates and recitation competitions in English for the high school pupils, and (ii) sharing the excellence among the prize winners of the above competitions. The entire project was conducted for three months. I.e., from November 1997 to February 1998, in two phases.

OBJECTIVES

* To develop effective communication skills through the communicative activities organised by the student teachers of English method

*To train the student teachers with the required competencies to plan and organise the communicative activities- playlets, debates and recitation competitions in English in order to develop effective communicative skills among the high school pupils.

RATIONALE

The rationale behind choosing the development of effective communication skills among the high school pupils is that our English

S^ff Cti ? ^ teachins schoo,s Im
as25£c 9 383firSt the cit V of Mangaiore have
an 9uage. The pupils who optfor EngI.sH
as afirst language, are good at basic communicative skills in English

y^atthey needjs '-'Effective communication skills*. <\ .

Specific Objectives

phase 1

To develop interest among the student teachers in communicative activities - playlets, debates and recitation in English poetry.

To bring in awareness among the student teachers with regard to the significance of the above mentioned activities indeveloping effective communication skills.

To train the student teachers to plan and organise the communicative activities in a systematic way.

* To create an opportunity for the high school pupils, to participate in the communicative activities, playlets, debates and recitation competitions in English poetry.

* To develop the skills of effective communication through the afore mentioned activities

Phase II

To create an opportunity to share the excellence among the prize winners from different inter-schools.

To create an opportunity to appreciate one .another's performance among the prize winners of inter schools.

To enhance their effective communication skills by sharing their excellence with one another.

To evaluate the performance of the student teachers of English method in planning and organising the literary activities.

To create an opportunity for the student teachers to share their experiences with regard to planning and organising the activities with their companions, formally

SIGNIFICANCE OF ACTIVITIES

Debates

Debates create a rare art of direct thinking. It helps in acquiring a flexible adaptability in' applying one's own ideas and appreciating other

peoples, II provides an opportunity to dovolop ©ffoctlvo communication skills. II helps in acquiring now ldo@8 and knowledge and fostort i$_{ne}$ spirit of give and take. It develops public speaking abilities, it *imkm* the pupils believe that ihe approach, the manner of presentation of knowlodgo is more Important than the knowledge or information, it helps ihe student teachers to acquire the required competencies such as guiding the pupils, assisting the pupils with reference work, managing skills and so on.

Playlets

Brevity is the soul of one act play. The pupils learn to discipline their action expressions, identify themselves with the character, understand the character and express the emotions and feelings distinctly. They learn to follow dialogue of others patiently and control their emotions. They learn to face the audience boldly. All these aspects train the pupils to develop effective communication skills among them. By planning and organising the playlets, the student teachers learn various skills such as Improving the clarity in speech, voice modulation, learning and training the dialogue, stage props, time management providing the required guidance for the plays and so on.

Recitation Competition in English Poetry

Recitation is an act of recjting a poem from memory. There is a distinct cultural value in the memorizing of the best pieces of poetry. It develops aesthetic sense and appreciation for its form and the poets. Recitation competition gives an opportunity for the pupils to learn to recite effectively taking note of the skills of recitation such as rhythm, expression, interaction, juncture, accent and pronunciation etc. It develops interest among the pupils as well as the student teachers in English poetry. The skills of recitation help the pupils in communicating effectively. The student teachers get some of the good models of recitation. By organising such competitions, they acquire various teaching competencies such as planning^ organising, time management and effective communication.

INITIAL PLANMING OF THE PROJECT

The projectwas initiated by the (nvestigatoron 22.111997^

student teachers were given an orientation towards the project They were divided into groups based on the number of practice in teaching schools and according to the choice and interest of the communicative activities suggested by the investigator viz,, play lets, debates in English and recitation in English poetry.tibrary work was planned and guided by the investigator with regard to the essentials and the significance of the above mentioned activities. Group discussions were arranged during and after the class hours to consolidate the information collected jn the libraries and to keep ready the prerequisites such as:

* The meaning of playlets, debates and recitation competitions.
* The essentials involved in all the three activities.
* The significance of the activities in developing effective communication skills.
* Drafting the letters to the Heads of the Institutions seeking permission to organise the activities in the school.
* Planning the terms and conditions for the competitions.
* Planning the criteria for the evaluation of the pupils' performance in playlets, debates and recitation competitions in English giving due attention to all the components of these communicative activities.
* Selection of judges, moderator, master of ceremony and other office bearers required to plan and organise the activities in the schools.
* Time, duration, venue, periods to adjust during practice in teaching, and so on.

Preparing the invitations and Thank You notes etc.

EXECUTION

During the first block of practice jo teaching held in January 1998, the Student teachers organised the communicative activities in their respective practice in teaching schools with the whole-hearted ^operation of the Head of the Insfitqfion and the pu^lscftheschools^fl the prizewinners of the competitions held in seven practice HI teacr*| schools were invited to take part in the phase II project i.e., Shanr^tf^ Sxcelfence which was scheduled to take place on 9.2,98 at St Arm s

College of Education, Mangalore, The prize winners were informed that they had to present their performance on 9.2.98 at the college.The investigator had organised the Phase II to evaluate the performance of the student teachers in planning and organising the activities in the schools. As part of the programme, the student teachers Had to report their experiences pertaining to their planning and organising of the activitiesand present their prize winners to the audience:.

As soon as the student teachers returned from the practice in teaching in the last week of January, the planning for the phase II was started. Aformal programme - Sharing the Excellence wasorganised on 9.2.98. The prize winners were given prizes and certificates for their performance during the programme, the phase li project was successfully ended as per the plans of the participants of the project.

IMPLICATIONS

High School Students

* The students got an opportunity to take part in the communicative activitiesand show their potentiality ,1
* The activities created- an opportunity to develop effective communicative skills among them, **iff . *H*** rfe
* The sudents acquired various skills involved in the playlets, debates and recitation in English poetry in addition to the communicative skills; < : *mm* Jfe
* They learnt to appreciate one another's performance.

  They developed various social qualities such as cooperation, mutual understanding, tolerance, group loyalty and so on.

  They developed interest in English'language and literature by participating in these activities. r • :i *j /*
* They developed sel^confidencs in facing the audience and in taking part in the activities. ••>•. *mm* ***§M*** *f]*

Student Teachers . , ^ • -

* - The student teachers acquired various teactier-competericies **3**[s] a guide, facilitator and.manager in plahningHand-or^ariising^^ communicative activities;-- i i *fa* • t ... ... ; ; •

They were benefited much from the pupils performance during the activities.

They realised the significancance of tie aforementioned.adivSes in developing effective communication skills.

They developed interest in organising such *mmimficamm* activities.

They developed interest in English language and literature.

They learnt various social qualities such as team work, cooperation, mutual understanding, sharing one's ideas, patience, help one another, appreciate one another and so on.

They acquired business writing skills.

CONCLUSION

Thus, the investigator was successful with this simple project and was able to achieve the objectives set with the active involvement of the high school pupils as well as the student teachers of English method.

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INSTRUCTIONAL STRATEGY CHANGE ON THE ACHIEVEMENT IN BIOTECHNOLOGY AND ATTITUDE TOWARDS SCIENCE AMONG HIGHER SECONDARY SCHOOL STUDENTS

Thilaka Suresh

INTRODUCTION

One major concern of science education is preparing students to live in a rapidly changing society. The recent incorporation of new information technologies in to schools offers science education an unprecedented opportunity to reconsider traditional approaches to science curricula, Many studies have been conducted to see the effect of CAI on achievements of the students (Castlebery et aL, 1970; Summeriin and Gardner, 1973; Bork, 1981; Schwartz, 1986; Kuiik, 1983; Singh, etal, 1991). During the last few decades, the educational world has begun to appreciate the enormous potential of Biotechnology to influence our future lives. Biotechnology, in particular, Is an emerging and rapidly evolving field which has major international implications for science education. It is likely to become as important to the world as the microprocessor and information technology The Royal Society Report on Biotechnology and Education 1981 indicated that young people need to be prepared for a world in which Biotechnology would figure, prominently. Hence, the present study proposed to evaluate the effect of oneofthemostrecent.teaching learning strategy namely the computer assisted instruction on achievement In Biotechnology

OBJECTIVE

The main objective of the present study was to develop a GAL programme 'BIOTECH'to teach the basic principles of Biotechnology It w^sajso.-the objective of the presentstudy to assess the effectiveness of Tutorial'BIOTECH' CAL packagein attaining the content objectives when used independently by studentsand to examine the influence of this instructional strategy change on the achievement in Biotechnology

gnd altitude towards science. For the present investigation, the students* receptivity, computer familiarity and Biology proficiency were chosen ^variables.-

SAMPLE

A sample of eleventh standard boys, girls and mixed students belonging to State Board of Education were selected. The total number of subjects were 200. There were 36 boys, 33 girls and 32 mixed students in the experimental group and the same number of students in the control group belonging to the age group of 18-17 years.

COMPUTER SOFTWARE USED

The CAL programme developed and used for the experimental group is of tutorial type, menu driven, written in GW Basic language and was designed to operate on personal computers. The concepts of Biotechnology were explained using simple language and a combination of text and high resolution of colour graphics including animation.

- TOOLS

Tne tools constructed and adapted to suit the present purpose were : 1. Student's receptivity test, 2. Computer familiarity test, 3. Biology proficiency test, 4. Achievement test in Biotechnology and 5. Attitude scale towards science (Germann, 1988).

RESEARCH DESIGN

The study, envisaged a casual relation between self instructional strategy and achievement in Biotechnology through the psychological variables such as Biology proficiency, attitude towards science, students' receptivity and computerfamiliarity and to establish the impact Of CAI on achievement in Biotechnology using a pre and post experimental design.

ANALYSIS

Path analysis was undertaken to verity hypotheses relating to the bssie path model developed for the present study for eleventh standard students of the experimental group. The following table presents a ^summary of path coefficients obtained through coefficientof correlation ᶜoo regression equation.

Table-!

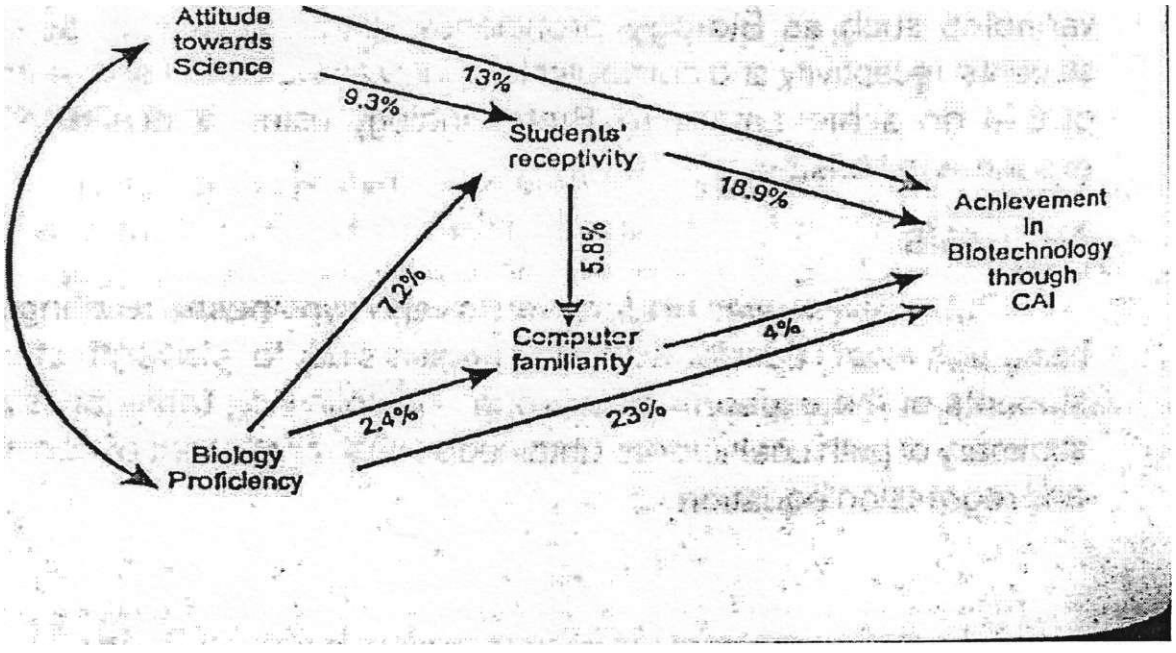
Path coefficients and coefficients of determination of students' receptivity, computer familiarity, Biology proficiency and attitude towards science on achievement in Biotechnology through CAJ among eleventh standard students in the experimental group.

Dependent Variable	Independent Variable	Coefficient of determination	Path Coefficient	t-Value	level *of*~~ Significance
Achivement in Biotechnology throughCAI	Students' recepitiwty	0.189	0.4347	6.793 ,	0.01
	Computer familiarity	0.0401	0.2003	2.862	0.01
	Biological proficiency	0.2312	0.4808	5.666	0.01
	Attitude towards science	0.1395	0.3735	7.716	0.01

It is seen from the above table that students' receptivity, computer familiarity, Biology proficiency and attitude towards science are having significant and direct influence on achievement in Biotechnology as shown by the path coefficients. The following path diagram was depicted for the total sample.

Fig.l Path diagram

Total sample



The significance of mean differences within groups were computed using analysis of variance (one-way), analysis of co-variance and critical ratios for both *mpwirmm* ami eorrtrol group.

Source 0/ Variation			*SBy*			*MBy*%*	1	
Among the means	1	63.4	1010 j	272,3	*Ma*	*W)A*		
Within groups	197	1319,5			36743		37.4	
Total	198	1382-9	i 505X3		143754	L		

It is evident from the 'P value that tee is a significant difference between the experimental and control groins erf students 00 pasf-fesi performance in Biotechnology: ftc^ldbeirtap^fe^tisftiefec^ct of instructional strategy change had feeen di*'mM.* wift control and experimental group students.

The comparison between the experinnenial arid, control groups of boys, girls and mixed students on pQSt4sst performance show fist they differ significantly in their acf-f evernsrt in E&lechnofGgy; the mean score of experimental group being higher *m* each ease ft further implies fiat the impact of self-instructional strategy ft^cugh *CM* is mora effective for students' achievement in BloIsdimAxfy iiantextesed selfferfin^

MAJOR FINDINGS

1. CAI strategy has a significant Musoca on the aduevement ***set*** "Biotechnology, under Ihe W«e«ingc€r^:as of Sudanis* feceptwl^ computer familiarity, Biology proficiency arriaS&ade towards sdier.ee among the eleventh standard siuden&es a: total gff&p as welt a* grouped as boys, giris and mixed s&Mfertsocmg»S6^s Board licjier Secondary Schools AH ***toBsevane^f^^*&&*&*** sdhfesenjeri ^Biotechnology aiiK^te^^P^^^^^^^ f o l 1 ^-- 0ris and mixed students,-

2- The experimentalandcontrol an*** tffe^, Sj*?4 Merits we^foundtohave aslma^w^ 5 3 8 3 ^®^^

test performance in Biotechnology, the mean of experimental group in each case being higher.

3. Mixed students performed better than girls and boys in post test performance in Biotechnology.

4. The experimental group students were found to have a significant favourable change in their attitude towards science after learning Biotechnology through CA1.

EDUCATIONAL IMPLICATIONS

The advent of CAI in Science classrooms brings us to the beginning of a new era in science education and a spectrum of both comprehensive and specific research is needed. Quality computer programs which produce colourful animated graphical displays can form a versatile and effective alternative change in instructional strategy. An excellent science course may be taught without the use of a computer. However, the careful incorporation of computers into a science course can add an important level of enhancement. Although, not as conclusive as one might hope studies do indicate that computer use in science education will improve learning and positively influence students' attitudes.This study is not Intended to replace the teacher. A teacher can never be replaced by a machine or material however effective they may be because, a machine or material has no personality A teacher on the other hand has a personality which incorporates the content with culture and human values. Self-instruction here is aimed only to induce interest in learning and pave way for self-learning at higher level and also to reduce the workload of the teacher in the academic stream/To conclude, CAI is emerging as a widely used, versatile ;and effective educational tool to meet the educational problems ail over the world.

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PERCEIVED SELF OF UNDERACHIEVING GIFTED CHILDREN

Ajay *Kumar* Moharity

There has been a considerable expansion in theoretical and empirical efforts to analyse children's self-perceptions over the past 20 years or so { Byrne, 1984, Shavelson et.al. 1976). Although there is an increasing body of research on the general nature of self-concept of the gifted and talented (e.g., Coleman and Fults, 1985, Feldusen and Kolloff, 1981, Ros and Parker, 1980), a few have examined self-concept as a multidimensional construct, and none has focused on self-concept as an unitary entity of underachieving Gifted Children.

The present study is an effort to assess perceived self as a unitary entity with a sample of pupils categorized as underachieving gifted Although the question of self-concept in the gifted has received considerable research attention (Schneider, 1987), most efforts have entailed comparisons of gifted and non- gifted samples. Relatively little attention has been paid to the self-concept in gifted underachieving children, that is the issue of concern in the present study.

The results of the general body of research on global self-concepts and the gifted and talented are somewhat equivocal on the theory that the gifted and talented students possess higher self-concept than other students (Coleman and Fults, 1985, Karnes and Whery, 1981, "fidwell, 1980). In other studies, however, gifted and talented students have been shown as having lower self-concepts (Kanoy, et aJ. 1980, Whitemore, 1980) and some studies have shown no significant differences (Bracken, 1980, Neufeld and Cozac, 1980).

The present study provided an opportunity to explore the perceived self of children with a sample of underachieving gifted cMdren. The study was designed to explore issues whether self-concept c#ehiJdren was related to gifted boys and girls in the same manner. *To* what extent self-concept of children was related to *academic* achievement of underachieving gifted boys and girls? Whether *gifted*

underachieving boys and girls differ significantly on perceived self?

SAMPLE

The sample consisted of840 students **of** 10* class in secondary schools **of** Balasore district of Orissa The gifted underachieving sample comprised **of** 33 students (15 boys and 18 girls) who were identified as gifted underachieves with the selection procedure based on individual Intelligence Test Performance, Achievement Test Scores aid Teachers' Rating. Tne selection of underachievers was done with the *help* of selection method -3 (Annesieyetat. 1970) i.e. * difference between achievement score and predicted achievement relative to standard error **of** estimate*. The mean intelligence percentile of the sample was 95 **on** the Raven's Standard Progressive Matrices and the mean age was 15 years.

MEASURES AND ROCEDURE

The Personality Word List, the measure, was used to assess seff-perception of children. It was developed by Deo, 1971. The instrument is composed of 90 adjectives of every day use. It is a self-rating word list, to be rated by the subject on the points from "very much like this* to ˢnot at all like this". The total composite scores were considered as the indices of the subjects' Self-Perception. The psychometric properties of the measure have been well established. Reliability coefficient ranged from .62 to .86. Convergent validity of various traits ranged from *A* to .65 (Deo 1971).

RESULTS AND DISCUSSION

Descriptive Data

Table-I

VAR		Mean	1 ££>
SC	TOTAL	125.21	38.13
SC	BOYS	124.09	34.49
SC	GIRLS	138.35	33.55

itmm - 1 presents mean scuit?sr ui acii-**wnw**=Ki ^» ≻» «w-» 'a . ^ ¹ , ^ and scores by gender level. High mean scores on self-concept suggest that underachieving *students* have high perception, belief and feelings regarding themselves. Low mean score of boys Indicate self-**Perceptions** of girls are better then boys.

Differential Analysis

Table-ll

VAR	M1-M2	S.D.1-S.D.2	T-Ratio
SC	14.26	-.94	2,10*

*sigat.05 ievei=2.04

**sig at .1 level = 2.75

The gender differences are shown in the Table - II. It can be seen that boys were displaying lower scores on self-perceptions. This result is generally consistent with that of Schneider et al. (1989), Results show significant differences between underachieving boys and girls, The mean score of girls was higher than that of boys. It revealed that underachieving girls had higher perceptions, beliefs, attitudes and feelings that they viewed as characteristics of themselves in comparison to boys. *OQ£* x;,; *QkiA* *%**D**%&*&3&*

Bi-variate Relationships

Table-ill C

UA	SC
Bovs	.234
Girls	-.057

• sigat .05 level = (boys = 514) (girls = .468)(UA= 349)'

Table-Ill presents coefficient correlation between the academic achievement and self-perceptiori of gifted Underachievers, underachieving boys and girls respectively. The coefficients in the table revealed that the correlation between achievement of underachievers and self-concept was found to be .39, which was significant at .05 level. This suggests thatthe gifted underachieving children's' self-perception was positively:and significantly correlated with their academic performances. The finding of this study is in line with That of Ziv et al(1977) and Carter (1978); However, gender level relationship revealed that achievement of underachievers is not significantly related with self-perception of boys or girls. "

CONCLUSION

•the study was designed to explore issues relating underachieving pattern of gifted boys and girls. These concerned (a)whether self-perception of gifted underachieving boys and girls are different, (b) how academic performance of gifted is related with their self-perception. The present results yielded concrete evidence that self-perception of gifted underachieving boys and girls is different and also it related positively with boys and negatively with girls. The negative relation between self-perception and academic performance in case of gifted underachieving girls is also worthy of note. The Finding in this case is of course quite tentative, but it does reinforce Schenider's (1987} conclusion that more research is needed on relations between achievement and self -perceptibnof gifted girls. Self-perception is the result of ones' past history of success and failure. Situations should be provided in schools and at home for successful experiences. The motive to avoid failure should be changed into the motive to face the challenging tasks. This definitely invites a change in the present enrichment programme, it should be need-based, specific and gender-based.

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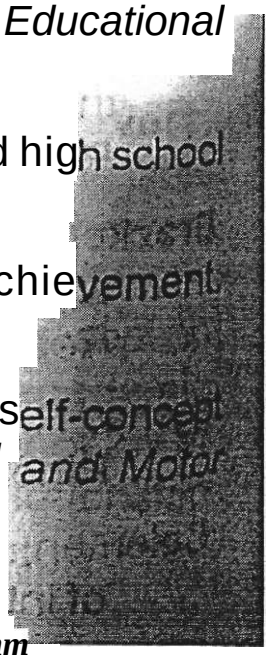

EFFECT OF COMPUTER ASSISTED LEARNING (CAL) IN ACHIEVING HIGHER COGNITIVE SKILLS

Subhash Chandra Panda
Jayakrushna Chaudhury

INTRODUCTION

The role of science is seminal in determining the conceptual development of a learner and its Influence remains all pervasive. Unlike other school subjects the teacher intervention here is of great' significance and a must for conceptual clarity. However, the effectiveness of teacher-intervention depends on the method and media employed by the teacher for the purpose. The criterion of effectiveness is the degree to which a particular method of teaching achieves its objectives. The objectives can be formulated in terms of socially desirable behavior at different domains in general and cognition in particular in specific classroom situations. A comparative study of various methods and media may throw some light in this area and help the teachers and students alike in attainment of teaching objectives. Of course, no medium as such could be conclusively proved to be better than another. However, a study by Koumi (1994) proved that the studies that gave impression of equipotentiality between media are methodologically flawed. In media comparison studies identical topics and teaching functions are tried using identical methods with different media. However, this deliberately under utilized the potentiality of a medium as the media characteristic method is not used. This added a new dimension to media comparison studies and an attempt was made in this study taking into account some of the cautions sounded by Koumi.

OBJECTIVES

- To determine the degree of attainment of cognitive skills through computer assisted ieaming(CAL) compared to traditional approach to teaching

- To compare the effect of CAL on the learning achievement of boys 1 and girls.

HYPOTHESES

- There is no significant difference between the mean achievement j scores of experimental group and control group
- There is no significant difference between the achievement of | boys and girls in both groups j

DELIMITATIONS j

- The sample of the study was confined to students of class XII of | a school . ... . j
- Only the objectives of cognitive domain were given priority in the teaching process I
- Effectiveness of teaching was measured in terms of achievement in knowledge, understanding, application, analysis and synthesis | using only one test
- the content selected were confined to physics lessons only

METHODOLOGY j

Design

For this study, pre-test post-test matched group experiment^ j design was chosen.

; Sample

£pnsidering the non-feasibility of formulating two random^ 1 groups in aschool setting through cluster-sampling two clusters, for experimental treatment and another forcontrol, were selected fr£ f the same school between the age group of 15-17 from class XII- *"'] distribution of sample is presented in following table. I

(Group-	Boys 1	- Girls,	y Total
controlled	'• 11 ' m	09'	20
bxpenmental	12	08	20 J
Total	23	17	40 J

PROCEDURE

The experimental and controlled groups wore matched on the basis of independent variable intelligence and dependent variable achievement on pre-test The Standard Raven's Progressive Molricos (RPM) was used to estimate the intelligence percentile of the two groups. One objective based achievement test was constructed on the topics covered during experiment to serve as pre-test and post-test. The experimental group was treated with computer using interacttonist approach and the controlled group was treated with traditional teaching using lecture method. At the end of the experiment, basing on the result of post-test on achievement, the two groups were compared statistically.

TREATMENT

The following actions were taken to provide some special treatment to the experimental group:

- The topics from physics such as Simple Harmonic Motion, Waves and Interference, Electronic Oscillation and Semiconductors were selected for transaction;
- The behavioural objectives in cognitive hierarchy were formulated in terms of percentage i.e. knowledge} 40), Understanding (30), application (20), analysis(6) and synthesis (4);
- Special objective based lesson plans on CAL were developed and used;
- The achievement test for use as pre-test and post-test was developed with the help of experts as per a blue print having different weightage at different levels of learning hierarchy in terms of percentage as indicated in objectives;
- Equal scope for timing was provided to both the groups.

The controlled group was treated with the same content but with . traditional teacher centred approach that mainly involved lecture Method, whereas the experimental group was treated with CAL in a specialised manner giving more emphasis on interactionist approach.

FINDINGS

Testing of Hypothesis-i

The mean gains in respect of both the groups after exposed to the treatments were having significant difference wherein, the superiority of experimental group over controlled group was indicated. For further analysis of the superiority of the experimental group over the controlled one, summative scores of achievement of both the groups the technique of covariance analysis was adopted. The finding is given in following table.

Table - II

Analysis of Covariance of Summative Scores of Experimental and Controlled Groups

Sources of variation	*df*	SSx	*SSy*	*Sxy*	SSx.V	MSy.x *m*
Among mean	1	2.025	193.6	19.80	•181.4	181.4
Within means	37	737.950	375.5	221.05	309.3	8.36
Total	38	739,975	569.1	240.85	490.7	

Fy.x=21.7 for df = 1*137* t = 4.66 for df = 37 I

H-« T!?USIfrOmFIItestandtest . it was found that the two groups | differed significantly. Thus it can be concluded that CAL resulted in | =1!Turleamin 9 achievements in all hierarchies of cognitive domain j ™ er^y , henUIIhvPothesis was rejected'and superiority of j S ! ? 9 ? * 3 5 established over controlled group. It sign*; LerTJf ^ (''?9t0wardsthe effectiveness of the CAL approa* over the traditional *one.*

Testing of HypotHesis-II

calculatPHS=fnwf, theSeCOndhyP°thesis, the Chi-square value SK^^f?***, 0be 9-955 that was^nificant at 0.0 3 e v e + n , K I 1 l e V e L ™ i s showed that there might be differed iSnZail^ I enth8maleandfemale studentewithintheg^ 'earning SSSfc?*^ WSrefoundtobe superior to female on* '

DISCUSSION

The main purpose of this study was to determine whether the senior secondary school students could be made to attain higher cognitive skills by CAL The intragroup analysis indicated that after the treatment is provided to experimental and controlled groups, both the groups gained significantly but the findings necessarily point to the superiority of the CAL. Kulik, Bangert and Williams (1983) in their study of comparing effectiveness of CAI with respect to traditional instruction in secondary level found that the CAL raised student score by 0.32 SD. Kulik, Kulik and Cohen (1979) and Cohen, Ebling and Kulik(1981) made meta-analytic survey of media research. All these studies demonstrated typical learning advantage for newer media in general and for computer based instruction in.particular. Even taking. into account Clark's(1983) contention of novelty effect the usefulness of computer ineducation cannot be lightly taken.

Except for a few, most studies conducted on effectiveness of computer based instruction reported that computer as a medium of teaching has great advantages in comparison to other media. It is more so when it is used as a supplement to the regular curriculum (Sitko, 1989). This is consistent with the obtained result. In the present study, the computer was mostly used in simulation mode. This helped the students to achieve higher cognitive skills, This conclusion is also supported by Hughes(1974).The effect of the treatment also indicated significant differences due to gender at 0.05 level.

CONCLUSION

The study clearly indicates the superiority of CAL over traditional approaches. Moreover the use of interactionist approach in CAL is supposed to contribute to the over and above effectiveness of CAL. The effect of gender on learning outcome in physics in the face of it indicates its level of significance only at 0.05 level but not at 0.01 level. •This fact is supported by many studies (Sivakumar, Arunkumar and Sundaramoorthy (1994). This conclusion needs further research.

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DETERMINANTS OF TEACHER EMPOWERMENT; A BASELINE STUDY

Bhujendra Nath Panda

INTRODUCTION

Teacher is the backbone of the educational process and his/her role in building the nation is well recognised S/he is the pivot around which all the educational programmes rotate in so far as their implementation Is concerned. It is a fact that the quality of teachers influences the level of achievement of students in primary schools but in India a number of studies reported low learning achievement of pupils in primary grades due to poor quality of teachers in the system itself. Now the question arises what is teachers' empowerment and how to empower teachers? What are the strategies and determinants of teachers' empowerment? Did reputed empowered teachers indeed relish their new authority? Did they feel better about themselves and their professional life? Did the classroom of an empowered teacher look more effective-or at least different from that of teachers operating under traditional institutional arrangements? All these questions are answered in the following way:-

Etymologically, the concept of teacher empowerment has been derived from the literature of organizational'management and the sociology of work and became a catchphrase in the late 1980s. Indeed it is a fundamental challenge to the ways people currently organise at work and the pitfalls, satisfaction and success altogether experienced a person indicates empowerment. Empowerment is the quality which makes the difference between doing a job adequately i.e. doing it intelligently, creatively and with the commitment which goes together with accountability. In other words, releasing the full potential of every individual within an organisation to contribute to the common enterprise and business survival is called empowerment.

Empowerment is not something that can be done ofice and then forgotten. It is a continual process of combating debilitating attitudes, end offering encouragement and support Empowerment means that

everyone can take action to enhance his or her worth, either in person?* or in organizational terms. Empowered individuals can make a difference, find out the ways and means of better service for the customer, commitment and transformation (personal growth) with cost saving and consensual decision making in the process itself. Light-food (1986) defined empowerment in terms of the opportunities an individual has for "autonomy, responsibility, choice and authority'. At the same time, McKenzie (1989) remarked that empowering teachers refer to "allowing classroom teachers to participate more directly in their schools' decision making". Therefore, the knowledge that empower teachers to pursue their craft with confidence, enthusiasm and authority, is knowledge of teaching profession in the broadest sense i.e. knowledge of professional community, knowledge of education policy, and knowledge of subject area.

While knowledge of professional community expands professional contact, to understand larger picture, access to resource base, reconceptualize their roles and responsibilities, enhance their identification and recognize their own expertise. It can also help teachers to know what is possible within their own practice and the profession as a whole. Thus, the knowledge of colleague's practice creates and reinforces camaraderie by providing a web of shared experience which further enhances self-esteem and beliefs in personal efficacy. Secondly, knowledge of education policy (attending conferences/workshops/seminars etc., alert the teachers to plan their class room activities in a more systematic way, prompts them to become actively involved in text book selection and filters down the system. Similarly, knowledge of subject area (breadth arid depth of disciplinary knowledge) empower teachers to broaden the foundation of their authority, which guides them to navigate the way4o run in the system or essential for classroom efficacy. Empowerment depends upon teachers' enhanced sense of efficacy and competence in the various domains of their profession, which include the classroom as well as policy arenas. Thus, both sources of knowledge/gained within and outside the class room are essential to teacher empowerment.

On the basis of the abovediScussibn* it can be said that the core elements of the teachers* empowerment are r*i

- Raising the standards for individuals entering the profession,
- Providing intrinsic and extrinsic incentives,
- Professional autonomy to practise pedagogy and decentralization;
- Equal distribution of power in the work place;
- Involvement in school decision making and fixing responsibilities and accountability;
- Emphasise the value of trust and to evaluate the position and monitoring of output;
- Identifying skills and knowledge gaps and close these gaps through commitment;
- Developing professional affiliation habit for access to knowledge to reconceptualise their roles and responsibilities; and
- Knowledge about professional community, education policy and subject area.

Hence, in the present study, an attempt has been made to study the parameters of teachers' empowerment that can make futuristic planning systematic.

OBJECTIVES

- To identify the parameters of teacher empowerment for the primary school and
- To suggest the possible guidelines of teacher empowerment for quality improvement and school effectiveness in future.

METHODOLOGY

Sample

The sample for the present study was taken from the primary schools of Cuttack and Khurdas districts of Orissa. 198 primary school teachers (99 male and 99 female) were selected purposively for the study. Out of them, 108 were selected from the MLL training Programmes conducted by the State Council of Educational Research and Training, Orissa at DIET, Khurda, NDW College of Teacher Education, Bhubaneswar and RN Institute of Advanced Study in

Education, Cuttack and other 90 samples were selected from urban and rural primary schools of the above districts. Out of 198 rimary schools under study, it was found out that 35 schools wereofmultigrade in nature, 124 schools were non-multigrade and 39 were mixed schools i.e., primary schools with secondary and higher secondary classes in one campus.

Tools

Teacher Empowerment Survey Schedule, prepared with open and close ended questions was used to collect data from the subjects.

Data Collection

... The data from the primary school teachers were collected personally by the investigator, after establishing proper rapport with them and clarifying their doubt about the purpose of the study.

Statistical Techniques'

To make meaningful interpretation of the raw scores, the data were subjected to statistical techniques of qualitative analysis, percentages and graphical representation. ***mp,***

ANALYSIS AND INTERPRETATION

The results of the study are presented below:

Qualification

When the indicator of qualification was analysed, it was found out that 70% male and 47% female (total 59%); 513%, 73.9% and 37.5% (total 54.23%) of different experience groups, and 68.6%, 52.4% and 71.8% (total 64.27%) of different typesof school teachers preferred I +2 degree with professional qualification to be constderedas the basic ; minimum qualification for primary school teachers, irrespective of other criteria, in spite of the difference in sex, teaching experience and types of SCHOOL. ..;"•-*...:*',. -v^a&l?

Preservice and Inservice Programmes

When the duration of preservice and inservice programmes was j taken into consideration, it was noticed that 68% male and 78% female j (total 73%); 61.5%, 76.1% and 96.9% (total78.2%) of different teaching | experience groups; and J7;1%, 80.6% and 48.7% {total 68.8%) °' |

different types of schools preferred two years duration should be

- preservice programmes whereas 69% male and 58% female (total 63.5%), 58.9%, 67.1 ^rahd 68.7% (total 64.9%) of different teaching experience groups; and 57.1%, 65.3% and 66.7% (total 63%) of different types of school considered three weeks as the inservice training programmes, irrespective of sex, teaching experience and types of school.

Recruitment

Asregrdasthe procedure of recruitment, it was found that 53% male and 49% female (total 51 %) ; 51.1 % and 37.5% (total 48.8%) of different teaching experience groups; and 28.6%, 64.5% and 30.8% (total 41.3%) of different types of school preferred academic career, professional qualification and aptitude test as criteria for recruitment policy for primary schools irrespective of sex, teaching experience and types of schools.

Salary

As regards, the parameter of salary, it found that 52% male and 39% female (total 45.S&); 51.3%, 56.8% and 39% (total 37.1%) of different teaching groups; and 65.7%, 40.3% and 46.2% (total 50.73%) of different types of schools emphasised salary as per the qualifications in the primary schools rather than another aspects

. irrespective of their sex, teaching experience and types of schools.,

Promotion

As regrads the parameter of promotion, it was found that 29% male and 27% female (total 28%); 31%, 24% and 32% (total 29%) of different teaching experience groups; and 27%, 26% and 36% (total 29%) of different types of school emphasised teaching experience [a]s the minimum requirement for giving promotion to primary school teachers, irv addition to seniority and confidential report (grand total 22%) and maintaining regularity and punctuality in taking classes (grand ttitah 5%)iYrespeciiv!e:ofsex, teaching experienceairitf#^sofschook

tacentives and Facilities .

- ' In case of incentives, it was found that 38% male and 33% female (total 35.3%); 38%, 31 % and 42% (total 37%) of different

teaching experience groups; and 33%, 30% of
different types of schools preferred incentives on the basis of attending seminar, conferences/workshops, in addition to developing and practising innovative methods (sex:31%, teaching experience: 32% and types of school: 31%). Similarly, the above teachers were of the opinion that the facilities like handbooks/textbooks and allowances like remote LTC, Medical & Non-teaching etc; be provided, (sex; 25% & 22%; teaching experience: 28.7% & 23% awd types of schools (27% & 23^4%)

Administrative Provisions

As regrds administrative provisions, it was found out that both maieandfemaieteachers(sex::27%,26%&14%)irrespectiveoftheir teaching experience (26%, 27% and 14%) and type of schools (25%, 24% and 19%) emphasised one teacher in each class, free from other non-academic engagement and freedom to conduct innovative work etc. facilities may be provided from administration to strengthen professional knowledge for qualitative improvement in the institution,

Content of Inservice Training

All most all the teachers, in spite .of their differences in sex, teaching experience and types of school, endorsed thatithe contents of training programme-should be MLL and competencies, new methodology and CCE with remedial techniques (sex: 21%, 22% and 19%); teaching experienc(22%, 24% and 19%), and types of school (21%, 24% and 20%).

Supervision and Inspection

As regards supervision and inspection, it wasseen that both male and female teachers (sex-: 34% &;32%) and types of school (33% & 31%) preferred regular supervision - by higher officer an* •^ownsupervisor^hereBsdiff^

27%) preferred regular supervision by higher officer an° peers from other institution,

Psychological Satisfaction

As regards psychological satisfaction, it was noticed that all the groups (sex : 38% & 25%; teaching experience : 41% & 24%; and

types of school (40% & 24%) preferred possession of loving attitude towards students, community and profession and motivation with job satisfaction to bring the psychological satisfaction, which ultimately change the fate of institution in the long run.

Personal Views of Teachers for Their Empowerment

When personal views of 198 primary school teachers were analysed qualitatively, it was found out that there were broadly ten important parameters which determine the teacher empowerment irrespective of their differences in caste, sex, area of living, teaching experience and types of schools. The determinants were knowledge about professional community, policy and subject content (88%); structural reforms in teacher preparation and certification (74%); autonomy, power and positive reinforcement (68%); stopping commercialisation of teaching shop (60%); decentralised planning (52%); academic legislation for teachers accountability linked with student results (51%); dissemination of innovative ideas through different media (48%); free from political interference & other engagement (45%); attractive school building and belongingness (43%); and maintaining life long students and ability to work in teams (35%).

MAJOR OUTCOMES

Irrespective of sex, length of teaching experience and type of schools it was found ©ut that:

I 59% primary school teachers were in favour of +2 Certificate with professional qualification as the basic qualification;

") 47% preferred academic career, professional qualification and aptitude test should be the recruitment criteria;

') 73.3% favoured 2 years duration of the pre-serviee training course with rigorous practical knowledge about the subject and new methodology:

®) 63.7% favoured three weeks duration of inservice programmes with the subject content of CBT, ABL and CCE as major components;

v) 1^4% Referred salary ©httebasis of qualification.

vi) 28 7% preferred promotion on the basis of the length of teaching experience and peer group evaluation;

vii) 37.1% suggested incentives like permitting to attend seminars, workshops and meeting with experts;

viii) 25.7% suggested one teacher in each class;

be) 26,8% favoured provision of supplying textbooks etc;

x) 33.3% suggested regular supervision by the higher officer; and

xi) 40.4% realised that psychologically, they should be satisfied and and should have loving attitude towards profession, students am! community.for strengthening their profession.

Qualitative analysis of the personal views of 198 teachers revealed that decentralised planning, stage relevant specialisation, sense of belongingness, residential facilities with attractive school buildings, free from political interference, leadership qualities and academic environment, frequent dissemination of innovative ideas through different media, academic legislation for teachers' accountability linked with student results, and stopping commercialisation of teacher education institutions (teaching shop) etc were the factors of prerequisite for teacher empowerment.

IMPLICATIONS

It is a fact that the cream of the human resources are found to be attracted to other processions than the school teaching.The reason & I best known to every body. For a tree to grow, the roots have to be strongjndeed. Without roots, the tree will collapse with the first gust* w>o\ Thus, the quality of input and raw materials tike teacher, if 9^ S £ 2 f ? 9G ?5 finished Productin the schoorand can bring glo^ #

S ^ L ? h ? * U,timate,y imbibes thaspirit of teach* 2 5 E ^ the desired educate | esuits vis^vis school effectiveness in the long run.

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INPUTS

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3, IRESER\1CEAND **INSERVrCE** COURSES & DURATION

4 KNOWLEDGE QFJERO- SESSIONAL COMMUNI- TY', EDUCAHONPOUCr Ah©StBJECTO^TENT **7**

5. AmiMSTEATrA^EHtO- \TSICWANDINERASTR- UCTURAL FACnJTIES

SCHOOL ASA SYSTEM

a) **Learners**

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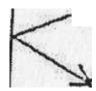

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A STUDY OF RELATIONSHIP BETWEEN SOCIO-ECONOMIC STATUSAND VOCATIONAL PREFERENCES OF ADOLESCENTS IN THE AHIRWAL REGION OF HARYANA

Raj Kumar Yadav

INTRODUCTION

One manifest impact of democracy in India is the explosion in the aspirations of people. Everyone fosters high ambitions. The vocational fields are also increasing day by day. Many studies have been carried out to explore the vocational preferences of adolescents. Human motives for doing a work are numerous, such as needs, values, interests, temperament, self-concept and socioeconomic status etc. All the studies have established that adolescents' vocational preferences are not vague or random. All agree that men tend to be more interested in physical activity, mechanical and scientific matters, politics and selling etc. Preference for art, music, literature, clerical work, teaching and social work is more characteristic of women. There is a good consistency in theiF$references and it may be hoped that they would prefer these vocations if they have a choice to do so. Now the question arises: why do adolescents prefer one vocation rather then the other ? What are the motives for preferring a vocation ? How R»ieh socioeconomic status a<i§.as a motive for preferring different type of vocations?

AIMS OF THE STUDY

Main Aim ;

> To find out the extent to which socio-economic status acts as motive for the vocational preferences of adolescents in the Ahirwai ^gionofHaryana.

Subsidiary Aims

To find out the vocational preferences of adolescents.

To find out the hierarchy of vocational preferences of adolescents

METHODOLOGY

Descriptive Survey Method of research has been used.

SAMPLE

240 students, studying in XI class in eight different colleges of Ahirwal Region of Haryanawere selected for the present study, out of which half belonged to rural areas. Eighty students belonged to each of the three faculties i.e. Science, Arts and Commerce;

TOOLS

1 Thurstone's Vocational Interest Schedule, 2.Socio-economic Status Scale (Rural) by S.P. Kulshrestha and 3. Socio-economic Status Scale (Urban) by S.R Kulshrestha. After data collection, available data were analysed. To make the analysis more meaningful following statistical techniques 1 .Mean 2. Standard Deviation and 3. Co-efficient of correlation were employed.

RESULTS:

Following tables present the results of the investigation.

Table -1

Means & S.Ds & Areas of Preferences of total groups

Sl. No	Area of Preferences	Mean	Rank	S.D.
1	Phvsical Sciences	6.48	II	
2	Bioloqical Sciences	6.39	Hi	
3	Computational work	5.71	IV	A93^
4	Business	4.96	VIA	4.97^
5	Executive work	7.30	I	, 5.<S-
6	•Persuasive Work	5.48	VII	
7	Linguistic work	5.47	*mm*	443-I
8	Hum anttarian work	5.17	VI	4 34^
9	Artistic work	3.91	X	
10	Music	3.64	X	_3jfiJ

Table -11

is.

Si. No	Area of Preferences	Rural Students		Urban	
		Mean		Mean	
1	Physical Sciences	5.92		7.83	
?	Bioloqical Sciences	5.02	5.72	7.39	5.60
3	Computational work	5.62	4.76	5.80	5.10
4	Business	4.57	4.01	5.23	3.26
5	Executive work	7.18	5.11	7.42	5.19
6	Persuasive work	5.02	4.22	5.11	4.03
7	Linauistic work	4.90	3.96	6.01	4.78
8	Humanitarian work	'4.49	4.32	5.00	4.06 I
9	Artistic work	3.52	3.06	4.30	3.73
10	Music	2.80	3.33	14.123	4.02

Table - HI

Means & S.D.s of the Scores of Vocational Preferences of the Students of Different Groups - Status wise

	Area	Hiah		Average I		Low I	
		Mean	S.D	Mean	S.D. I	Mean |	S.D.
1	Physical Sciences	6.64	4.60	6.79	5.19	7.03	5.10
2	Biological sciences	5.74	5.17	6.49	5.69	6.04	5.30
3	Computation	7.63	5.06	5.95	3.41	4.54	3.41
4	Business	6.55	4.34	5.44	4.28 1	3.58	3.89
i 5	Executive work	8.62	4.91	7.75	5.06	6.01	5.11
6	Persuasive work	6.16	4.18	5.83	4.26	3.82	I 3.66
	Linguistic work	6.10	4.55	5.83	4.38	5.33	4.37
8	Humanitarian	5.65	4.06	6.40	3.92	4.27	4.22
9	Artistic work	4.45	3.59	4:15	3.43	3.28	3.67
Lao.	Music	4.00 -	3.97 *i*	3.64 *i*	3.51	I 2.92	• 13.99 1

Table-IV

Coefficients of Correlation Between the Socio-Economic Status Scores and the Scores of Vocational Preferences of the Students

	Area	Urban	Rural	Hiqh	Averaae	Low
1	Physical sciences	.04	.17 *	.08	025**	.057
2	Biological sciences	.045	.17	.055	.20*	,053
3	Computation	.15-	.246**	-.084	.06	.278*
4 I	Business	.18*	.225*	-.41*	.09	.318*
5	Executive	.136	.21*	-.095	.053	.199
6 f	Persuasive	.6=11	.17	-.26	.21*	.247*
7	Linauistic	.06	13a	-.40	.07	.112
8	Humanitarian	.05	.20*'	-.05	.093	.137
9	Artistic work	.124	.18*	-.26	.19*	.051
10	Music	.066	.124	-.32	.29**	.192

FINDINGS

1 The jobs related to the field of executive work were preferred by most of the students in the total sample.

2. Urban students gave their preferences for the jobs related to the field of physical sciences whereas rural students preferred in field of executive work.

Science students preferred the jobs related to physical and biological sciences. Arts students were interested in the field executive work. The Commerce students gave their preference for the fields of computational and linguistic work.

4. Students belonging to highersocio-economic groups gaveAhejf preferencesfor the fields of executive work, computational wC and physical sciences.

Students belonging to the average, socio-economic staW* category gave greater preferences for the fields of executive w o ^ physical science and biological sciences.

6. Students of the lower socio-economic status category gave greater preferences for the jobs related to the fields of physical and biological sciences.
7. Ail the students showed least interest in the areas of artistic work and music.
8. Urban (Science) students belonging to the average or low socio-economic status preferred the jobs related to the area of biological and physical sciences.
9. Urban (Arts) students belonging to average or low socio-economic status gave their preference for the jobs related to the area of executive work.
10. Urban (Commerce) students belonging to average oriow socio-economic status gave their preferences for the jobs related to the area of computational work.
11. Rural (Science) students belonging to the high, average and low categories gave their preferences for the area of physical sciences, biological sciences and executive work.
12. Rural (Arts) students belonging to the high and average categories gave their preferences for the area of executive work and the students belonging to the lower status preferred the jobs related to the area of physical sciences.
13. Rural commerce students belonging to the high, average and low categories showed their-preferences for the jobs related to the area of computational work.
14. The urban students gave high preferences to business, executive workand computational work while rural students have preferred computational work, humanitarian work, executive work, business and artistic work.

CONCLUSIONS

On the basis of the findings discussed in the foregoing pages the following conclusions are drawn Executive work was preferred by ^ostof the students. They did not seem to be interested in artistic and [m]usic fields. The science students opted the vocations pertaining to their courses of study. The students of arts faculty gave highest

preference to executive work, while the computational work had been preferred most by commerce students. Urban students gave preference for business while the rural students were interested in services. The socio-economic status plays a great role in the selection of vocations. The students whose parents were rich liked to go for business. The students having high socio-economic status also liked to go for the jobs related to the field of physical sciences. The students having average socio-economic status preferred the jobs rel ated to biological sciences, persuasive work and also to artistic work, to some extent. The students of low status did not seem to be influenced by their status sofar as it relates to the business field. [4] f

ACCOUNTABILITY CRISIS IN TEACHING PROFESSION

D.P.Astja
Neelam Luthra

INTRODUCTION

The concept of accountability associated with work ethics is shrouded in the ancient Indian heritage. From the times immemorial in history of mankind, work ethics has had a place in one shape or the other. In the family as a social subsystem, the division of labour coupled with responsibility and a specific code of conduct were followed. For example, the women would look after the home management, the child bearing and child rearing whereas the menfolk involved themselves in the affairs outside the home. Both were accountable for their respective jurisdictions, for performing the jobs, socially assigned to them. But with the changes in the thought and culture, with the speedy increase in the population and with the launching of democratic societies, the responsibilities of segmented nature became almost out of fashion and gradually disappeared. And,the abuse of freedom resulted in making accountability the first casualty in all institutions at all levels. In the field of education, In the family affairs, in the public health or matrimonial sphere the accountability has always been at stake.

CONCEPT OF ACCOUNTABILITY- AN INSIGHT

in an organisation, every individual has the duty or responsibility to perform. Once an individual is assigned responsibilities and the authority to perform certain task s/he is accountable or answerable for proper performance of the assigned responsibility (Pagare, 1992). The academic community of scholars and dons also recognised the ^act that authorities and people have every right to judge their *m$m* ance. *Gnanam Committee Report* (UGC1990) stated that the society is entitled to demand that
community individually and collectively be made accountable in concrete and visible terms. "

In past, teaching was considered a noble profession and the teachers lived with a mission without aspiring for the material gains. But with he changing scenario, teaching has also become a vocation, a way of earning one's livelihood to exist respectably in the present competitive society. So the values of dedication, devotion and commitment to the vocation seem to have been conveniently forgotten in the absence of intrinsic motivation that the teachers of the past used to possess. Paradoxically, the modern teacher does not want to be a loser in this race of competition of materialistic attainments or otherwise s/he will not enjoy any respect in the society. So the work spirit, work culture and work ethics propounded by The Bhagwad Gita 'that work should be performed without caring for its fruits and results - stands contradicted. The Indian saints, sages and scriptures have considered work as the very means of offering one's service to God and of establishing a close communion with that great spiritual entity which is a peak state of self-unfolding and personality development. And the work which apparently seems to bind an individual with the social unit, acts as an agent of bringing emancipation form the bondage of life and death and also freedom from the tension and anxiety of life and hence resulting in the low stress level of the individual. But the present situation is entirely different. Every time there is a Pay Commission and very aptly it tries to tag the increased salary with that of certain conditions with an intention to bring about certain qualitative changes in the educational set up. The minutest details of implementing the recommendations of the pay eommissionsfor salary enhancement are take care of both by the individual teachers and the administration. However, both the parties, the recipientteachers and the administration care a fig for the other side of it- the demand for quality improvement. After sometime, many Associations and Unions start raising their voice for narrowing down the conditions laid by the Commissions. Hence, the whole spirit gradually dies down leaving the standards in the same old conditions, if not lowering them. So this noble profession which is known by its trait of self-accountability, too fells in the category of other less accountable professions.

ASSESSMENT AN INTEGRAL PART OF ACCOUNTABILITY

In fact, the term 'assessment' is very closely related to. 'accountability'. In order to ascertain whether an individual who wa[s]

assigned a certain duty, has performed it, fully understanding his/her accountability, assessment needs to be made. This process of assessment can be of any type, may be the secret one or the transparent one. In the secret process of assessment, the outcomes of the scientific assessment are not made clear to the individual and hence, no improvement in the assessee is liable to take place. Only the transparent assessment, the one which is shared with the individual, can lead to accountability. There is a rigid resistance of teachers to all attempts of assessment for the past three decades. And yielding to all such resistance by the teachers, the anonymous assessment by the students of the teachers and the teacher assessment by the institutional heads are almost not in vogue. And the only stick of Confidential Reports which is still there in the hands of the Principals is only a formality, only a taboo which is condemned to be an ineffective tool, leaving the teaching profession devoid of any meaningful assessment model. The teachers are generally too rigid to eschew the idea of accountability. In case of a country like Poland, the students are free to choose their lecturers. They are experimenting it as a measure of. quick quality improvement. Indian teachers are perhaps not ready to implement such innovative ideas where students have more freedom to be taught by those teachers whom they like more or with whom they have a better intellectual communication. Hence, they have to go a long way for adopting means of filling the great void in accountability. Otherwise, the higher education will suffer more devastation. The pivotal points of its revival should be dug out so that higher education is saved from further emaciation and'degradation. -»

ACCOUNTABILITY AND ACADEMIC EXCELLENCE

Accountability has a direct link with academic excellence. Promotion of excellence is the crying need of the hour as the nation can no longer afford to remain complacent in the changing scenario of Question at global level Various foreign Universities are offering their Programmes in this country and if is not taken care to revitalise the ^ ! ^ « n g the traits of transparency and accreditation system mnr* ^ will be strangled by these systems which are re accountable and bear excellence.

ACCOUNTABILITY AND AUTONOMY

Accountability has a close relationship with 'autonomy' as well which means the power and freedom to act without any external control It encompasses the managerial freedom in performing a given responsibility. Now the teaching community tends to stretch this freedom without considering the fact that accountability and autonomy always go hand in hand. They are not contradictory but complementary to each other. It is, of course, true that it is very important to give an individual or an organisation, a free hand to act but it is more importiant to strike a balance between accountability and the autonomy there of. Autonomy is more an ethical and academic concept rather than a legal concept, imposing on an individual or an organisation the responsibilities to " discharge their duties more diligently, efficiently and effectively. This autonomy, when limited to the class room level may also be termed as academic freedom where the teacher enjoys the freedom to adopt his own methods and strategies to teach, to study and to research without too much of external interference. But this does not mean that the teacher at the cost of 'accountability' can enjoy academic freedom. It is normally seen that teachers in universities and colleges have a tendency to neglect their teaching assignments in the guise of freedom tdteach. This freedom should be considered as a privilege that makes teachers liable to explain, answerable for their right of action.

DIMENSIONS OF TEACHERS' ACCOUNTABILITY

The dimensions of teachers'accountability may consist of

* Classroom Instruction (Talks in the class);
* Ftesearch Pursuits;
* Moral and Ethical Obligations;
* Tests, Examinations and Evaluation;
  Co-curricular activities and Extension Services;
* Personal Guidance to Students;
* Resource Mobilisation;[5]

* * Self-growth and professional development;
* National Integration;
* General life enrichment and human resource development;
*' Contribution in resolving social issues, institutional issues;
* Co-op6ration extended to colleagues and authorities;
* Utilisation of institutional infrastructure; and
* Student-response (feed-back).

SUGGESTIVE SNIPPETS

* The teachers must realise that after all, accountability does not throw humiliation on them rather it multiplies the worth and respect of their profession.

•> They should not resist being accountable, because it is 'accountability', which can usher in the positive changes which education aims at.

•> Teaching has remained neglected, unrewarded and unrecognised. Lack of motivation and reinforcement has led to disinterestedness and lack of excellence. So highlighting the activities of innovative teachers will bring in more accountability.

* An immediate agency of initiating and motivating the accountability of teachers is Academic Staff Colleges About 45 Academic Staff Colleges are working in the country. If they are assigned the responsibility of inculcating the right spirit of accountability in the teachers who attend seminars and orientation courses there, a remarkable direction to academic accountability can be provided.

* The University Grants Commission should also encourage some followrup studies of those teachers who attend these courses to see the extent of their impact on the class-room instruction of the teachers. > *h*

*:1 The University Grants Commission has developed a proforma for self-appraisal of teachers. But mahyuniversities are not collecting

this proforma. It should be made an essential feature of one of the items inspected by the NAAC.

- The self-appraisal proforma should be compared with the reports by the Heads/Principals to find out the difference.

* The role of top-level managers also becomes very significant in this respect The Vice-chancellors, Registrars, Deans, Heads, of departments & Principals of colleges should also be geared and oriented towards providing a dynamic leadership coupled with authority. They have the ability and aeumen to plan, monitor and control. They have also the ability to discourage the existing shortcomings. Programme of Action (1992) has recommended the incentives for good performance and disincentives for non-performance, as norms of accountability. These stipulations should be strictly adhered to by all institutions and agencies concerned.

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PSYCHO-SOCIAL FACTORS AND ACHIEVEMENT - AN EMPIRICAL STUDY ON TRIBAL STUDENTS

Jaga Mohan Basantia
Dulal Wlukhopadhyaya

INTRODUCTION

The quatityand level of achievement of Schedule Tribes, who are a substantial section of our society, have drawn the attention of both educational planners and researchers. Recently a series of researches have been conducted by the NCERT to support the District Educational Plans under DPEP All the studies have shown that level of achievement of Scheduled Tribe children are much lower as compared to their counterpart attending the same school. Even now some of the Schedule Tribes are characteristically isolated and living in forests and hills. Their problems have sensitised the whole country time and again. The tribal groups living in the heartland of the country have problems of illiteracy, backwardness, poverty and so on. One of the main problems is their psychosocial barrier, which play significant roles in their ways to progress. They are historically suffering, like other backward classes, from the high-handedness of the upper castes. Their quality of living is very poor. The poor tribals, due to illiteracy and low economic status, are subjected to exploitation and repression and are in a vulnerable position in the society even now.

A few researches have been conducted on psychosocial factors of tribals in relation to their academic achievement. In this regard the researches of Bose (1963), Srivastava (1968), Lakhera(1986), Abrol (1987), Mandal (1991), Ambasht & Rath (1995), and Sexena, Singh & Gupta (1995) are relevant for the present study Bose (1963) found that modern education had successfully provided a sense of cohesive and cooperative group living among the tribal people, where :as, Snvastava (1968)foundthat education hasbroughlabout social and spatial mobility in the tribals. Lakhera's (1968) study showed that the low achievement of tribal-children was attributed to factors like educational backwardness, unfavourable attitude of parents towards

education and lack of motivation. Tribal ^ ^ ^ ^ g g than bovs did in adjustment and achievement. Abrol s (1987) study

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inconvenientlocata

(1991)found that the tribal boyswere academically more supenorto l e t counterparts but socially less adjusted. Ambasht & Rath s (199?) j study suggests that suitable designed research is needed to understand the effect of psychosocial problems on scheduled tribe children s i achievement The study of Sexena, Singh and Gupta (1995) revealed j that tribal students were lower than non tribal students in achievement, psychological and sociological adjustment. Gender differences in the psychosocial domain are more ambiguous, partially because of the vagueness of several of the domains,and caused difficulty in I measurement. Explanations given for these were doubtful and await more research.

OBJECTIVES

The research gap and inconclusive results of the above mentioned studies motivated the investigators to carry out a study with the following objectives:

1.To study the difference between Sex (boys & girls) and Achievement (high achievers and low achievers) of tribal students in their Psychosocial Constraints, and

2.To study the relationship between Psychosocial Constraints and Academic Achievement of the tribal students

NULL HYPOTHESES

In the light of above objectives, the following nul hyotheses **p3** wereformulatedforinvestlg^ .

Ho_t: ^ s o c i a l Constraints of tribal boys and girls would not d P r significantly [$u._b \sim u._g = 0$ at 0.05 level].

WOr ***j^f^^*** *Ormam* o f H j 9 h arid Low Achiever trtt*1 students would not differ significantly $fti_w \sim$ ^= Oat 0,05 lev^

H O 3:

to Psychosocial Constraints of tribal students. J

METHOD

SAMPLE

In order to test the null hypotheses, stated above, 320 tribal students of grade 8th and 9th were included in the present study These 320 students comprised of 197 boys and 123 girls randomly selected from fourteen schools of Rayagada and Koraput districts of Orissa. The medium of instruction in all the above schools was Oriya. The schools were also affiliated to the same Board of Education, followed same curriculum and question-papers for examinations.

TOOLS

The following tools wereused in the present study^

(I) *Basantia Psycho-social Constraints inventory (BPSC1-1998)* was used in the present study. This inventory contains 51 items in all and a highly reliable [Test-retest (r) = 0.938, KR^ = 0.746 and Combach Alpha = 0.827] as well as valid tool for measuring psychosocial constraints of the tribal students. High score in the test is the indication of high psychosocial constraints. [Content as well as Item Validity were (t = > 1.75) .The internal consistency was from 0.360 to 0.576]

(II) *School Examination Results:* The schools under investigation were belonged to it Board of Education, fol lowed same curriculum and question paper for examinations. So the researchers collected the average marks of the Half-yearly and Annual Examin ations of the students and considered that this would reflect the true Academic Achievement of the students, i

PROCEDURE

The subjects were approached personally in their educational Institutions. After establishing rapport the tool was administered. The scoring was done by a scoring key (weighted scaling) prepared by the researcher. The Examination results of the students were collected from the official school records.

STATISTICAL TREATMENT

Correlational Statistics were carried out to study the relationship

between Academic Achievement and Psychosocial Constraints. Two-way ANOVAwas used to find out the gender differences and high and low achievers of tribal students in their psychosocial constraints.

RESULTS AND DISCUSSION

The computational summary of ANOVAfor (2x2) factorial design with (A) Sexes (boys & girls) and (B) Academic Achievers (high & low) has been presented as under in Table-1.

Table-!

Summary of AN OVA Factorial Design for Psychosocial Constraints of the Tribal Students:

Source	df.	SS ,	MS	F-Value	Significant Level
Among the Group	(3)	(827.909)	(275.970)	5.050	(0.05)
SS_A	1	1.453	1.453	0.027	N.S.
	1	781.267	781.267	14.297	0.01
QQ (A+B)	1				

Group signified l tho °o the Jable" 1 • boys and girls did not differ 005 Shin UK SyCh u 0S0CialC o nstraints[F(1/165 = 0.027,P> 005]. Thus, the null hypothesis (Ho,) was retained.)

ieJ!fA 297" f ! n n l ^ B ^ C ^ S ^ ^ ^ ^ t [H ^ achiever tribal' st, 1 " C hrevealed ^ high achiever and lo* consents ^ f K ^ * ^ in their psychosocia formuteledb^ Constraints and t t Acom P a hson between Psychosocial that, therewas am7a a »l ^ ' ^ W ' o f the tribal students reveal^ 'hem [df - 318 r = n 29= 9 . S,gnificantcorrela ti°nal effect between was re jecled| W ^ , ^ ! 1 ^ the nul >-hyP°th a*is (HP, l h a ^ l t o f 1 o w P ^

CONCLUSION

ICOnstra'nteandv,ce-versa

^mtheresultsofthestud, it can be concluded that psycho^

constraints are not related to sex but in their psychosocial constraints. Psychosocial constraints are negatively correlated to academic achievement, in the other hand high achievers (boys & girls) have less psychosocial constraints than low achievers (boys & girls). Keeping In mind the results of the present study, the following recommendations were made:

i) The Government & NGOs should provide safeguard to tribals' social interests and side by side create a healthy psychological atmosphere for them.

ii) To change their social and psychological environment, the parents are to be persuaded to become literate.

iii) Proper social adjustment and healthy psychological outlet training should be given by the educational planners, teachers and school authorities, as a whole, to the tribal students.

iv) Teachers should be appointed from among the tribal population so that they can make a good interaction with the students and their society.

v) Text books, curriculum and school timetable should be designed according to the social and environmental heeds and availability of the tribal societies.

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CURRICULUM AND DEVELOPMENT OF THINKING

Clare, AC.

. During the lastfew decades, there has been a radical change in every field on account of scientific inventions and technological advancement To meet the challenges and requirements of this fast developing society young people need to grow in their ability to th'nk rationally and to express their thoughts clearly. They also need to master the skills of logical reasoning and problem solving. Independent thinking, careful analysis and objective assessment contribute to the success in any field. Therefore educational institutions claim at developing a thinking society.

Thinking can be taught through the educational system. A growing . number of research studies stress the need for schools to re-emphasise the teaching of thinking skills. The studies on the thinking skills found that teaching a general approach to thinking to average pupils over a period of years can improve their thinking. The opportunities to think contribute to the process of developing thoughtful enquiry.. Thinking operations are defined as activities that elicit thinking. What is needed most is the opportunity to think. If teachers provide rich opportunities for thinking to pupilsduring school days, it is very probable that most children will reconstruct their own behaviour.

According to Piaget's formal operation of learning, the adolescent pupils develop the ability to reason by hypothesis based on a logicof all possible combinations, they can deduce their implications, test and verify them. At .this stage, they seriously look into contradictions and flaw in reasoning and successfully tackle the whole problematic situation by considering even its premises.

The current educational challenge requires more explicit theories pf thinking process and of instruction, theories that can guide-educators to meet the goals of new educational system, a system intended for everyone. Therefore, a variety of courses and programmes ^hava been .designed by educationists and psychologists to teach reasoning and • Problem-solving abilities .They offer potential opportunities to; update

theemoiricai record concerning the effects of vanous kinds of instruction in thinking and reasoning skills. The teacher has many alternatives or options to use different teaching strategies such as problem solving, discovery learning, cooperative learning etc to elicit thinking in the learner. These strategies could be used to teach any school subjects and at any level.

DEDUCTIVE AND INDUCTIVE APPROACH TO THINKING

In the deductive approach, the teacher transmits the knowledge about the concepts and generalizations to the learner and the major task for students is to determine whether the examples presented by the teacher relate to the abstraction. Consequently, there aren't as many opportunities for different students to make observations, and the possibilities for incidental learning are minimised . In deductive approach, more importance is given to the amount of content to be learnt, than to the process of learning. Teachers who are more content-oriented or who have a limited amount of time to teach a concept or generalization will opt to use deductive approach to teaching.

Francis Bacon severely criticized the medieval practice of deducing conclusions from self-evident of authoritative premises. He held that persons should not enslave themselves to other persons thoughts. Rather than accepting the premises handed down by authorities as absolute truths, Bacon believed the investigators/ learners should study nature more closely themselves and establish general conclusions on the basis of direct observation.

Inductive approach is an effective means of teaching concept and generalizations. This is also an effective way to motivate students- Since most teaching in the classroom is done in a direct and expose rrode.an inductive activity provides variety, which can promote student interest. This approach promotes student participation, it *$ opportunities to involve a maximum number of students in the active ofteachpg learning^

• activity is observation, and this allows a large number of studen^,

to the central theme of the lesson. However, even thougnj^ observations areoften irrelevant, they are still correct, and the tea^ by calling for and accepting any and all observations, can enco**

reluctant participants to become involved in the lesson. Continued encouragement and the knowledge that all responses are acceptable can become a powerful force in improving the students' attitude towards school as well as their self-concept.

Inductive thinking is particularly useful when the learning goals include inventing new concepts and developing concept-building strategies. According to Hilda Taba, "Thinking inductively is in born and lawful". Inductive thinking approach leads to discovery learning. Writers like Burner (1962) see the use of discovery learning as an innovation desperately needed in our school system to replace the current emphasis on rote learning and restricted thinking. When a student is led to discover a generalization s/he does not learn only that generalization, s/he also learns from the process of discovery itself. The psychological processes involved in inductive reasoning are said to be similar to the processes involved in any problem solving situations. Hence the student learns how to explore a situation for himself/herself and how to go beyond the information given in the situation and how to behave in a scientific manner and think in an inductive style. In case of Indian Scenario, the teachers perceive their primary task as illuminating the content of the 'textbook' to their students and helpi ng them to memorize the 'text. Curriculum transaction through 'telling and / or recitation does not provide an interactive learning environment for the children. Therefore, they lack opportunities for constructing the thoughts of the students.

The investigator had conducted a small survey by administering a questionnaire to 40 secondary school teachers of social science in Karnataka. The purpose of this survey was to find out whether the secondary school teachers of social science use inductive approach or deductive approach to teach Social Science. The questionnaire -consisted of teaching scenarios relating to nductive and deductive methods of teaching,Social Science in secondary schools. The teachers were requested to read each of the scenarios carefully under each serial number and identify their style of teaching the topic, written against each set of these scenarios. It was found that 80% of the teachers, , who responded use deductive approach or expository method to teach different areas in Social Science.

The investigator interviewed these teachers to find out the reasons for their option for deductive approach. Their responses are summarized as follows

1. Secondary School Social Science textbooks contain vast content under four areas i.e. History, Geography, Civics, and Economics
2. Textual content is not comprehensive in social science.
3. Organisation of the content lacks logical sequence
4. Generalization and definition of the concepts is followed by the explanation of the same.

Therefore, the organisation of the text book material itself leads to expository or deductive approach of teaching. It has been observed specially through the reviewing and analyzing the text book content of different school subjects, the curriculum itself does not make any provision to follow the suitable and effective pedagogical strategies which.will develop thinking skills in the learners.

Considerable research has been conducted in the area of pedagogy of teaching and innovations have been made to evolve new teaching models and strategies to develop thinking e.g. information processing models of teaching by Hilda Taba and others. But the teacners are not motivated to choose these models and strategies mainly for the reason that these are not in-built in the school curriculum.

On the basis of current findings, researches have little ground for recommending to educators that courses in thinking skills be instituted-unless these are accompanied **by** efforts to embed such skills within the school disciplines. Such discipline embedding has the advantage of providing a knowledge environment to practice thinking ? skills providing criteria from within a disciplinary tradition for what constitutes good thinking and reasoning, and ensuring that something wbrthwnsie could transform the whole of the curriculum in fundamental **Ways.** '

The present day school text books provide generalizations and concepts which prompt the teacher to follow expository or deductive approach to teaching. If the content in all subject areas to be refrarneo Le examples leading to generalizations in an inductive style teachers are bound to follow discovery approach as teaching strategy e.g. In

History text book the examples could lead to the generalizations about the contributions of different personalities. In literature instead of the explanation on sentence structure in the area of grammar, the examples could lead to the conclusion on the principles of sentence structures. In science textbooks, the curriculum should facilitate to discover or arrive at the generalisations about the properties of metals etc with the help of suitable examples related to learners' pastor present experience, These are just a few examples. This approach needs to be followed in all school subjects.

At present, ourclassroontinstruction suffers form the stigma that it is not challenging. Therefore,.school curriculum should focus a type of learning which is based on observation and experiment and is enquiry oriented and more explorative in nature. Through these approaches the learner may not arrive at accurate deduction. But if the teachers' guidebooks can provide keys leading to correct answers, this problem could be overcome. There is need to integrate cognitive skills/thinking skills in the school curriculum, in order to develop convergent and divergent thinking in the learner. Due importance need to be given to the process of learning than to the product in the educational system. Expository or deductive strategies of instructions are inappropriate for the proper development of scientific knowledge related to different subjects in children. These strategies give emphasis to the amount of information passed on by the teacher to the learner. The goal in education is not to increase the amount of knowledge but to create possibilities for a child to invent and discover. Teaching means creating situations where structures can be discovered. It does not mean transmitting structures which may be assimilated at nothing other than a verbal level. Hence, it is suggested that 'if - then- therefore'format of logic be exploited in tunneling the children through investigatory activities following the inductive approach for the construction of knowledge. Student's construction of knowledge through the Investigatory activities would certainly help them to develop tieiranalytkal, critical and abilities and thus, become productive human resource in this new eerrtury.

Although teachers generally tend to be regarded as 'conveyors* than designers of curriculum, as implemented of the curriculum their ^tribution to the success of change is vital At the class room level, ^ h e r s are involved in decision-making about the curriculum when

they select text books and other learning materials, and **design their** own lesson plans and teaching approaches in translating **theories and** instructions into practice. They can be even more deeply Involved **by** being given the chance to participate in the writing and **designing of** text books and other teaching materials, Hence the teachers **need to** bring in the necessary changes in the school curriculum **to embed** thinking skills in the existing school curriculum. The teachers have **to** be an integral part of an over all curriculum designing to make existing school curriculum learner-centered giving due importance to the process of effective learning through the development **of** thinking abilities in them.,

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COMPUTER SELF CONFIDENCE AND COMPUTER EXPERIENCE IN RELATION TO COMPUTER RELATED ATTITUDES AND COMMITMENT TO LEARNING

AshokK.Kalia
Tamar Levine
Sanjna Vij

INTRODUCTION

Computer technology as applied to educational/training process has generated an increased interest in the past few years. This interest has been to a great extent associated with the appreciation of the many ways computer support can improve the Institutional and management responsibilities within the total instructional system. The supporters of computer use for the instructional process offered the promise of greater student achievement, more efficient use of human and material resources, improved attitudes towards learning process and in enhancement of education. Effective computer use is believed to contribute to improve performance. In fact, computers play an important role in terms of instructional methods and learning processes. It is, therefore, desirable to investigate the circumstances under which students feel comfortable when learning with computers. Attitudes and beliefs predict behaviour and behavioural intentions. Belief about an object leads to an attitude towards it and that in turn, leads to behavioural intentions regarding the object. These intentions are responsible for actual behaviour towards an object. When applied to computer use, the theory explains that attitude towards computer use affects user behavioural intentions (future desire), which further affects user actual usage experience (Levine and Donitsa-schmidt, 1997). It is due to this, that a vast literature on psychological research is focusing on the way computer related attitude and beliefs affect the use of computers by students and adults. A number of researchers have examined computer-related attitude dimensions (e.g. liking, usefulness, ease of use etc.) and the relationship between these attitudes and

computer use. There is also evidence of growing concern that student negative attitudes might affect individual motivation and performance and thus lead to certain groups having fewer opportunities to use computers which in turn would interfere with future work options. However, most of the researches have concentrated on various attitudinal dimensions, while neglecting to examine the personal beliefs and self-confidence which can lead to these negative attitudes. The available literature suggests that a large body of research has attempted to examine different elements related to computer ownership and computer use. These studies have examined the relationship between computer use and variables such as demographic background (Shashaani, 1994), personality characteristics, types and amount of computer experience, attitudes (Francis and Evans, 1995) stereotypes, anxiety and commitment to learning (Geissler and Horridge,1993). In general, research demonstrates that exposure to computer is positively related to attitude. Shashaani (1994) and Woodraw (1994) found that level of computer usage strongly affect all computer attitude measures; interest, confidence, perceived utility and stereotype attitudes. The present study examines the relationship between computer related attitude and commitment to learning .computer confidence and computer experience. More specifically, the study examines to what extent and in what direction, self-confidence in computer and computer experience is related to computer-related attitude and commitment to learning in Indian situations.

OBJECTIVES

S i t ! ^ t U y c o m P u t e r self-confidence and computer related attitude among students.

* S m o u w ^ V ! ! a t i o n s l l l p b e t w e e n computer self confidence, S u S ^ d commitment t o learning among

c o m n l ^ 1 ^ e i e , ^ o n s h i p between computer experience.

HYPOTHESES

Significant relationship *m^SSi^^^^^*

computer related attitudes and commitment to learning.

Significant relationship exists between computer experience, computer-related attitude and commitment to learning.

SAMPLE

A sample of fifty subjects (male and female) who were receiving training in computer applications at NUT Computer Center, Rohtak (Haryana) were selected as sample for the present study. The subjects were administered a computer attitude and self-confidence questionnaire in the NUT Computer Center, during training period. Before administering a questionnaire, a brief introduction regarding the goal of study and assurance of confidentiality was given, it took about20 minutes to complete the Questionnaire.

TOOLS USED

Computer Attitude and Self-confidence

Questionnaire by Levineand Danitsa-Schmidt(1997)was used for collection of data in the present study. It consists of 42 items both negative and positive covering seven dimensions. The Questionnaire was validated using principle component factor analysis with varimax rotation. Seven factors were extracted which contained three to eleven items. The internal consistency co-efficients using Chronbach's alpha reliability ranged between 0.65 to 0.90 for the scales.

Computer Experience

Computer experience Was determined by asking the subjects whether they owned a computer at home (Yes-1, No-0) and the frequency of general computer use both at home and at NUT Center ranging from (never (0) to lot (3)).

Commitment to Learning Computers

Commitment to learning was determined using the modified ^o'ologyusedbyLevine.D ^ to rate their perceived current knowledge and their desired ^wled 9 Q of computer applications on 5-point Likert scale ranging 3 p ne to ^very high". Higher scores represent hiqher levels of ^ v e d and desire l^owledge. For the purpose of this research,

the student's desired knowledge minus the student's perceived current knowledge is referred to as "commitment". Commitment is thus defined as the degree of desire for more computer knowledge relative to existing knowledge. Higher positive scores indicate a high level of commitment.

1 M t l

INTER CORRELATIONS AMONG COMPUTER SELF CINFIDENCE, COMPUTER EXPERIENCE, COMPUTERKELATED ATTITUDES AND COMMITMENT TO LEARNING

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7.	Computer related Six Siac«ot*l* itttludt |ST}	m	.148	.063	-.084	-.078	.258	—			
9 el	Total Mtkttife Stofi	.433**	.728**	.354	.159	.071**	.593**	.299	\ m •.		
q	Ccmpy ter Eipmnc*	-.023	-.247	.175	-.176	-.012	.052	.017	%082	—	
10	Ccmmitmsnt U Searnif»	•225	.303	-.203	.149	.217.	.126	-.109	.147	-.315	

•Si gaificancc al ,01 level •* VVI 1

to computer stereotypes (r-n< rvi ^f^ 3 0 0 significantly reia»=- The relationship betw» ^ V 3 n d t o t a l Me scores (r =p<001)- had often been me S^ nU r e r C o n f i d e n c e 3 0 (1 ^puter * * * * students with greater 5nfid l"qUlry : o n t h e it was found uses have more favourabi^?,?!? e ' r a b i l i W ^ a r n new comp*' of this study a eTn ^ s t o w a r d s Outers. The res"" (ISTSJwhofoundthatthest^l , f u d i n g s o f Wshbein and tV* mat the students having greater confidence in th*lf

ability to learn new computer uses have more favourable attitudes towards computers. The results are further supported by the research Woodrow(1994), Shashaani (1994) and Francis and Evans (1995) which indicate a strong, positive correlation between computer related self-confidence and computer attitudes. Computer confidence is found to exert a strong negative effect on commitment to learning computers rather than a positive (r =p<-0.225). The results of this study indicate the negative effect of computer confidence on commitment to learning. It suggests that less is the computer related self-confidence more is commitment to learning. Conversely, the more confidence in computer, the lower the commitment to learning computer applications. These findings are indirectly supported by Geissler and Horridge (1993) who demonstrated that students who had taken the computer course at school and students who owned a computer expressed a higher level of a computer knowledge in computer, but lower level of commitment to learning computer applications as compared with students who had neither learnt computers at high school or university or who did not own a personal computer. Geissler and Horridge (1993) reported that the students who have attended a high school or university computer class or owning a computer have strongly and positively influenced a student's self perceived level of current knowledge and negatively influenced their commitment to learning about computers. Kay (1993) has reported similar results in which lower level of commitment was evident for students who had taken courses at the university level or at high school and among those who have owned a computer. Levine et al (1997) also found computer confidence to have negative effect on commitment to learning. It was thus concluded by Levine et al, 1997 that some sort of balance exists between perceived current knowledge and perceived desired knowledge. Students who showed a high level of computer knowledge often indicated a lower desire to learn more about computers, while the students who indicated a lower level of knowledge often expressed a greater desire to gain more knowledge (Levine eta! (1997). It is, therefore^ reasonable to assume that the students with low level of confidence'are those with little current knowledge and greater desire to learn more, while, the students with higher level of confidence are those who have computer knowledge and therefore, do not desire more knowledge about computers. The findings are in line with the research carried by Levine et a! (1997) in

which they found negative correlation between computer confidence and computer attitudes.

Non significant negative correlation was found between computer experiences and computer attitudes (r =-.082). Levine and Gordon(1989), identified a strong positive relationship between the presence of a computer in homes and attitudes towards computers. Kay (1993) emphasized on the contextual significance of computer experience and differential effects they may have on enhancing computer attitudes. However, in the present sample tie amount of home computer experience and school computer experience is much less because of lack of computer facilities in homes and schools in Indian conditions, it is in this context that no significant correlation was observed in computer experience and computer attitudes. In addition, no significant relationship was found between computer experience and commitment to learning (r =.-315). The table value suggests that although no significant relationship was found, it was negative and relatively high. These findings corroborate the findings of Levine et al (1997) who identified a negative relationship between frequency of computer use and commitment to learning.

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SCOPE AND LIWITATION

The study has been confined only to a local school near by the ote^veltigatorfor facilitating teaching through acbvrties. As the £ S r i - *om*, only **a** particular class of students of the UGME schoot who are completely away from strucured programme of creativity have been included in the sample for study. The study is also limited' to some activities stimulating creativity in children.

METHOD

A pre -test post-test experimental control group design was adopted considering the objectives of the study. The sample consisted of 80 students randomly selected from class V of the UGME schooiat Vivekananda tvlarg, Bhubaneswer, out of which boys were 25 and girls were 15 in number. A composition test of class V developed by the school for identifying students for the common test has been adopted to ascertain the effect of enrichment programme on the academic achievement of the students.

The activities designed to be adopted on the experimental group through exercises as suggested by Khatena (1977) are: Breaking away from the usual common place and analogy, Restructuring images, Synthesizing images and Personal, Direct, Symbolic and Fantasy Analogy types.

Breaking Away from the Usual Commonplace and Analogy

In this strategy, the child was presented with some figural stimulus of **a** square followed by two drawings of figural analogies namely a window and **a** clock. He was directed **to** use the square to make those drawings. In this section, three strategies were followed. In exercise 1. thachiW was encouraged to draw interesting and unusual pictures using the square. In exercise 2, circles were **used** as the figural stimulusfof the production of creative analogies **and** images. A worksheet ^ n t n g three rows of five circles **each,** was presented and the child w a r m e d **to** look **at** each circle **in** turn, close the eyes **a n d t h i n M** ^ ? ? StS * picture or tegethattakesitslifefre^ 8 1 0 9 i V e l m a i «^ning to **make** simple - c o l l i *

etc.) Credit was given if the child has been able to W«*

way from his obvious common place. In exercise 3, the child was given the onomatopoeic stimulus word 'roar* with instructions to be imaginative in responding to it. If the child produced verbal analogies like 'to talk loudly', 'to sound that a lion makes', bullets firing sound* the child is given creditfor breaking out of common place. Many imaginative ideas may be obtained like water rushing out of dam, and blood gushing out of wound. For each imaginary point, credit was also given.

Restructuring Images :

In this exercise, the child was advised to restructure the assembled parts of a whole. Figural imagery was the main strategy used in this phase. The different pieces of an aeroplane were presented to the child in the form of four rectangles; two triangles and an oval cut out shape.

Synthesizing Images

Unlike restructuring, the act of synthesis provides more freedom of manipulation and expression, in this exercise, the child was asked to use as many shapes as he likes to produce new and interesting figural images on the flannel board.

Example

- Pieces to be combined to make a scene of two boys on a sea-saw.

fea Circle a number of words were written. The child was asked to pick out at least two words from the word pool and combine them together with other words. He mustuse at least two of the words from the pool each time.

Analogy ' *i

Here, the synectics approach to creative problem solving was used in the lines suggested by (Gordon, 1961). Four distinct kinds of analogies - personal analogy, direct analogy fantasy analogy and symboiicanalogy were usedJn personal analogy, a relationship was found between the child and some other phenomena with which the ^•Id isfemiliar. The sentencesused were i am thin, 1 am happy;. Tne *W was advised to give description of how thin and *e Was Responses like' i am as thin as a stick* or 'I am as thin as a

tube' or 1 am as happy as the morning sun' or 1 am as happy as a lark" answers oiven by the child were given credits for his creative expression, in direct analogy relationship between two unlike phenomena with self-involvement was asked for. This was different from personal analogy in the context of T substituted by a third person. Example - 'Sam eats like a pig or Hari sleeps like Kumbhakarna'. In symbolic analogy, the child was asked to use a symbol to find a sign for a phenomenon. In fantasy analogy, myths,, legends, allegories, fairy tales were used as rich sources of imaginary materials like devil, Pandora's box, Garden of Eden, Paradise etc. The child was asked to convey the information using those words: like, a person who is a murderer, wicked, evil is a person of hyde like. Then the child was asked to give an example there by "an if the response comes in the form, "Veerappan is hyde himself - credit was given to the child for developing creative imagination.

. The procedure of the study was as follows: The ,cl ass was divided into two group depending upon their scores in the composition tests at the half-yearly examinations. The experimental group consisted of 25 boys and 15 girls and the control group also consisted of the same number of boys and girls. Control group was left in the style of classroom composition work in a traditional style and the experimental ^ Z ^ ^ ^ ^ Programme through the activities

Ssln ^ PoSt_teStWaSCOnductedaftertheendof

RESULTS

^ S S ^ i ^ ^ ^ p ^ test atthe pretestand of treatmen^SKI *'oinferenlial sta stics to find out M >. me result is presented in table!

f^fTreatmen,on Composition Test Score

Group	Pretest		Posttest		t	p
	Mean	SD	Mean	SD		
Experimental	22.12	0.81	23.80	0.98	8.36	<0.01
Control	22.10	0.82	22.25	0.83	0.83	>0.01

to .01 for df38=2.71

The result is indicative of the fact that there lids been offeol of experimental treatment of enrichment programme as the T ratio is significant at 0.01 level. In order to know the sex differences in gaining scores due to the treatment, the result is presented in tnblo2.

Table - II

Effect of Enrichment Programme due to Sex Variation

Croup	Mean Scores		SD		t	*P*
	Pretest	Posttest	Pretest	Posttest		
Experimental	22.25	23.00	0.80	0.90	B.Q4	<0J1
Girl	22.12	24.38	0.90	0,98	10.00	<0.O1
Boys Vs Girls					3.12	4101
Total	22.18	23.90	0.88	0.94	8.50	-.0.01

to.01fordD8=2.71

DISCUSSION

It was hypothesised that if the students will be given opportunities through concrete situations and activities to express their ideas freely and would be given content enrichment programme along with the scope for imaginative thinking, their creative potential will lead them forbetter academic achievement in the said area in composition writing. The null hypothesis that there will be no effect of enrichment programme in the creative expression of students is rejected as t .= 8.36, p < 0.01 (t 0.01 for df 38 = 2.71). Therefore, it is inferred that the treatment had a positive effect In order to know the result due to sex variation, the null hypothesis that there will be no difference in the mean gained scores in creative expression of boys & girls is also rejected. The result shows that girls have developed better composition writing compared to the boys.

EDUCATIONAL IMPLICATIONS

The following conclusions have been made considering the • ^sults of the study.

* Synectics as a process may be used for promoting creativity in *I* regular classroom transaction programme.

v Teaching - learning situation may be made effective through differenttypes of enrichment programmes, even at the grassroots level.

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